

**Integrated Biological and Behavioral  
Surveillance (IBBS) Survey among People  
Who Inject Drugs (PWIDs) in Pokhara  
Valley, 2015**

**Round VI**

**FINAL REPORT**

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**Ministry of Health and Population  
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We are confident that the findings of this important survey will provide crucial evidence of the ground realities, and that the results will help in framing policies in order to fight HIV, STI, Hepatitis B and C to improve HIV-related responses and planning.

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## Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
AMDA	Association of Medical Doctors of Asia
ARC	Addiction Recovering Center
BSS	Behavioral Surveillance Survey
CDC	Center for Disease Control
CI	Confidence Interval
CMs	Community Mobilizes
DIC	Drop-in-Centre
EQAS	External Quality Assurances Service
FHI	Family Health International (FHI 360)
FPAN	Family Planning Association of Nepal
FSW	Female Sex Worker
GARPR	Global AIDS Response Progress Reporting
GOs	Governmental Organizations
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immuno-Deficiency Virus
HTC	HIV Testing and Counseling
IBBS	Integrated Biological and Behavioral Surveillance
IBBS	Integrated Biological and Behavioral Surveillance Survey
IC	Information Center
ID	Identification Number
IEC	Information, Education and Communication
KAP	Key Affected Population
LDSS	Low Dead Space Syringes
LT	Lab Technician
MARPs	Most at Risk Populations
MRGM	Mountain Hill Resource Management Group
MSM	Men who have Sex with Men
MSW	Male Sex Worker
NCASC	National Centre for AIDS and STD Control
NGO	Non-Governmental Organization
NHRC	Nepal Health Research Council

NPHL	National Public Health Laboratory
OE	Outreach Educator
OST	Opioid Substitution Therapy
PE	Peer Educator
PPS	Probability Proportional to Size
PWID	People Who Inject Drugs
RDS	Response Driven Sampling
RDSAT	Response Driven Sampling Analysis Tool
RN	Recovering Nepal
RNA	Ribonucleic Acid
RPR	Rapid Plasma Reagin
SACTS	STD/AIDS Counseling and Training Services
SI	Strategic Information
SIDC	Social Integrated Development Center
SITWG	Strategic Information Technical Working Group
SLC	School Leaving Certificate
SPSS	Statistical Package for the Social Sciences
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TI	Targeted Intervention
TPHA	Treponema Pallidum Hem agglutination Assay
TPPA	Treponema Pallidum Particle Agglutination Assay
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNDP	United Nations Development Programme
USA	United State of America
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
YMC	Youth Mobilization Center

## **Executive Summary**

A comprehensive national surveillance plan for HIV and Sexually Transmitted Infections (STIs), through periodic Integrated Biological and Behavioral Surveys (IBBS), has been developed by the Government of Nepal (GoN), National Centre for AIDS and STD Control (NCASC)-Ministry of Health and Population (MoHP). The country has developed these surveillance studies in order to help guide the assessment of health risk behaviors, measure prevalence of HIV and STIs among high risk populations and monitor the changing dynamic (the trends) in the epidemic in order to facilitate evidence based policy, planning and implementation to guide the national response against the HIV and AIDS epidemic in Nepal.

The sixth round of IBBS surveys carried out in the Pokhara Valley was conducted among 345 males among people who inject drugs (PWIDs) with financial support from the Global Fund. This survey focuses primarily on collected strategic information needed to analyze trends in risk behaviors associated with HIV/STI infection among the male subpopulation of PWIDs. This survey has introduced HCV and HBV testing to determine their prevalence among PWIDs for the first time in IBBS study.

Structured questionnaires were developed to capture clinical, social and demographic data, including information on STI/HIV and AIDS awareness, knowledge, behaviors and attitudes among the target group respondents. For this purpose, a survey center equipped with laboratory and clinic facilities was set up at easily accessible locations in the survey areas Pokhara Valley. All respondents were examined for clinical symptoms indicative of STIs and blood samples were collected for the detection of HIV, Syphilis Infection (SI), Hepatitis B and Hepatitis C. The survey participants were also provided with STI treatment if, when and as necessary where clinical/observational diagnosis was positive. Pre and Post-test counseling prior to the distribution of blood draws and test results for HIV and /or STI, Hepatitis B and Hepatitis C was also provided by trained and experienced counselors at survey sites, respectively.

### **Survey Methodology**

A Cross Sectional Survey design with a sample size of 345 was determined by using basic statistical formula. The respondent-driven sampling (RDS) methodology was adopted to recruit potential survey participants. In order to draw up a comparative analysis of the behavioral trends over the years, querying instruments utilized in previous rounds of IBBS surveys were intensively revised. Strict confidentiality was maintained throughout the survey. The study subjects were provided with a distinctive identification (ID) number, unique across the medical records and blood specimens of each individual respondent of the cohort. Participation of the respondents in the survey was voluntary through informed consent in the presence of a witness from all the participants prior to the interview and the collection of blood samples. Those who did not meet the survey criteria and/or unwilling to participate, were not included in the survey. The survey was conducted in accordance with the highest standards of ethical and human rights principles. Further, ethical approval was obtained from the Nepal Health Research Council (NHRC) prior to the commencement of the fieldwork.

Data analysis was done using the IBM® SPSS® Statistical Package for Social Sciences (SPSS) and Respondent Driven Sampling Analysis Tools (RDSAT) software. HIV prevalence was analyzed using RDSAT. Pull-in outlier option was used in RDSAT to eliminate extremely small and large outliers in network sizes. In order to maintain consistency with previous rounds of IBBS, the RDSAT analysis for this survey used 5 percent pull-in outliers of network sizes.

## **Laboratory Methods**

Syphilis was tested by using the Rapid Plasma Regain (RPR) test card and confirmed by means of the Serodia Treponema Pallidum Particle Agglutination (TPPA) test. Treponema Pallidum Particle Agglutination (TPPA)-positive and all samples with positive RPR were further tested for the titre dilution up to 1:8 ratio for active Syphilis.

HIV was detected through the use of 'Determine HIV 1/2 (Abbott Japan Co. Ltd.)' rapid test kits as a first test to detect antibodies against HIV. If the first test showed a negative result then no further tests were conducted. However, if the first test result was positive, the second test was performed using 'Uni-Gold (Trinity Biotech, Dublin, Ireland)' test kits. In cases of a tie between the first two tests, a third test was performed using 'Stat Pak HIV 1/2 (Standard Diagnostics, Inc., Kyonggi-do, South Korea)' as a tie-breaker test. To detect Hepatitis B and Hepatitis C "RapidSigma Dipstrip (Organics Ltd., Israel)" were used.

## **Key Findings**

### **HIV, HCV, HBV and STI Prevalence**

- HIV prevalence among PWIDs in the Pokhara Valley in 2015 was found to be 2.8 percent (N=345).
- HCV prevalence among PWIDs in the Pokhara Valley in 2015 found to be 13.1 percent (N=345).
- HBC prevalence among PWIDs in the Pokhara Valley in 2015 found to be 1.8 percent (N=345).
- STI prevalence among PWIDs in the Pokhara Valley in 2015 found to be 1.1 percent (N=345).

### **Socio-demographic Characteristics**

The participating PWID were mostly youth up to the age of 30 (71.5%), with a median age of 24 years. More than half of the respondents (68.6%) were single. The survey also revealed that 24.5 percent of the survey cohort was currently living with their spouse while 75.5 percent were currently living without a partner or alone. More than half of respondents in the Pokhara Valley (67.8%) had completed their secondary level of education whereas 20 per cent of the respondents had completed their School Leaving Certificate (SLC) or higher. The survey showed that very few (0.2%) had never attended school. Overall, 24.8 percent of respondents were from disadvantaged Janajati groups and 19.9 percent of the respondents belonged to what may be considered traditionally as "upper cast" groups (Brahmin, Chhetri etc.).

### **Drug Injecting Practice of PWIDs**

The survey indicated that more than half of the PWIDs (28.6%) had been injecting drugs for more than 5 years while 17.4 percent had been injecting for past 2-5 years. A low number of respondents (8.7%) had started injecting drugs more recently, within a year. As for the frequency of injections in the week prior to the survey, 7.4 percent of respondents reported that they injected 4-6 times a week, while 11.7 reported injecting 2-3 times a week and 0.9 percent claimed to inject once a day. A majority of the respondents (83.3%) said that they had injected once, on the day prior to interview while 3.1 percent said that they had injected 3 or more times on the day before the interview.

## **Sexual Behavior and Condom Use**

The majority of respondents (95.%) in the survey of Pokhara valley, reported to be ever involved in sexual activity. Among those, (91.4%) reported having had their first sexual contact before the age of 20 years. More than half (67.3%) reported having more than one sex partners during the past 12 months. A majority of the PWIDs (83.2%) reported regular condom use during each sexual contact.

The respondents' knowledge regarding ways in which HIV is transmitted was also analyzed based on their understanding of the three main HIV and AIDS prevention measures including:

- (A) Abstinence from sex;
- (B) Being faithful to one sex partner; and
- (C) Consistent condom use;

The majority (97.6%) of the PWIDs were aware that using a condom every time during sex (C) could prevent them from contracting HIV and AIDS. While 94.8 percent believed that being faithful to one person (B) could prevent them from contracting HIV and AIDS. Nearly two fifth of them (38.3%) believed abstinence from sex (A) could prevent them from contracting HIV. Additionally, a high majority (91.5%) were aware that a healthy-looking person could be infected with HIV (D) and a slightly higher number of respondents (90.5%) knew that sharing a meal with an HIV infected person did not transmit HIV (F). About three fifths of the respondents PWIDs (66.2%) knew that the HIV virus was not transmitted from mosquito bites.

## **Exposure to HIV and AIDS Related Programs**

Among the PWID respondents 20.9 percent reported that they had met peer/outreach educators (OE/PE) and 22.3 percent said that they had visited drop-in centers (DIC) whereas 17.2 percent of the respondents claimed to have visited an HIV testing and Counseling Center (HTC), all within the past year, respectively. Out of total 340 PWID, 86 percent of PWIDs had never received Opioid Substitution Therapy (OST) in the past 12 months.

---

# Chapter 1

## 1 Introduction

### 1.1 Background

Over the years, HIV has been one of the major public health concerns in Nepal. At the policy level it has been a national priority as indicated in the National HIV and AIDS Strategy, 2011-2016. Ever since the reporting of the first case of HIV in Nepal in 1988, HIV prevalence has been seen to be in a decreasing trend. According to the National estimation, approximately 39,249 people [GARPR 2014] in Nepal are estimated to be HIV sero-positive. As of July 2014, a cumulative total of 25,222 HIV infections have been reported in Nepal. Key affected populations (KAP) at higher risk of HIV transmission in Nepal include Female Sex Workers (FSW), Male Sex Worker (MSW), their clients as well as their immediate sexual partners, People Who Inject Drugs (PWIDs), Male Labour Migrants(MLM) and Men Who have Sex with Men (MSM). Although data shows the general prevalence for HIV in the adult population of Nepal to be around 0.20% for Nepal (2014); this rate is high among key population such as 6.3% among PWID and 6.8% among MSW population. Hence, Nepal is categorized as concentrated epidemic.

Integrated Biological and Behavioral Surveillance (IBBS) surveys have been conducted at regular intervals in Nepal. IBBS surveys help to collect two distinct types of data, namely, biological and behavioral, from a single set of participants. It also helps to understand the existing and emerging dynamics of the HIV epidemic, so that appropriate interventions can be designed in order to prevent the spread of the virus. By integrating and projecting biological data with behavioral data, IBBS surveys are extremely effective in helping to understand the dynamic trends and HIV related behaviors risk factors among Key Affected Populations.

Historically, since 2002 Nepal has been successfully carrying out IBBS surveys among KAP. Over this time period, more than 50 IBBS and Behavioral Surveillance Surveys (BSS) surveys have been carried out in Nepal funded by different technical partners such as USAID the Global Fund and the Pooled Fund mechanism, in close collaboration with NCASC and key stakeholders

The latest round (round VI, 2015) of IBBS survey was conducted among People Who Inject Drugs (PWIDs) in Pokhara Valley was conducted with support from Global Fund through Save the Children. PWIDs are considered one of the key affected population (KAPs) for HIV transmission due to needles/syringes sharing behavior among peers and use of contaminated needles due to lack of access to clean needles and syringes. Moreover, high-risk sexual behavior associated with drug use is also another major factor contributing to the spread of HIV through the general and non-injecting partners of PWIDs as bridging populations. The Round V IBBS surveys (2012) conducted among PWIDs in the eastern, western and far western districts of Nepal have shown high prevalence rates of HIV.

HIV prevalence among PWIDs is decreasing over time but it varies by location in Nepal. The first round of the IBBS surveys conducted in 2003 indicated a high prevalence of HIV (22%) among PWIDs in the Pokhara Valley. The fifth round of IBBS surveys conducted in 2011 indicated 4.6 percent prevalence in the Pokhara Valley.. Similarly, in the Eastern Terai region, HIV prevalence of PWIDs was seen to be 11.7 percent in 2005; with 11 percent in 2007 and 8 percent in both 2009 and 2012.

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## **Hepatitis B (HBV) and Hepatitis C (HCV)**

For the first time in IBBS, prevalence of HBV and HCV was screened among the PWIDs in this current round. HBV and HCV infection has been a significant cause of morbidity and mortality globally, as well as the root cause of liver cirrhosis, liver cancer leading to liver failure. As a human carcinogen, the impact of HBV is secondary only to tobacco. HCV has been repeatedly linked to PWIDs populations and has been known to be one of the major causes of morbidity and mortality among this population.

Two billion people worldwide (approximately, 30 percent of the world's population), have serologic evidence of past or present HBV infection. Data suggests that an estimated 360 million are chronic carriers, and approximately 20-25 percent of all chronic carriers will eventually die from one or another type of liver disease (i.e such as hepatitis, cirrhosis, and/or hepatocellular carcinoma) resulting from infection with HBV. Worldwide the prevalence of HCV has been found to have increased to an estimated 170-200 Million people (3%)(El-SeragHB, 2012). In many countries, HCV-infection has been found to be as high as 60 percent to 94 percent (NelsonPK, 2011) among people who inject drugs.

In Nepal, the prevalence of chronic HBV-infection in the general population exists, and is estimated to be at around one percent (Shrestha SM, 2012). However, no recent epidemiological data is available, specifically for the PWID population. Thus, in this context, the integration of HBV sero prevalence among this population is important.

HCV infections in Nepal have been reported, mostly among blood donor populations and have been shown to range between 0.3-1.7percent. However, HCV prevalence among PWID populations have been shown to be between 50 -96 percent (Poudel et al., Kinkel et al., 2015). A study by UNDP in 2010 showed that the prevalence of HCV among was around 20 percent. As a sub-population among PLHIV populations, the prevalence among PWID populations was seen to be above 90 percent (UNDP report of Livelihood, 2010)

Among 15,000 blood donors in Nepal (as a proxy for the general population) HCV was recently found to be 0.2 percent (Tiwari BR, 2010). Meanwhile the only known data published in the past 15 years regarding HCV-prevalence among people who inject drugs from Nepal report 85.5 percent prevalence of HCV-antibodies as markers of current or past infection with HCV (Shrestha IL, 2003).

Knowing the HCV prevalence will also pave the way for assessing the genotype of the HCV virus. HCV-genotyping is necessary for the determination of treatment regimen, duration, cost and expected rates of treatment success. Recent publications from Nepal have shown that Genotype 3 is predominant followed by Genotype 1 (Kinkel et al., 2015), both of which can be treated with existing drug regimens.

**Table 1-1: History of IBBS in Nepal among PWID**

<b>IBBS</b>	<b>Survey year</b>	<b>HIV Prevalence</b>
<b>PWIDs-Eastern</b>	2003	35.1
	2005	31.6
	2007	17.1
	2009	8.1
	2012	8.1
<b>Kathmandu valley</b>	2002	68.0
	2005	52.0

<b>IBBS</b>	<b>Survey year</b>	<b>HIV Prevalence</b>
	2007	35.0
	2009	21.0
	2011	6.0
<b>Pokhara Valley</b>	2003	22.0
	2005	22.0
	2007	7.0
	2009	3.0
	2011	5.0
<b>PWIDs-Western</b>	2003	N/A
	2005	11.7
	2007	11.0
	2009	8.0
	2012	5.0

## 1.2 Objectives of the Survey

In line with the previous IBBS surveys, this sixth round of survey was also undertaken to determine the prevalence of HIV and STIs and assess HIV-related risk behavior among PWIDs within the Pokhara Valley.

### **The specific objectives include:**

- ☐ To determine trends of HIV and STI prevalence in PWIDs population of Pokhara Valley.
- ☐ To measure the prevalence of Hepatitis C (HCV) and Hepatitis B (HBV) among PWIDs population of Pokhara Valley
- ☐ To assess HIV and STI-related risk behavior among the PWIDs population of – Pokhara Valley.
- ☐ To collect information related to socio-demographic characteristics; drug use needle sharing behaviors, sexual behavior including knowledge and use of condoms; knowledge of HIV and AIDS; knowledge and treatment of STIs; psychosocial factors and the exposure of PWIDs to available HIV and STI services in –Pokhara Valley;
- ☐ To explore the association between the risk behaviors related to HIV and other specified sexually transmitted infections among the PWIDs population of Pokhara Valley.

## 1.3 Rationale of the study

Integrated Biological & Behavioral Surveillance (IBBS) Survey is meant to generate evidence on the prevalence of and risk behaviors for HIV amongst high-risk-groups across Nepal. The primary purpose is to support planning and prioritization of program efforts at local, district, regional and national levels. In short, IBBS help to inform policymakers who make funding and resource allocation decisions to highlight the urgency of a social problem and recommend or suggest a feasible course of action based on the available evidence.



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The goal of an IBBS, ultimately, is to guide HIV prevention planning and resource allocation and to inform the development of effective HIV prevention interventions for key populations<sup>1</sup>.

The objectives are to utilize lessons learnt from human experiences and behavioral implications for controlling HIV infection while improving efficiency within intervention areas of concentrated HIV epidemics to help widen the scope of existing national programs. Periodic IBBS with sub-populations help to design and implement timely intervention strategies and monitor the changes in diversity and effectiveness of existing interventions in controlling the epidemic. By reviewing the available evidence from research-driven protocols or evaluations of interventions conducted under specific field conditions including effectiveness studies, where insufficient evidence exists, the implementation of IBBS studies are crucial to support evidence-based decision-making to address HIV-related behaviors and outcomes are influenced by a range of factors associated with individual, intrapersonal, relational, communal, societal and structural levels.

The IBBS takes into consideration the complex interplay and interaction between factors at all four levels. A comprehensive HIV Intervention package should include a continuum of activities, services and policies that address multiple levels, allowing us to examine important indicators of the local epidemic and identify key drivers of HIV contraction and transmission among a key population. These drivers differ between and within key populations, and across localities and cultures. Thus, to develop an intervention package that will effectively reduce HIV infections among a key population, IBBS can provide an ideal source to understand the local epidemic among a key population.

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<sup>1</sup><http://globalhealthsciences.ucsf.edu/sites/default/files/content/pphg/ibbs/pdf/Usingintro.pdf>

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## Chapter 2

### 2 Methodology

#### 2.1 Survey Population

A cross-sectional survey was conducted among PWID who are considered to be one of the key populations at higher risk of transmitting HIV and STI infections in Nepal. For the purposes of this survey, the definition for PWIDs is “*current males who inject drugs aged 16 years or above who have been injecting drugs for non medical purpose at least three months prior to the date of survey.*”

#### 2.2 Survey Sites

The survey was conducted within the Pokhara Valley. A survey center at the site was established at Prithvi Chowk, Pokhara to facilitate easy accessibility to the survey respondents. The survey center was equipped with 9 separate rooms with initial greeting and registration areas, clinical observation areas, a laboratory testing area as well as counseling and interview room. Each of these rooms had appropriate and effective Information, Education and Communication (IEC) materials to provide information on HIV and AIDS and STIs.

#### 2.3 Sampling

##### 2.3.1 Sample Design

The respondent-driven sampling (RDS), a form of a chain-referral sampling, specifically targeted for hard to reach populations was used to recruit participants. The RDS, unlike the “snowball” method, attempts to overcome biases such as masking, volunteerism, and over sampling of groups with large networks. Thus, gives rise to unbiased estimates of population parameters (Heckathorn, 1997) and provides more representative samples.

Since it relies on social networks, RDS has the potential to reach individuals, who are hard to reach such as MSM, PWIDs, and MSWs. In RDS, the sampling frame is created based on information collected from the participants during the sampling process itself. This information includes:

- (1) Who was recruited by whom
- (2) The relationship of the participant to the recruiter (RDS population estimates are based on the assumption that the recruiter and the participant are acquainted with each other and are part of the same peer community group.)
- (3) Participants’ personal network sizes (network size is used to estimate the average network size according to different sample characteristics such as gender, race/ethnicity, and age).

Since RDS population estimates are based on the recruiter and recruited knowing each another, RDS by design, encourages participants to recruit those they already know. This involves incentives for recruiters while limiting recruitment through quotas, so that recruitment is not wasted on strangers (Ramirez-Valles et. al., 2005).

The sampling process began with the selection of a set of people from the target population to serve as ‘seeds.’ A preliminary community consultation exercise prior to the field survey was carried out with help of local NGO partners to help acquaint the survey team with several PWIDs, their gathering locations and their networks.

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This information helped to recruit a total of five PWIDs as "seeds". These "seeds" were selected from (1) Lekhnath Municipality, (2) Buddha chowk (3) Milan tole (4) Rambazar and (5) Lakeside at Pokhara valley.

The "seeds" were informed of the survey protocol and procedures and were encouraged to recruit other eligible individuals from their local social networks in order to participate in the survey, local key informants helped in the "seed" recruitment process. After participating in the survey, each "seed" was provided with maximum of three recruitment coupons, which were used to recruit three subsequent respondents within their networks. This process was repeated with each subsequent survey participant till the required sample size was achieved. The referral coupon consisted of a unique serial number that linked the recruiter to his recruit.

### **2.3.2 Sample Size**

In line with previous rounds of IBBS surveys, the sample size was determined by using basic statistical formula (Annex 2) and was determined at 345.

### **2.3.3 Seeds and Recruitment of PWIDs**

As per the RDS methodology, the survey team, in consultation with motivators and relevant stakeholders first recruited a total of five PWIDs as 'seeds'.

Selected "seeds" were demographically heterogeneous in age, ethnicity and geographical distribution. Those "seeds" were informed about the survey protocols and procedures and were encouraged to recruit other eligible individuals from their social networks randomly to participate in the survey. The initial "seeds" used their three recruitment coupons to pass along to their peers who might be eligible for the survey. Thus the first wave of participants was recruited through the "seed" respondents.

Upon arrival at the survey site center (which had been set up at Prithvi Chok in Pokhara), the new recruits presented their coupons to the survey team. Those eligible for the survey were further inducted as a new functional "seed". Each uniquely coded coupon was used to monitor recruitment and was also recorded in the questionnaires. Among the six seeds, the maximum and minimum completed waves were eight and two respectively.

Dual incentive was provided to the respondents at two levels. Initially each participant was provided with an incentive for the participation in the Survey and an additional incentive for each individual recruited by them.

All respondents participated voluntarily and consensually in the survey. An inclusion criterion was developed for participation in the survey. Those who failed to meet the criteria or unwilling to participate were not enrolled. Out of the total respondents, Out of the total respondents, two refused for interview and two were found not eligible.

### **2.3.4 Control of Duplication**

All recruited PWIDs were screened by a supervisor before being enrolled in the survey. Each participant was provided a unique ID number that was intended to identify his individual questionnaire, medical records, and blood specimen. The unique ID number was also instrumental in maintaining confidentiality and uniqueness of each respondent's data set and for the dissemination of the test results. After completion, each participant was informed that the same person would not be able to take part in more than one instance of the survey and thus should avoid

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recruiting any person who had already received a coupon from others and/or had already participated in the survey or been inducted by another. To ensure that duplication and redundancy was avoided, the participant PWIDs were asked several questions related to:

- their experience of having undergone blood tests;
- the part of the body from where the blood was extracted;
- their experience with HIV tests (and/or other tests);
- previous meetings with Intrepid staff and peer educators and;
- possession of ID card with survey number;

Apart from that, the single survey site was setup to eliminate duplication.

## **2.4 Survey Instruments and Administration of Tools**

The IBBS consisted of two separate components:

### **A. Behavioral Questionnaires**

*Quantitative data* were collected through face-to-face interviews using a structured questionnaire. The structured questionnaires were used to gather behavioral data relating to sexual behavior, sex partners, use of condoms, exposure to ongoing HIV awareness programs and their participation in such programs and activities along with peer based networking as well as demographic and social characteristics. The questionnaire was developed based on the “*Guidelines for Repeated Behavioral Surveys in Populations at Risk of HIV, 2000*”.

### **B. Biological Sample**

Blood samples were collected from the participants for serological analysis for HIV, syphilis screening, Hepatitis B and Hepatitis C testing.

## **2.5 Data Collection Period**

Data collection was carried out between the 28<sup>th</sup> of June to the 15<sup>th</sup> of July, 2015 from the survey site center set up at Prithvi Chowk, Pokhara; from 8:00 AM to 5:00 PM.

## **2.6 Survey Team Composition**

The survey team was composed of; team leader, coordinator, research advisor, lab advisor, research officer, data analyst, lab supervisor and field officer for regular monitoring, supervision and management of entire survey process. Further, the survey team was expanded with field team consist of supervisor, interviewers, lab technicians, counselor, local motivators and support staffs.

## **2.7 Ethical Issues**

In order to ensure adherence to the ethical principles of the study, as well as legitimacy, ethical approval was obtained from the Nepal Health Research Council (NHRC) prior to the commencement of the survey.

Respondents were informed about voluntary participation and were made aware of their rights to refusal to answering any question or withdrawal from the interview at any time. A consent form describing objectives of the survey, nature of participants’

involvement, benefits they would receive, as well as confidentiality policy was clearly elucidated (See sample consent form in Annex-7).

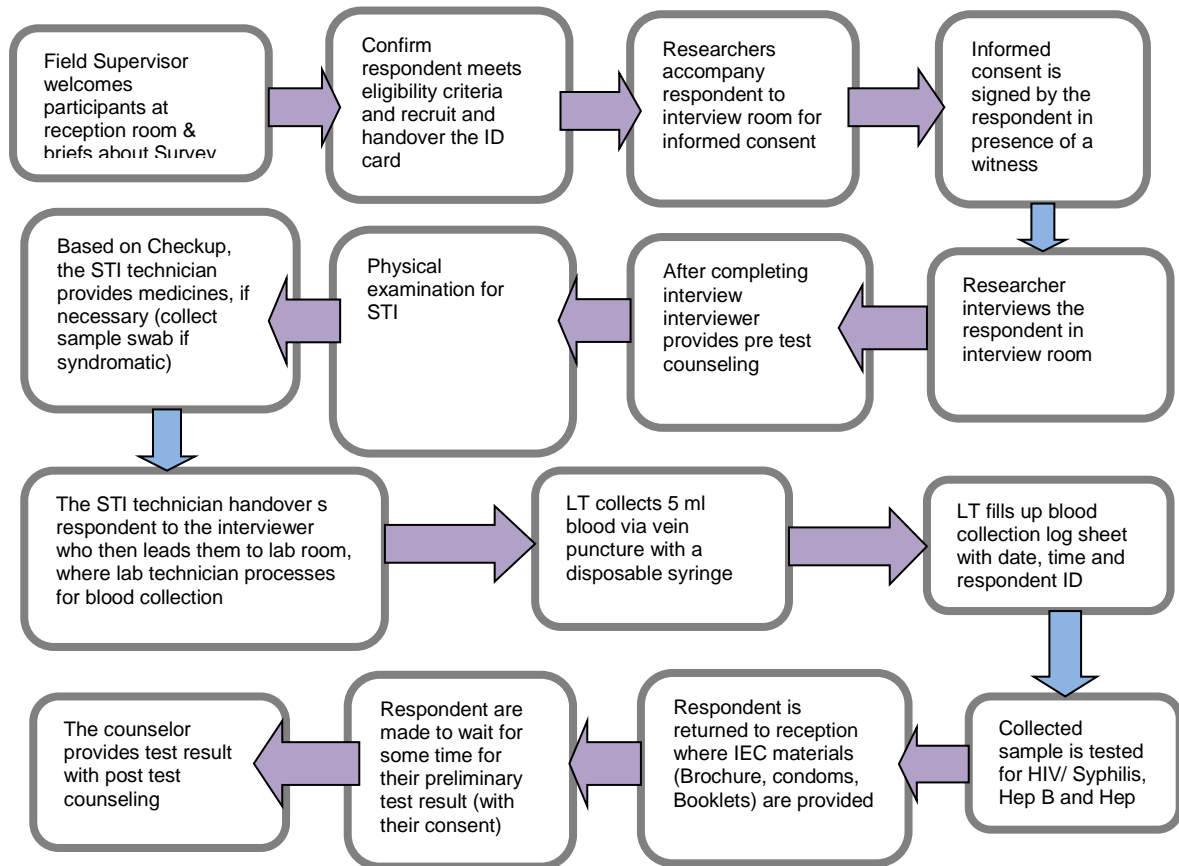
The participants' right to information, consensual volunteerism, privacy/confidentiality, adherence/compliance to both the ethical and human rights standards were maintained throughout the survey, including during the fieldwork and data entry. No personal identifiers flagged and the respondents were identified only by the provided unique ID code throughout the survey. Moreover, verbal informed consent was obtained from all participants prior to interview and collection of the blood samples in the presence of a witness.

## 2.8 Clinical and Laboratory Procedure

### 2.8.1 Clinical Procedure

Pre-test counseling sessions were held before the clinical examinations and blood sample collections. All respondents were then examined for clinical symptoms for STI and blood samples were collected for the detection of HIV, syphilis, Hepatitis B and Hepatitis C antibodies. Survey participants were provided with treatment for STI if clinical/observational and/or syndromatic diagnosis was positive. Post-test counseling was also provided prior to the distribution of test results for HIV and STIs at these sites by experienced counselors. The process of recruitment of the respondents is outlined in the flowchart diagram given below (Figure 2.1).

**Figure 2-1: Process post recruitment of the respondent**



A standard medical procedure in accordance with the “National Guidelines on Case Management of Sexually Transmitted Infections 2012” was followed for clinical

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examination and clinical specimen collection. Survey participants were clinically checked for any symptoms of STIs by the Health Assistant who was also required to fill in a checklist with the information provided by the respondents (see Annex 5). The clinical examination included a general health check-up, measurement of vital signs (ie. blood pressure, body temperature, weight, and pulse) and a symptomatic examination for STIs for syndromatic treatment for respondents with STI symptoms as per guidelines. Other over-the-counter medicines such as analgesics, anti-inflammatories, antipyretics, antibiotics (paracetamol, alkalising agents, and vitamins) were also given as required or as deemed necessary.

### **2.8.2 Collection, Storage and Transportation of Samples**

A sample of 5 ml. of whole blood was drawn from each survey participant using sterile, disposable and hypoallergenic syringes. After centrifuging, the serum was separated for laboratory diagnostic purposes and stored in a refrigerator to maintain the integrity sample. Each serum sample was labeled with the unique ID number of the survey participant. The specimens were transported to the Intrepid Nepal laboratory in Kathmandu by maintaining cold chain on a weekly basis. The serum samples were stored at a temperature of 12°C to -20°C before transferring for quality assurance.

#### **Laboratory Procedures**

Laboratory service entailed screening all the subjects/participants with initial & confirmatory tests with validated immune-chromatography HIV 1-2 detection device or rapid kits. In addition to HIV-1/2 screening, rapid screening tests with rapid kits and confirmatory testing with the same kit in a different laboratory to determine the prevalence and status (current or history) of Syphilis. RPR titration test was used to ascertain the progression of Syphilis.

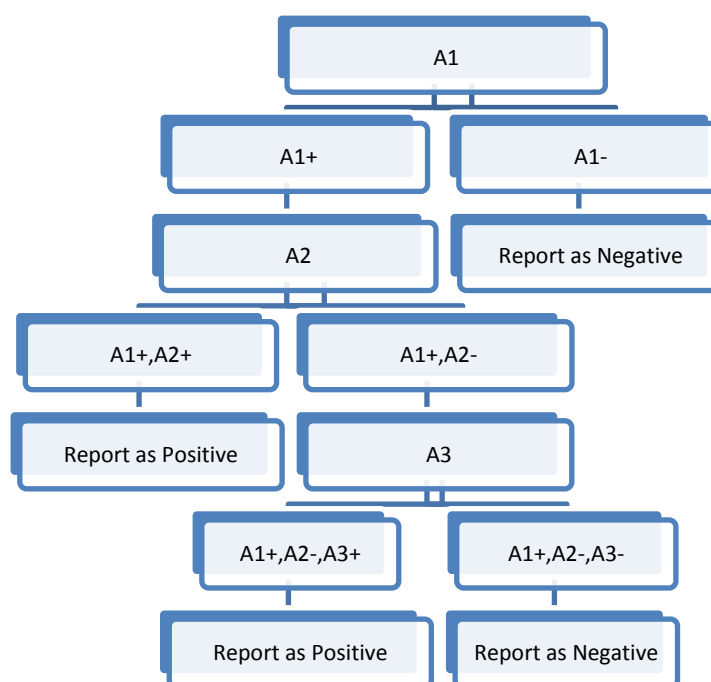
#### **I) Blood Sample**

Blood samples were tested for HIV antibody, HCV, HBV and Syphilis serology. Both HIV rapid tests and syphilis RPR tests were performed using the blood serum. The site laboratories were operationalized as per national guidelines. Quality assurance tests were performed on all positive samples and a random 10% of negative samples, EQAS was done by the National Public Health Laboratory (NPHL) based in Kathmandu for both HIV and Syphilis, HBV, HCV testing.

#### **HIV1/2**

Detection of HIV infection was carried out through rapid test kits following the HIV testing strategy II algorithm, which is based upon the “National Guidelines for Voluntary HIV and AIDS Counseling and Testing 2007”. Determine HIV1/2 (Abbott, Japan), and Uni-Gold HIV1/2 (Trinity Biotech, Ireland) and, Stat Pak were used as lateral flow (rapid immune-chromatography) kits for testing the presence of antibodies against HIV in the serum. Serum that tested positive with the initial kits were confirmed with a second kit. Samples that were found reactive on both tests were considered HIV antibody positive. Samples that were non-reactive on the first test were considered HIV antibody negative. Any sample that was reactive on the first test but non-reactive on the second was repeated with a third “tiebreaker” kit. The quality of the assay was assured by the in-built control of each kit (**Figure 2-2** and **Table 2-1**).

**Figure 2-2: Algorithms of HIV Testing**



**Reference Note**

A1 (First test):	→ Determine HIV ½
A2 (Second test):	→ Uni-Gold HIV
A3(Third test):	→ Stat Pak
"+"	→ Reactive
"-"	→ Non-reactive

**Table 2-1: Sensitivity and Specificity of HIV1/2Kits**

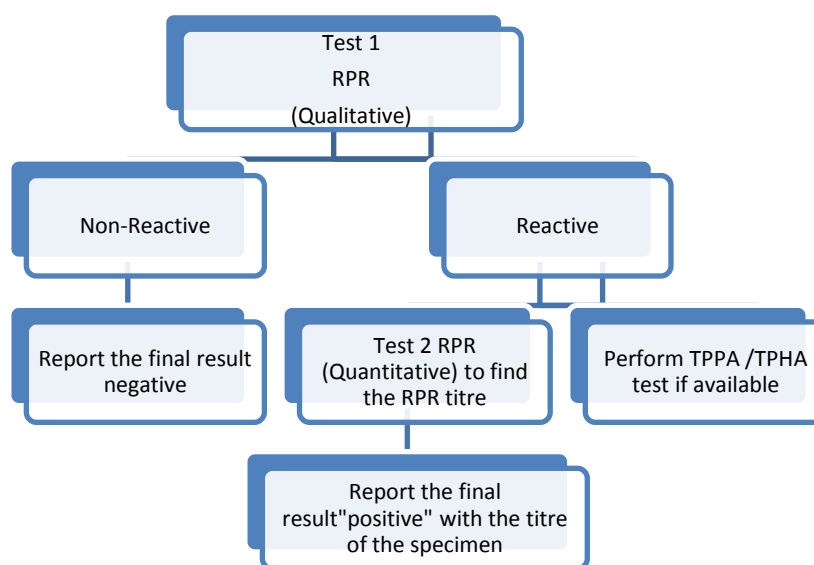
Test Kits	Company	Init	Confirm	Tiebreaker	Antigen Type	Spec.	Sens.
Determine	Allere	X			RecomHIV-1 and HIV-2	99.4%	100.0%
Uni-Gold	Trinity Biotech		X		HIV-1 and HIV-2	100.0%	100.0%
Statpak	CHEM BIO			X	HIV-1(gp41;p24)-2(gp36)	99.3%	100.0%

**Syphilis**

The Syphilis test was performed using the National algorithm based on the “National Guidelines on Case Management of Sexually Transmitted Infections, 2009”, NCASC, Nepal). The Serum was tested for non-specific and specific treponemal agents. A non-specific treponemal test, Rapid Plasma Reagin (RPR) [IMPACT, Alere group of companies, USA] was used for both qualitative screening and quantitative titration. All RPR reactive serum was confirmed using specific Treponemapallidu Particle Agglutination (TPPA) test (Fujirebio Inc.) at Intrepid laboratory. Serum samples that tested RPR positive with titer value above or equal to 1:4 were reported as active syphilis; titrations less than 1:8 were reported as cases with a history of syphilis. The

quality of reagents and test cards of the RPR test kit were assessed daily on-site using a set of strong and moderate positive and negative controls (Figure 2-3).

**Figure 2-3: Syphilis testing algorithm**



#### **Syphilis RPR and TPPA test:**

The combination of RPR Qualitative, RPR titre and TPPA test result were used for interpretation of the syphilis status of the clients as follows:

- RPR positive with more than or equal to 1:8 titre value and positive TPPA test confirms the Active Syphilis cases.
- RPR positive with less than 1:8 titre values with positive TPPA test confirms the History Syphilis cases.
- RPR positive with greater than or, lower than or, equal to 1:8 titre with negative TPPA test is considered Syphilis negative cases. (This may be due to unspecific syphilis RPR positive scenarios.)

#### **Hepatitis B and Hepatitis C infection testing**

##### **The RapidSignal HCV whole blood/serum/plasma dipstrip kit anti-HCV antibody detection procedure:**

The RapidSignal HCV whole blood/serum/plasma dipstrip kit was maintained under refrigeration. It was monitored for the expiration dates or any damage or leakage. The kit components (dipstrips and buffer) were brought to room temperature. The plasma samples to be tested were also thawed at room temperature.

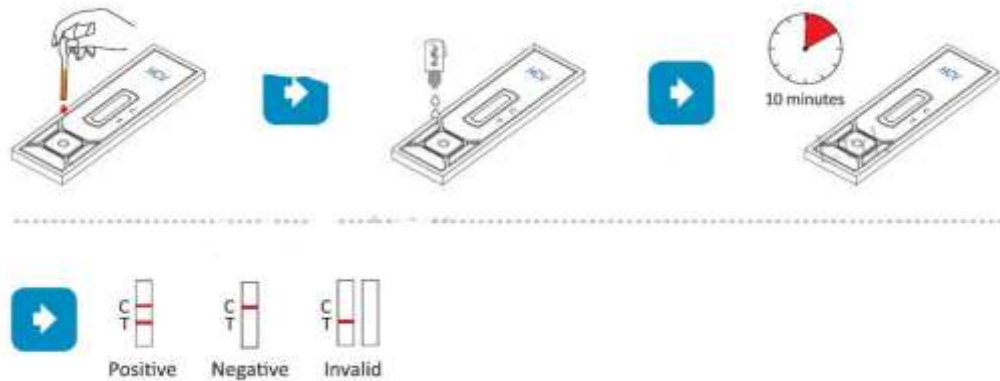
To begin the testing, the test dipstrip was removed from a sealed foil pouch. The tape was peeled off from the test stripe card and the dipstrip was stuck in the middle of the test card with arrows pointing down on the test card. The strip card was labeled with the patient's Unique ID number. Then, 10 ul of thawed plasma sample was then pipetted out and added onto the specimen pad of the dip strip. Then, two full drops of buffer were added and the timer was commenced. At the end of 10 minutes, the result was interpreted.

The sample was scored as reactive if two distinct red lines appeared- one in the control region and one in the test region. The sample was scored negative if the red



line appeared only along the control line. If the red line did not appear at the control line irrespective of the test line, the test was considered invalid and the whole test was repeated using a new kit (Figure 2-4).

**Figure 2-4 :HCV antibody detection procedure:**



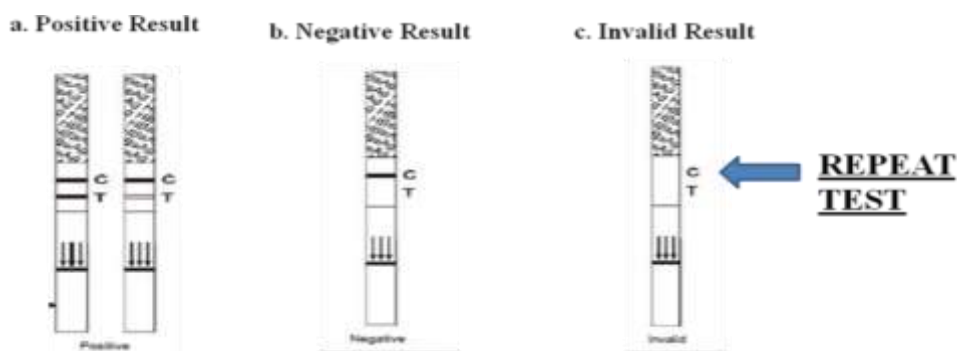
**The RapidSignal HBsAg serum/plasma dipstrip kit HBV surface antigen detection procedure:**

The RapidSignal HBsAg serum/plasma dipstrip kit was taken out of the refrigerator. It was inspected for the expiration date or any damage or leakage. The kit components (dipstrip pouches and buffer) were brought to room temperature. The plasma samples to be tested were also thawed at room temperature.

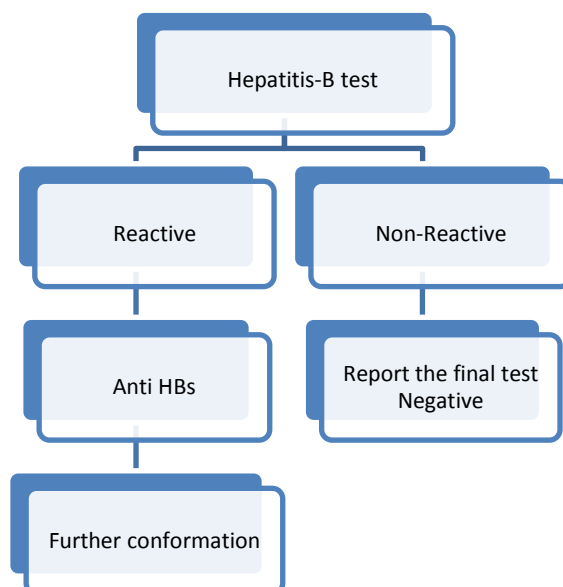
To initiate testing, the test dipstrip was removed from the sealed foil pouch. The test dipstrip, with its arrows pointing towards the plasma sample, was immersed vertically in the sample for 10-15 seconds. Care was taken not to surpass the sample beyond the maximum line of the test dipstrip while immersing it. Then, the dipstrip was placed on a non-absorbent flat surface. The timer was initiated with a waiting period of 15 minutes. At the end of 15 minutes, the result was interpreted as described and illustrated below.

The sample was scored as reactive if two distinct red lines appeared- one in the control region and one in the test region. The sample was scored as negative if the red line appeared only along the control line. If the red line did not appear at the control line irrespective of the test line, the test was considered invalid and the whole test was repeated using new kit (Figure 2-5)

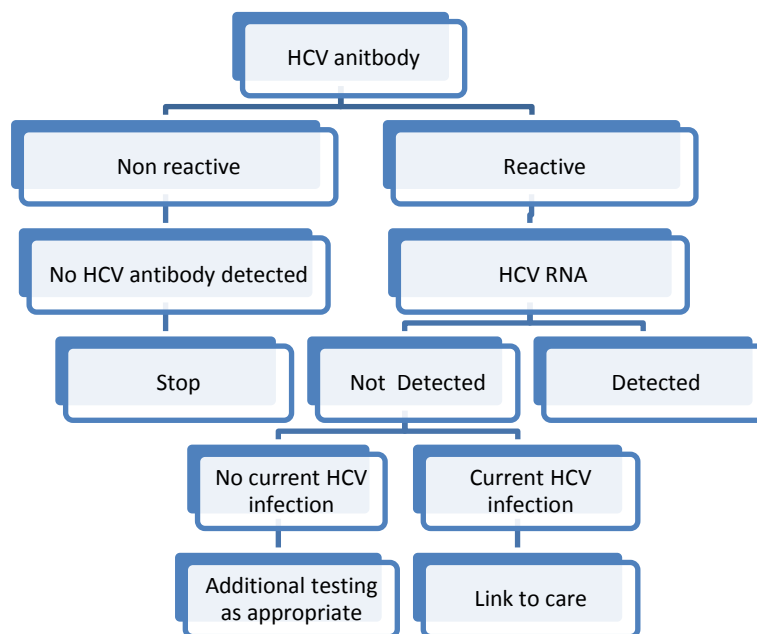
**Figure 2-5 : HBV surface antigen detection procedure**



**Figure 2-6: Hepatitis B (HBV) Algorithm**



**Figure 2-7: Hepatitis C (HCV) Algorithm**



## 2.9 Precautions, Disposal Mechanism and Post Exposure Management

The universal precautions and post exposure management was followed as per the recommendations of the Center for Disease Control (CDC, USA) and Nepal's national guidelines where applicable. In order to minimize the possible spread of infection to clinical personnel and to the local community, a proper disposal mechanism was implemented. The color coded disposable plastic bags were inserted in a thick leak-proof container with a tight seal. All materials were decontaminated by disinfecting or incinerating before disposal. Contaminated materials including specimens of bodily fluids, cotton gauze and broken glassware including used needles were decontaminated in 0.5% Sodium Hypochlorite on a daily basis. The plastic

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material, papers and cotton were incinerated. The used Sodium Hypochlorite was poured down the drain or in a flushable toilet.

## **2.10 Quality Control of Laboratory Tests**

On-site and external quality assurance of the samples was maintained while testing. The on-site audit includes the quality control of test kits, record-keeping, and observation of staff performance. The on-site quality control of the kit was assessed by in-built control mechanisms provided by the kit itself. While trained laboratory personnel were responsible for record-keeping on a daily basis along with a quality control test that was performed, staff performance was supervised by the supervisor who was stationed in the field.

### **External Quality Control**

The External Quality Control or Blind Rechecking was performed by retesting samples in Intrepid Nepal's laboratory in Kathmandu by the core study team members. All positives and 10% negative samples were sent to the National Public Health Laboratory (NPHL).

## **2.11 Survey Management and Coordination**

The survey was managed overall by Intrepid Nepal under the supervision of NCASC. The survey protocol was developed in close coordination with NCASC which was strictly followed during the entire survey period. The core team members of Intrepid Nepal were responsible for the management of the entire survey process that included:

- The development and finalization of the research tools in the Nepali Language,
- Laboratory sops,
- Training of the field teams,
- Field planning, field monitoring matrixes,
- Data management, data analysis and
- Report preparation.

## **2.12 Training and Field Testing**

Before field implementation, the survey team was provided with 5 days of intensive training from June 11-15, 2015. The training session covered:

- survey objectives,
- overview of IBBS,
- HIV epidemic and surveillance system in Nepal,
- survey design and approach,
- sampling approaches,
- characteristics of the PWIDs population,
- rapport-building techniques,
- content and behavioral interviews and
- survey protocol.

The training session included mock practice, role play as well as theory classes facilitated by resource personnel from NCASC, FHI 360, NPHL and Intrepid Nepal. The practical session of lab and STI sessions were conducted at Intrepid Nepal laboratory while HIV pre-and post-test counseling was delivered by a technical expert.

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During training sessions with the help of *SathiSamuha* (NGO working for the PWID) non sampled PWIDs were contacted for the pretest of the study tools. The pretesting was carried out at the *SathiSamuha* office, *Sinamangal* and consent was taken from all the study participants. Ten PWIDs were interviewed during the pretesting. The tools were revised based on pretesting and shared with the Strategic Technical Working Group (STWG) members. The STWG members finalized the tools based on the findings of pretesting.

### **2.13 Monitoring of the Survey Field Work and Quality Assurance**

To ensure quality throughout the survey period, stringent monitoring and follow-up mechanisms were adopted. Adequate references were sought during desk reviews to develop relevant and efficient survey tools so as to ensure that the field researchers were well capacitated to gather data in coordination with NCASC. Regular field checks and follow-up was done by Intrepid Nepal, NCASC and other stakeholders throughout the entire field work.

Completed questionnaires were reviewed for inconsistencies by field supervisors and discussed with team members every day. They were also required to monitor and manage the required cold chain for EQAS and test kits. Key research team members monitored and supervised field activities. The Field Coordinator ensured that this survey protocol was strictly followed. Intrepid Nepal submitted a field progress update to NCASC on weekly basis. The observations and suggestions from the monitoring team were shared with the field team at the end of the monitoring visits and were also communicated to Intrepid Nepal as well as NCASC.

### **2.14 Post-Test Counseling and Test Result Distribution**

All Survey participants were provided with their respective individual HIV, HCV, HBV and Syphilis test results with post-test counseling by a trained counselor in a confidential setting. Counseling session was also focused on raising awareness on high-risk behaviors pertaining to STIs and HIV.

### **2.15 Data Management and Analysis**

All completed questionnaires were transported to the Intrepid Nepal office for coding and data entry. After thorough rechecking, the data was entered into a computer using the CPro software package. Double entry was adopted to minimize errors during the data entry and ensure quality of the data. Furthermore batch editing and programming was developed to check for further inconsistencies. Data files were transferred to SPSS and RDSAT for further complex analysis.

Raw data was prepared using SPSS. This included generating new variables and re-coding missing values. Datasets were then converted to Microsoft Excel files and then to RDS files (Tab Delimited Text Format). Prevalence estimates of key-indicators were performed in RDSAT. With RDSAT the pull-in outlier option was used to eliminate extremely small and large outliers in the reported network sizes. When the program encountered an individual whose network size was considered to be outside of the specified bounds, their network size was set to the value of the nearest lower or upper bound (by percentage) with the help of the pull-in outliers options. RDSAT analysis for this Survey used 5% pull-in outliers of network size. The reported minimum network size was 3 and maximum was 20 while adjusting the pull – in outliers. Based on the reporting, the not adjusted parameters were minimum 2 and maximum 60 pull–in outliers. Simple statistical tools-frequency distribution,

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percentages, range, and proportion, mean and median, were used to analyze the results of the survey. Both clinical and behavioral data were used to examine the relationship between the socio-demographic characteristics, HIV status, and sexual behaviors.

Output values that have been analyzed using RDSAT are the estimated population proportions. Further, due to the limitations of RDSAT, multiple responses variables as well as some other variables have been analyzed using SPSS.

In order to draw up a comparative analysis of the behavioral and prevalence trends over the years, 'chi-square test' was performed for trend analysis.

## 2.16 Dissemination of IBBS Survey Findings

As planned, IBBS survey result was disseminated at three levels:

- *At the Program Level* - Key programmatic findings were shared with major stakeholders of the INGO, NGO and NCASC program persons and their related comments were incorporated into the report.
- *At the Community Level*- Findings were shared with the PWID community and local stakeholders at the survey districts and their suggestions were incorporated into the report
- *At the National Level*- It was shared at the national level in Kathmandu among a wider group of government, non-government organizations, donor agencies and stakeholders working in the field of HIV and AIDS in Nepal. This was done primarily as an update on the status and the trends of the HIV infections among PWIDs Populations to draw possible policy and program implications.

## 2.17 Intended use of IBBS Survey Results

The survey results are primarily intended to be used for:

- Tracking the trends in HIV and STI prevalence
- Baseline data for HBV and HCV
- Identifying high risk behaviors
- Estimating and projecting HIV infection
- Evaluating the progress of HIV prevention interventions

## 2.18 Limitations of the Survey

As PWIDs are a hard to reach population, and in many instances, due to various socio cultural reasons a hidden population, recruited sample sizes may not be enough adequately to represent the dynamics of PWID populations. Due to the mobile nature of this population there is always a certain amount of variance. The initial "seeds" were selected purposively and this in itself could be one of the limitations for the survey. However, the subsequent waves were adequate to exclude any bias introduced through this.

Although an IBBS gives us a close look at the local epidemic among a key population, it may not provide all the information we need to design an intervention package because

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It is impossible to include every question we want to ask in one survey; further all questions asked within a particular survey may not be relevant due to the changing contexts.

Epidemics are not static but ever changing and as such, we also need to look into other sources to complement and supplement the information (i.e. such as clinical indicators of infection, or the endemic properties of vectors etc).

- Also human behaviors are not static but dynamic and ever changing. Also, behavior change is an incremental process often requiring extended periods in time for the individual, community, society or policy, systems and/or culture (such as traditions) to respond purposively.

## Chapter 3

### 3 Socio-Demographic Characteristics of PWIDs

This chapter analyzes the socio-demographic characteristics of the PWIDs in the Pokhara Valley.

#### 3.1 Demographic Characteristics

The data presented in the table 3.1 reveals that a relatively high proportion of the surveyed PWIDs were quite young with more than half the surveyed population under 25 years of age and 31.5 percent were under the age of 20. The age of the participants ranged from 17-48 years with a median age of 24 years.

Almost 69 percent PWIDs were unmarried while only 2.7 percent were either divorced or separated. Among those married, 67 percent of PWIDs had been married before the age of 25 years. The median age at which the PWIDs were married for the first time was found to be 22 years. Among those currently married, 73.3 percent lived with their spouse and the rest were living without a sexual partner/alone (Table 3-1)

**Table 3-1: Demographic Characteristics**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Age</b>			
16-19 Years	77	31.5	22.2 - 38.1
20-24 Years	103	27.9	22.8 - 35.0
25-29 Years	61	12.1	8.2 - 17.6
30-34 Years	48	14.2	8.6 - 19.0
35 Years and above	56	14.3	10.1 - 19.5
<b>Mean ± Std. Dev</b>	<b>26.0 ± 7.4</b>		
<b>Median (Range)</b>	<b>24( 17-48)</b>		
<b>Marital Status</b>			
Unmarried	224	68.6	62.0 - 75.2
Married	109	28.7	23.1 - 35.0
Divorced/permanently separated	12	2.7	2.7 - 4.4
<b>PWIDs living with</b>			
Wife	81	24.5	18.9 - 29.9
With Other Sexual Partner	2	0.0	0.0 -0.01
Without Sexual Partner/Alone	262	75.5	70.1 - 81
<b>Age at first Marriage</b>	<b>N=121</b>		
≤19 Years	31	26.1	13.0 - 38.0
20-24 Years	47	40.9	27.1 - 55.0
25 and Years above	43	33.0	19.3 - 50.4
<b>Mean ± Std. Dev</b>	<b>23.1± 4.7</b>		
<b>Media ( Range)</b>	<b>22 (13 -37)</b>		
<b>Married PWID Living With</b>	<b>N=109</b>		
Wife	80	73.3	57.4 - 85.7
Without Sexual Partner/Alone	29	26.7	14.3 - 42.6

## 3.2 Social Characteristics

Analysis of the social characteristics of the respondents in Pokhara Valley revealed that most of the respondents were fairly educated with 85.8 percent having attended secondary school and higher education. Only 11.9 percent attended primary school, and 1.1 percent were illiterate.

In terms of ethnic composition, more than one third (36.9%) respondents belonged to relatively advantaged Janajati and about 20 percent were from upper caste groups, whereas, 42.6 percent belonged to Dalit and disadvantaged Janajati groups. Very few PWIDs (0.2% and 0.4%) came from disadvantaged non-Dalit Terai caste groups and other religious minorities, respectively.

A majority of PWIDs (53.1%) have been living in Pokhara Valley since their birth, while 27.5 percent have been living there for five or more years and the remaining 19.4 percent have been living in the Pokhara Valley for less than five years (Table 3-2).

**Table 3-2: Social Characteristics**

Description	N=345	%	CI
<b>Education</b>			
Illiterate	4	1.1	0.0-1.8
Primary	40	11.9	6.5-15.2
Secondary	227	67.8	63.2-74.3
SLC and above	69	19	14.8-24.9
Literate, no schooling	5	0.2	0.0-0.8
<b>Ethnicity</b>			
Dalit	52	17.8	12.0-23.6
Disadvantaged Janajati	79	24.8	19.0-29.6
Disadvantaged non-Dalit Terai caste groups	1	0.2	0.0-0.9
Religious Minorities	2	0.4	0.0-0.8
Relatively advantaged Janajati	137	36.9	31.2-43.7
Upper caste groups	74	19.9	15.4-25.2
<b>Duration of stay in Pokhara Valley</b>			
Since birth	194	53.1	48.5-60.7
≤ 5 years	60	19.4	14.0-23.8
More than 5 years	91	27.5	21.0-32.8

## 3.3 History of Imprisonment

History of imprisonment is generally considered a difficult area to assess, particularly due to fear of marginalization, shame and discrimination including social perception.

More than half of the surveyed respondents (51%) reported having been imprisoned or detained for some or another, reason by police, whereas 30% had been imprisoned or detained in the past year. Out of 71 respondents imprisoned or detained in the past year, 66.5 percent reported being imprisoned in cases related to drugs. More than one third of the respondents (46.9%) reported being jailed two or more times in the past year. None of the respondents said that they had injected drugs during their imprisonment (Table 3-3).



**Table 3-3: Imprisoned History**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Respondent ever imprisoned or detained for any reason</b>			
Yes	193	51.0	47.0-58.1
No	152	49.0	41.9-53.0
<b>Respondent imprisoned or detained for any reason in the past one year</b>	<b>N=193</b>		
Yes	71	30.0	22.1-40.6
No	122	70.0	59.4-77.9
<b>Respondent jailed/imprisoned in the past one year because of drugs</b>	<b>N=71</b>		
Yes	44	66.5	40.1-81.5
No	27	33.5	18.5-59.9
<b>Frequency of jailed/imprisoned in the past one year because of drugs</b>	<b>N=44</b>		
Once	28	53.1	18.0-93.0
Twice	10	38.0	6.3-73.4
Three and more	6	8.9	0.0-35.8
<b>Ever injected drugs during the jailed/imprisoned</b>			
No	44	100.0	

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## Chapter 4

### 4 Prevalence of HIV, HCV, HBV and Syphilis

#### 4.1 HIV, HCV, HBV and Syphilis Prevalence

HIV, HCV, HBV and STI Prevalence have been a matter of national public health concern. Based on the data collected within the Pokhara Valley, 2.8 percent of the respondents PWIDs are estimated to be HIV-positive. Out of the 345 PWIDs in the sample, 13.1 percent PWIDs had Hepatitis C and 1.8 percent had Hepatitis B (Table 4-1). Less than 2 percent of the sample population tested positive for Syphilis.

**Table 4-1 : HIV and Syphilis Prevalence**

	%	CI		N
HIV	2.8	1.00	5.40	345
HCV	13.1	9.60	18.20	345
HBV	1.8	0.30	3.20	345
Syphilis history	1.1	0.20	2.30	345
Active Syphilis	1.1	0.10	- 2.30	345
HIV and HCV (Co-infection)	0.6	0.0	- 1.7	345
HIV and HBV (Co-infection)	0.5	0.0	- 1.8	345
HIV,HCV and HBV ( Multiple infection)	0.0	-	-	345

#### 4.2 Relationship between Socio-Demographic Characteristics and HIV Infection

In order to understand the dynamics of HIV transmission rates among social classes it is necessary to understand the relation between socio-demographic characteristics and prevalence of HIV Infection and its socio economic implications.

**Table 4-2** shows the relation of HIV infection and selected socio-demographic characteristics. HIV was found in 3.8 percent of PWIDs aged above 20 years, while no HIV prevalence was found in their younger counterparts.

No HIV prevalence was found among the respondents in the married group among the respondents, whilst among the unmarried ones, only 8.8 percent showed HIV prevalence. Among respondents who received formal education, only 2.9 percent were affected by HIV.

**Table 4-2: Relation between Socio-Demographic Characteristics and HIV Infection**

	%	CI	N
<b>Age</b>			
< 20 years	0.0	0.00 - 0.00	77
20 years and above	3.8	1.20 - 6.70	268
<b>Marital status</b>			
Ever married	0.0	0.00 - 0.00	224
Never married	8.8	3.10 - 16.40	121
<b>Literacy</b>			
Illiterate/Literate no formal schooling	0.0	0.00 - 0.00	9
Formal School	2.9	1.10 - 5.50	336

### 4.3 Relationship between Drug Injection Behavior and HIV

The history of drug injecting behavior of respondents with respect to prevalence ratios can give us valuable insight into behavioral patterns that can help to determine behavioral risk factors for transmission. The relationship between HIV prevalence and duration of drug injection, the frequency of injections during the past week, and the type of syringes they used has been reviewed in this section.

Injecting drugs and certain behavioral practices among PWIDs put them at an even higher risk of HIV infection. A statistically significant relation was observed between duration of drug injection and HIV prevalence; about 9.8 percent of the PWIDs who had been injecting drugs for five years or more were HIV-positive. Those PWIDs who had not injected in the last week had about 1.7 percent HIV prevalence compared to those who had injected every day or occasionally (Table 4.3).

HIV prevalence was found to be higher among those respondents who did not inject previously used needle/syringe at least once in the past week (2.9%) than the rest of the PWIDs; and among those who had used a syringe that was kept in public places in the past week (2.9%) were found to be more at-risk of contracting HIV (Table 4.3).

**Table 4-3: Relation between Drug Injecting Behavior and HIV Infection**

	%	CI	N
<b>Injecting drugs since</b>			
Up to 11 months	0.80	0.0 - 0.83	31
12-24 months	0.20	0.0 - 1.7	125
25-60 months	2.8	0.0 - 9.9	77
61 + months	9.8	3.2 - 16	112
<b>Frequency of injected drugs in the past week</b>			
Not injected	1.7	0.0 - 4.3	204
Up to 6 times a week	4.0	0.8 - 8.7	133
Once a day	0.0	0.0 - 0.0	4
2 or more times a day	0.0	0 - 0	4
<b>Used other's previously used needle/syringe during the past week</b>			
Not injected/Never Used	2.9	1.0 - 5.4	344

Used	0.0	0.0	-	0	1
<b>Used a needle/syringe kept in public place during the past week</b>					
Never Used	2.9	1	-	5.4	345
Used	0.0	0.0	-	0	0

#### 4.4 Relationship between Sexual Behavior and HIV

Sexual Behavior and HIV are intricately interconnected due to the fact that sexual transmission has been known to be one of the major routes of transmission for some time now, especially in highly mobile populations.

This section examines sexual behavior and its association with HIV infection among PWIDs in Pokhara Valley. HIV prevalence was high (7.40%) among those PWIDs who had sex with regular sex partner in the past 12 months. Among the respondents, 2.1 percent who had sex with FSW in past 12 months had HIV compared to those who had not had sex with FSW. HIV Positive status was found in 6.5 percent of the respondents who did not have a regular sex partner (**Table 4-4**)

**Table 4-4: Relationship between Sexual Behavior and HIV**

	%	CI	N
<b>Sex with a regular female sex partner in the past 12 months</b>			
Yes	7.40	1.90 - 14.20	109
No	1.10	0.00 - 3.60	236
<b>Sex with non- regular female sex partner in the past 12 months</b>			
Yes	0.0	0.00 - 0.00	198
No	6.5	2.50 - 11.90	147
<b>Sex with female sex worker in the past 12 months</b>			
Yes	2.1	0.00 - 5.30	98
No	3.2	0.80 - 6.20	247
<b>Number of regular partner in the past 12 months</b>			
None	1.3	0.00 - 3.80	236
1 partner	7.9	2.30 - 15.10	108
More than one partner	0.0	0.00 - 0.00	1
<b>Number of non-regular partner in the past 12 months</b>			
None	6.5	2.30 - 11.80	147
1 partner	0.0	0.00 - 0.00	67
More than one partner	0.0	0.00 - 0.00	131
<b>Number of female sex workers in the past 12 months</b>			
None	3.3	0.80 - 6.30	247
1 partner	1.5	0.00 - 6.00	35
More than one partner	2.4	0.00 - 6.60	63

## 4.5 Relationship between Socio-Demographic Characteristics and HCV Infection

Table 4-5 shows the relation between the socio-demographic characteristics and HCV infection. HCV was found nil in all of the PWIDs aged less than 20 years. While, HCV infection was found to be 19.7 percent among those PWIDs who were above the age of 20 years.

HCV was found among only 6.2 percent of the PWIDs who were married while among the unmarried ones, 30.6 percent showed HCV infection.

While investigating data among the respondents who were HCV positive 14.7 percent had attended formal schooling. Among those who showed prevalence of HepC, 11.0 percent was illiterate or had had no formal schooling.

**Table 4-5: Relation between Socio-Demographic Characteristics and HCV Infection**

	%	CI	
<b>Age</b>			
< 20 years	0.0		77
20 years and above	19.7	14.0 -25.2	268
<b>Marital status</b>			
Ever married	6.2	3.2 –9.8	224
Never married	30.6	20.7 – 40.4	121
<b>Literacy</b>			
Illiterate/Literate no formal schooling	11.0	4.1 – 40.0	9
Formal School	14.7	10.2-18.9	336

## 4.6 Relationship between Drug Injection Behavior and HCV

The relationship between HCV infection and drug injection such as duration of injection, frequency of drug injections during the preceding week, and types of syringes they used are reviewed in this section. Due to the fact that HCV can be transmitted as a blood borne pathogen, Injecting drugs and certain practices that PWID exhibit, put them at an even higher risk of HCV. About 41.7 percent of PWIDs who had been injecting drugs for five years or more were infected from HCV (Table 4-6).

**Table 4-6: Relation between Drug Injecting Behavior and HCV Infection**

	%	CI	N
<b>Injecting drugs since</b>			
Up to 11 months	4.3	0.0 -14.9	31
12-24 months	1.1	0.0-3.7	125
25-60 months	7.1	1.8-14.4	77
61 + months	41.7	30.3-53.4	112
<b>Frequency of injected drugs in the past week</b>			
Not injected	11.4	7.1 - 16.9	204
Up to 6 times a week	20.1	11.7 – 28.2	133
Once a day	29.7	0.0 -100.0	4
2 or more times a day	23.7	0.0 – 82.1	4

<b>Used other's previously used needle/syringe during the past week *</b>			
Not injected/Never Used	14.3	10.0 – 18.6	344
Used	50.0	50.0 – 50.0	1
<b>Used a needle/syringe kept in public place during the past week *</b>			
Never Used	14.4	9.9 – 18.6	345
Used	0.0		0

#### 4.7 Relationship between Sexual Behavior and HCV

This section examines sexual behavior and its association with HCV infection among PWIDs in Pokhara Valley. HCV infection was high (30.1%) among those PWIDs who had sex with regular sex partner in the past 12 months. About 12.4 percent of PWIDs who had a non-regular partner in the past 12 months had HCV. Further, among those respondents who reported having sex with a female sex worker in the past 12 months 15.1 percent had HCV (Table 4-7).

**Table 4-7: Relationship between Sexual Behavior and HCV infection**

	%	CI	N
<b>Sex with a regular female sex partner in the past 12 months</b>			
Yes	30.1	19.8-41.7	109
No	7.6	4.3-11.2	236
<b>Sex with non- regular female sex partner in the past 12 months</b>			
Yes	12.4	7.1-17.5	198
No	16.5	10.5 – 23.2	147
<b>Sex with female sex worker in the past 12 months</b>			
Yes	15.1	5.8-24.3	98
No	14.1	9.5-19.0	247
<b>Number of regular partner in the past 12 months</b>			
None	7.6	4.3 – 11.2	236
1 partner	28.7	18.6 – 39.3	108
More than one partner	90.8	50.0 – 100.0	1
<b>Number of non-regular partner in the past 12 months</b>			
None	16.4	10.6-22.9	147
1 partner	12.4	2.8 -21.9	67
More than one partner	12.5	6.6 -19.6	131
<b>Number of female sex workers in the past 12 months</b>			
None	14.1	9.3-19.0	247
1 partner	14.7	2.4-37.4	35
More than one partner	14.9	3.3-27.0	63

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## Chapter 5

### 5 Drug Use, Needle Sharing, and Treatment

Risk of HIV transmission among PWIDs is considered to be highest primarily due to unsafe drug use and consequently needle sharing habits PWIDs are considered to be one of the core groups responsible for HIV transmission. An understanding of current practices among PWIDs can help to design effective intervention strategies. This chapter deals with alcohol intake, drug use, and needle sharing habits, as well as addiction treatment of PWIDs in the Pokhara Valley.

#### 5.1 Alcohol Consumption and Oral Drug Use

Alcohol consumption was common among the PWIDs in Pokhara Valley. Around 74 percent reported consuming alcohol at least once in the past month. About 15 percent reported alcohol consumption every day in the past month, while 34.2 percent of respondents said that they had had an alcoholic drink more than once a week during the past month (Table 5.1).

**Table 5-1: Alcohol consumption during the past month**

	N	%	CI
<b>Alcohol consumption during the past month</b>			
Everyday	59	14.9	10.1-19.9
More than once a week	123	34.2	28.6-40.1
Less than once a week	78	24.5	18.1-29.7
Never drink	85	26.4	21.2-32.9
<b>Total</b>	<b>345</b>	<b>100.0</b>	

Among the PWID respondents it was observed that most preferred inhaling drugs such as marijuana, locally known as *Ganja*, with 93.6 percent having used it in the week preceding the survey. Other common drugs were Nitrosun (39.9%), Chares (36.4%), Nitrovate (30%) and Brown sugar (8.3%). 13.4 percent respondents used combination of drugs (Table 5.2).

**Table 5-2: Types of Drugs Used by PWIDs in the Past Week<sup>2</sup>**

	Response	%
<b>Types of orally used drugs *</b>		
Ganja (Cannabis)	293	93.6
Nitrosun (Nitrazepam)	125	39.9
Chares (Cannabis Resin)	114	36.4
Nitrovate (Nitrazepam)	94	30.0
Combination	42	13.4
Brown sugar (low grade Heroin)	26	8.3
Phensydyl (Mucolytic cough syrup with codeine and ephedrine)	12	3.8
Codeine (Codeine Phosphate or Sulphate)	11	3.5

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<sup>2</sup> The Generic name of the drugs mentioned have been used as per the actual responses of the respondents. The actual chemical composition or active ingredient/chemical name have been indicated in brackets next to the generic names.

Calmpose (Diazepam)	7	2.2
Diazepam	7	2.2
White Sugar (White Heroin)	5	1.6
Proxigin (Dextropropoxyphene)	4	1.3
Velium 10 (Diazepam)	4	1.3
LSD	4	1.3
Phenergan (Promethazine)	2	0.6
Effidin (Ephedrine)	2	0.6
Cocaine	1	0.3
Others	42	13.4
<b>N</b>	<b>313</b>	

\* Because of multiple answers percentage may add up to more than 100.

## 5.2 Drug Injecting Practices

More than half (62.2%) of the PWIDs reported not injecting during the week prior to the survey. About 12 percent reported injecting two to three times in the last week, and 7.4 percent said that they had injected four to six times in the same period. 1.4 percent PWIDs said that they had injected every day of the week (once a day or more).

PWIDs were also asked about the frequency of injections and the last time day that had they injected drugs. A majority of PWIDs (83.3%) said that they had injected once, while 16.7 percent said that they had injected more than once in the last day before the survey (**Error! Reference source not found.**).

**Table 5-3: Drug Injecting Practice**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Duration of drug injection (Month)</b>			
Up to 11 months	31	8.7	5.2-11.3
12-24 months	125	45.3	36.2-48.4
25-60 months	77	17.4	13.6-22.4
61 + months	112	28.6	26.2-37.1
<b>Mean ±Std. Dev</b>	<b>57.6± 57.02</b>		
<b>Median ( Range)</b>	<b>36 ( 3-300)</b>		
<b>Frequency of drug injections within the past week</b>			
Once a week	54	17.3	11.9-21.9
2-3 times a week	49	11.7	8.0-16.0
4-6 times a week	30	7.4	4.5-12
Once a day	4	0.9	0.1-2.0
2-3 times a day	3	0.2	0.0-0.3
4 or more times a day	1	0.3	0.0-1.0
Not injected in the last week	204	62.2	55.8-68.1
<b>Mean ±Std. Dev</b>	<b>4.9 ± 3</b>		
<b>Median ( Range)</b>	<b>7 (1 – 7)</b>		
<b>Frequency of drug injection in the last day</b>			



Once	272	83.3	78.4-87.5
Twice	57	13.6	9.7-17.5
3 or more times	16	3.1	1.6-5.6
<b>Mean ±Std. Dev</b>	<b>1.3 ± 1</b>		
<b>Median (Range)</b>	<b>1 (1-7)</b>		

PWIDs in Pokhara Valley mostly used Diazepam (96.4%) drugs followed by combination of drugs (88.6%) and Brown sugar (1.4%) (Table 5.4).

**Table 5-4: Types of Drugs Injected<sup>3</sup>**

	<b>Response</b>	<b>%</b>
<b>Types of Drugs Injected *</b>		
Diazepam	135	96.4
Phenergan (Promethazine)	126	90.0
Combination	124	88.6
Calmpose (Diazepam)	3	2.1
Brown sugar (Low grade Heroin)	2	1.4
Nitrosun (Nitrazepam)	2	1.4
Codeine (Codeine Phosphate or Codeine Sulphate)	2	1.4
Proxygin (Dextropropoxyphene)	2	1.4
Nitrovate (Nitrazepam)	1	0.7
Others	8	5.7
<b>N</b>	<b>140</b>	

\* Because of multiple answers percentage may add up to more than 100

In the past year, only small number of respondents (3.7%) had switched their habit of sharing needles/syringes to not sharing while the remaining 96.3percent reported no changes their habits (**Error! Reference source not found.**)

**Table 5-5: Switching Practice from Sharing to Non-Sharing Behavior in the Past Year**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Switching from sharing to non-sharing behavior In past year</b>			
Yes	16	3.7	1.7 – 11.3
No	329	96.3	93.3-98.3

### 5.3 Syringe Use and Sharing Habits

Syringe use and needle sharing habits have been identified as one of the key behavioral factors as a principle driver in the transmission of HIV and other blood borne pathogens. Syringe use and needle sharing habits were assessed in terms of their last three injections. Respondents were specifically asked about the sources of the needle/syringes used in their three most recent injections. Responses provided by the PWIDs have been categorized as:

<sup>3</sup> The Generic name of the drugs mentioned have been used as per the actual responses of the respondents. The actual chemical composition or active ingredient/chemical name have been indicated in brackets next to the generic names.

- low risk (use of new needles and syringes obtained from different places) or
- high risk (use of previously used syringes, use of needles and syringes given by friends or relatives, use of needles and syringes by self or others that are kept in public places)

As reflected in the table above, most of the PWIDs consciously avoided high risk behaviors like the use of pre-used needles and syringes in their last three injections. Only about 2 percent of PWIDs had practiced high risk injecting behavior in their most recent three injections. The majority of PWIDs had injected their last three injections alone. Very low numbers of PWIDs (1% in the most recent, 3.2% in the second most recent and 1.3% in the third most recent) had shared needles/syringes during their most recent three injections (Table 5.6).

**Table 5-6: Syringe Use and Needle Sharing Habits during the Last Three Injections**

	N=345	%	CI
<b>Needle/syringe used; Most recent</b>			
High risk behavior	5	1.6	0.3-2.7
Low risk behavior	340	98.4	97.3-99.7
<b>Persons in the group using the same needle/syringe; Most recent</b>			
1 - 3 persons	4	1	0.1 2.5
Alone	341	99	97.5-99.9
<b>Needle/syringe used; Second Most recent</b>			
High risk behavior	5	1.4	0.3-2.2
Low risk behavior	340	98.6	97.8-99.7
<b>Persons in the group using the same needle/syringe; Second Most recent</b>			
1 - 3 persons	3	3.2	0.0-5.9
Alone	342	96.8	94.1-100.0
<b>Needle/syringe used; Third Most recent</b>			
High risk behavior	4	0.8	0.1-1.4
Low risk behavior	341	99.2	98.6-99.9
<b>Persons in the group using the same needle/syringe; Third Most recent</b>			
1 - 3 persons	6	1.3	0.3 – 3.0
Alone	339	98.7	97.0-99.7

Data on needle/syringe-using behavior in the last week as well as in the last three most recent injections points towards an increasing consciousness among current PWIDs regarding the risks associated with needle/syringe sharing. Almost all of the PWIDs (99.7%) had not injected with a used needle/syringe that had been used by other or with a needle/syringe left in a public place (100%) in the week prior to the survey (**Error! Reference source not found.**).

Out of total only 3 respondents, (1.1%) reported passing their used needle/syringe to others, 0.3 percent said that they had used somebody else's syringe, and none of the respondents said that they had used a syringe kept in a public place during the past week. The PWID respondents who shared their needles/syringes in the past week said that they had shared them only with their friends (**Error! Reference source not found.**).

**Table 5-7: Past Week's Syringe Use and Sharing Behavior**

	N=345	%	CI
<b>Used a needle/syringe that had been used by other *</b>			
Never used/Not injected	344	99.7	
Used	1	0.3	
<b>Used a needle/syringe that had been kept in public place *</b>			
Never used/Not injected	345	100.0	
<b>Gave a needle/syringe to some one</b>			
No	342	98.9	95.3-100
Yes	3	1.1	0.0-4.7
<b>Number of needle/syringe shared partners</b>			
None	342	99.5	98.4-99.9
1 -2 partners	3	.5	0.1 1.6
<b>Shared needle/syringe with friends*</b>			
Yes	3	100.0	

\* Estimated population Proportion (%) of the variables with asterisk (\*) did not meet the required numerator to be calculated with RDSAT. The proportion represented is therefore unadjusted and no value is mentioned under CI

## 5.4 Drug-Sharing Behavior

Among the respondents some PWIDs reported risky drug sharing practices in the past week. Some PWIDs had participated in some risky drug sharing practices in the past week; very less respondents (0.5%) had injected with a pre-filled syringe, and only one PWID (0.3%) had injected with a syringe that was filled with drugs transferred into it from another syringe. Moreover, almost all (99.3%) of the PWIDs had never shared one or more piece of injecting equipment like a bottle, spoon, cooker, vial/container, cotton/filter, or rinse water with others at least once in the last week. And none of the PWIDs had used a common container for drawing solution at least once in the previous week (Table 5.8).

**Table 5-8: Past Week's Drug-Sharing Behavior**

	N=345	%	CI
<b>Injected with a pre-filled syringe</b>			
Yes	3	0.5	0.1-1.4
No/Not injected in the past week	342	99.5	98.6-99.9
<b>Injected with a syringe after drugs were transferred into it from another's syringe *</b>			
Injected with such syringe	1	0.3	
Never injected with such syringe	344	99.7	
<b>Shared a bottle, spoon, cooker, vial/container, cotton/filter and rinse water</b>			
Shared	2	0.7	0.2-1.7
Never shared	343	99.3	98.3-99.8
<b>Drew drug solution from a common container used by others *</b>			
Never	345	100.0	

\* Estimated population Proportion (%) of the variables with asterisk (\*) did not meet the required numerator to be calculated with RDSAT. The proportion represented is therefore unadjusted and no value is mentioned under CI

A majority of the PWIDs in Pokhara (97%) said they had not used previously used non-sterile needles/syringes in the past months; however, the remaining 3% percent reported still using such needles/syringes in the past months. Similarly, 97.3% said that they had not used non-sterile injecting equipment like a bottle, spoon, cotton/filter, cooker and container with others at least once in the past month (Table 5.9).

**Table 5-9: Needle/Syringe and Injecting Equipment Used in the Past Month**

	N=345	%	CI
<b>Injected in the last month</b>			
Yes	257	73	67.4-78.5
No	88	27	21.5-32.6
<b>Used previously used non-sterile needle/syringe in the past month</b>	N=257		
Yes	8	3	0.8-6.2
No	249	97	93.8-99.2
<b>Used non-sterile injecting equipments at any time in the past month</b>			
Yes	6	2.7	0.4-4.7
No	251	97.3	95.3-99.6

Information on the movement of the PWIDs both within and outside the country and their injecting practices in the place/s they visited was also collected during this survey. Less than one fourth (23%) had injected drugs in places (within other parts of the country or outside the country) that they had visited in the past year. Among these PWIDs in the sample who had injected drugs outside the Pokhara Valley, 9.5 percent had injected with somebody else's previously used syringe (Table 5.10).

**Table 5-10: Injecting Behavior in Other Parts of the Country and Out of Country**

	N=345	%	CI
<b>Injected in other parts of country as well as out of country</b>			
Yes	100	23	18.4-29.0
No	245	77	71.0-81.6
<b>Used a needle/syringe that had been used by other</b>	N=100		
Yes	5	9.5	1.6-19.5
No	95	90.5	80.5-98.4
<b>Used a needle/syringe that had been used by other</b>			
Sometimes – always	5	4.8	1.5-14.4
Never	95	95.2	85.6-98.5

## 5.5 Needle/Syringe Cleaning Practices

Improper methods of cleaning not only reflect a lack of awareness but also put PWIDs at a higher risk of HIV transmission. In the Pokhara Valley, only 3.8% percent of PWIDs had cleaned re-used needles/syringes in the past week. Among them, all of them had cleaned the needle/syringe without bleach (Table 5.11).

**Table 5-11: Needle/Syringe Cleaning Practice**

	<b>N=140</b>	<b>%</b>	<b>CI</b>
<b>Cleaned previously used needle/syringe in the past week</b>			
Yes	6	3.8	0.7-8.2
No	1	3.8	2.4-9.1
Never reused	133	92.4	86.1-96.6
<b>Cleaned previously used needle/syringe in the past week</b>	<b>N=6</b>		
without bleach	6	100.0	1.1 – 9.4

## 5.6 Availability of New Syringes

While investigating the availability and access to clean needles and syringes, most of the PWIDs (87.9%) knew that they could obtain new needles/syringes from various sources. Among them, nearly all stated they could get a new needle/syringe from a drugstore (97.7%). In additions 46.8 percent said that they can obtain new syringes from friends and 14.8 percent from needle exchange programs (Table 5.12).

**Table 5-12: Knowledge of Sources of New Syringe**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Could obtain new syringe</b>			
Yes	310	87.9	84.4-92.5
No	35	12.1	7.5-15.6
<b>Obtain new syringe from *</b>	<b>N=310</b>		
Drug store	303	97.7	
Friends	145	46.8	
Needle exchange program	46	14.8	
Hospital	16	5.2	
Drug seller	2	0.6	
Family/ relatives	1	0.3	
Drug wholesaler/drug agency	1	0.3	
Other shop	1	0.3	
Others	4	1.3	
<b>N</b>	<b>310</b>		
<b>Given a new needles/syringes by outreach worker/peer educators or obtained from needle exchange program in the past year</b>	<b>N=345</b>		
Yes	87	21.3	17.2-27.5
No	257	78.0	71.7-82.2
Don't remember	1	0.7	0.4-1.8

\* Because of multiple answers percentage may add up to more than 100

## 5.7 Treatment Status

Regarding Treatment status and attempts at drug treatment, the majority of the PWIDs (72.3%) had not received any kind of treatment so far. Among those who had received some treatment, 23.7percent respondents had done so less than a year ago, whereas the rest had been treated more than a year ago. **Error! Reference source not found.** hows the status of treatment received by PWIDs in Pokhara Valley.

**Table 5-13: Treatment Received**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Treatment status</b>			
Ever treated	111	27.7	24.9-36.3
Never treated	234	72.3	63.7-75.1
<b>Last treatment received</b>	<b>N=111</b>		
Less than 6 months	24	16.6	5.9-30.6
6-11 months before	9	7.1	0.0-16.3
12-23 months before	18	22.7	13.2-42.2
24-35 months before	24	15.5	5.8-26.7
36-47 months before	15	19.6	7.7-24.8
48 or more months before	19	17.1	5.5-28.9
Don't remember	2	1.4	0.0-7.5

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## Chapter 6

### 6 Sexual Behavior and Condom Use

Sexual behavior and condom use is a key factor in determining safe sexual practices especially among key affected populations and especially those most at risk such as PWIDs. In this chapter the sexual behavior of the respondents and their sex partners has been analyzed. HIV transmission among drug users is most often associated with their needle/syringe-sharing behavior. In addition, the practice of risky sexual behavior contributes greatly towards the vulnerability for transmission of the virus to their spouses or sex partners through unsafe sexual contact. This chapter also discusses sexual history and condom use among PWIDs

#### 6.1 Sexual Behavior

The majority of PWIDs in Pokhara were sexually active, based on our findings the majority of PWIDs within the geographical areas of research were found to be sexually active.; 95 percent had experienced sexual intercourse already with a high proportion (91.4%) having it below 20 years of age, mean age being 16.8 years. A majority (85.9%) had sex in the past 12 months and one third of them (32.8%) with a single partner only, while two-fifth (45%) had sex with two to three partners (Table 6.1).

**Table 6-1: Sexual History**

<b>Ever had sexual intercourse</b>	<b>N=345</b>	<b>%</b>	<b>CI</b>
Yes	332	95	91.5-98.0
No	13	5	2.0-8.5
<b>Age at first sexual intercourse</b>	<b>N=332</b>		
Below 20 years	302	91.4	91.4-94.4
20 years & above	30	8.6	5.6-12.6
<b>Mean</b>	<b>16.8</b>		
<b>Sexual intercourse in the past 12 months</b>			
Yes	290	85.9	081.8-90.4
No	42	14.1	9.6-18.2
<b>Numbers of different sexual partners in the past 12 months</b>	<b>N=290</b>		
1 partner	92	32.8	25.0-41.3
2-3 partners	119	45	38.1-54.1
4-6 partners	52	15.9	9.6-19.4
Seven and more partners	27	6.4	3-10.9

During the course of this survey, investigations into the frequency of sex within the last 12 months as well as the last month, prior to the survey, with regular partners were explored. PWIDs were asked about the types of sexual partners they had had in the last year. The table below summarizes the data on regular female sex partners.

Among those who had sex in the past 12 months, more than 30 percent of PWIDs reported having sex with a regular female partner. Almost all (99.1%) of those PWIDs had only one regular partner, and 83.2percent had had sex with their regular partner in

the last month. Around 21 percent of those who had had sex with their regular partners last month had done so one to four times (Table 6.2).

**Table 6-2: Sexual Behavior with Regular Female Sex Partners**

	N=332	%	CI
<b>Sex with a regular female sex partner in the past 12 months</b>			
Yes	109	30.9	26.1-37.7
No	223	69.1	62.3-73.9
<b>Number of regular partner in the past 12 months</b>	<b>N=109</b>		
1 partner	108	99.1	62.3-73.9
2 partners	1	0.9	25.2-36.8
<b>Sex with a regular female sex partner in last month</b>			
Yes	97	83.2	77.2-96.4
No	12	16.8	3.6-22.8
<b>Frequency of sex with last regular female sex partner during last month</b>	<b>N=97</b>		
1-4 times	26	21.2	10.6-44.3
Five and more times	71	78.8	55.7-89.4

When respondents were asked about sex with a non-regular female partner, a different pattern was observed. For the purpose of this survey, the definition of "non-regular partner" included sex partners who were neither spouses of the respondents nor live-in partners with whom there was no exchange of money or drugs for sex.

More than half of the respondents (59.6%) reported having non-regular female partners in the last year. More than half (66.2%) of the respondents had more than one partner. About 65 percent of them had had a sexual encounter with a non-regular partner in the month preceding the survey. Around 7 percent of those who had had sex with their non-regular partners last month, had sex five and more times in the past month (Table 6.3).

**Table 6-3 : Sexual Intercourse with Non-Regular Female Sex Partners**

	N=332	%	CI
<b>Sex with non- regular female sex partner in the past 12 months</b>			
Yes	198	59.6	48.2 – 72.1
No	134	40.4	31.0 – 49.2
<b>Number of non-regular partner in the past 12 months</b>	<b>N=198</b>		
1 partner	67	33.8	29.2 – 38.5
More than one partner	131	66.2	59.1 – 78.3
<b>Sex with non-regular female sex partner in last month</b>			
Yes	124	64.6	57.7-74.5
No	74	35.4	25.5-42.3



<b>Frequency of sex with last non-regular female sex partner during last month</b>	<b>N=124</b>		
1-4 times	99	93.4	92.1-99.1
Five and more times	25	6.6	0.9-7.9

In order to make an in-depth examination of the sexual behavior of PWIDs, the respondents were asked if they had ever maintained sexual relations with a female sex worker. In this context, for the purposes of this survey "female sex workers" (FSW) were defined as those who were involved in the exchange for money or drugs.

Overall, 26.2 percent of respondents had had sex with a FSW in the past 12 months while 56.5 percent of them had sexual experiences with FSWs during the course of the month preceding the survey (**Error! Reference source not found.**).

**Table 6-4: Sexual Intercourse with Female Sex Worker**

	<b>N=332</b>	<b>%</b>	<b>CI</b>
<b>Sex with female sex worker in the past 12 months</b>			
Yes	98	26.2	21-31.8
No	234	73.8	68.2-79.0
<b>Number of female sex workers in the past 12 months</b>	<b>N=98</b>		
1 partner	35	35.7	29.2 – 41.7
More than one partner	63	64.3	53.1 – 77.2
<b>Sex with female sex workers in last month</b>			
Yes	51	56.5	27.1-69.3
No	47	43.5	30.7-72.9

## 6.2 Sources of Condoms

Availability and access to safe sex commodities such as condoms is a vital element to promote safe sexual practices, especially among PWIDs and their sexual partners. Knowledge regarding availability and access to condoms was explored by the survey. Respondents were asked if they knew about the places from where they could obtain condoms. All PWIDs cited at least one source. Among them, 98.8% said they could obtain condoms from a pharmacy. Other common sources of condom cited were hospital (50.1%), shop (35.7%), peer educator/outreach educator (17.4%), *Pan pasal* (6.4%), and bar/guest houses (0.9%). Most of the PWIDs said that they could have them if necessary in less than 30 minutes (98.8%) indicating condoms are readily available at these sources. About 15percent of PWIDs reported that they usually carry condoms with them (Table 6.5).

**Table 6-5: Sources of Condom and Time Needed to Obtain It**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Place/person from where condom can be obtained #</b>			
Pharmacy	341	98.8	
Hospital	173	50.1	
Shop	123	35.7	
Clinic	68	19.7	

Peer Educator/outreach educator	60	17.4	
Friend	26	7.5	
<i>Pan Pasa</i>	22	6.4	
Family planning center	19	5.5	
Health worker	12	3.5	
Bar/Guest house/Hotel `	3	0.9	
Others	50	14.5	
<b>Time taken to obtain condom</b>			
Less than 30 minutes	341	98.8	97.5 – 99.7
More than 30 minutes	4	1.2	0.3 – 2.5
<b>Respondent mostly carry condom</b>			
Yes	59	15.04	11.4 – 20.1
No	286	84.6	79.9 – 88.6
<b>Number of condom carried now</b>			
None	324	94.3	91.6 – 96.7
One	10	2.6	1.0 – 4.4
Two and more	11	3.1	1.3 – 5.4

#Because of multiple answers percentage total may add up to 100

### 6.3 Sources of Information about Condoms

Regarding Information on availability and access to condoms, sources of information play a practical role in promoting awareness to enable informed choices. The survey explored knowledge of sources of information about condoms to understand the levels of awareness about where and how to obtain information about condoms from different sources. The most common sources of information were television (93.3%), radio (92.5%), newspapers/posters (76.2%), and friends/neighbors (64.1%). The list of other sources of information as mentioned by the PWIDs is shown in **Error! Reference source not found.** below.

**Table 6-6: Sources of Information about Condoms in the Past Year**

	N	%
<b>Sources of Information about Condoms *</b>		
TV	322	93.3
Pharmacy	319	92.5
Radio	287	83.2
Newspapers/posters	263	76.2
Health post	237	68.7
Hospital	233	67.5
Health centers	230	66.7
Bill board/sign board	224	64.9
Friends/neighbors	221	64.1
Cinema hall	145	42.0
Health workers/volunteers	140	40.6
Street drama	128	37.1

NGO workers	126	36.5
Comic books	93	27.0
Community event/training	80	23.2
Community worker	80	23.2
Video van	43	12.5
N	345	100.0

\* Because of multiple answers percentage total may add up to 100

## 6.4 Condom using behavior with different female sex partner

Although information, availability and access to condoms, all play key roles in promoting safe sexual behaviors, from a practical standpoint, the actual utilization of such commodities is critical to ensure that safe sexual practices are being implemented on a personal level. The survey explored the practice of actually using a condom among PWID. Among the respondents, this was found to vary at different levels with different types of female sex partners within the past year.

Among those who had sexual intercourse with regular female sex partner in the past 12 months, about one fifth (29.5%) of PWID reported that they had used condom with regular sex partner during the last sex. However, consistent use of condom with regular female sex partner was found 7.7percent (Table 6.7).

Similarly, those who had sexual intercourse with a non-regular female sex partner in the past 12 months, more than half of them had reported that they used a condom with non-regular sex partners during last sex, while bit less than one fourth (21.3%) were found to be consistent use of condoms (Table 6.7).

In addition, among those PWID, who had sex with female sex workers in the past 12 months, almost four fifth (65.2%) of them had reported that they had used condoms during the last sex with a female sex worker. Likewise, nearly two fifths (37.8%) were found to have used condom consistently with female sex workers in the past 12 months (Table 6.7).

**Table 6-7: Condom use behavior with different Female Sex Partners**

	N	%	CI
<b>Condom use with regular female sex partner during the last sex</b>			
Yes	23	29.5	16.3-51.7
No	86	70.5	48.3-83.7
<b>Total</b>	<b>109</b>	<b>100.0</b>	
<b>Consistent condom use with regular female sex partner in the past 12 months</b>			
Yes	6	7.7	0.6 – 13.0
No	103	92.3	87.0 – 99.4
<b>Total</b>	<b>109</b>	<b>100.0</b>	
<b>Condom use with non-regular female sex partner during the last sex</b>			
Yes	106	54.7	43.6-68.5
No	92	45.3	31.5-56.4
<b>Total</b>	<b>198</b>	<b>100.0</b>	

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<b>Consistent condom use with non-regular female sex partner in the past 12 months</b>			
Yes	48	21.3	13.8 – 28.8
No	150	78.7	71.2 – 86.2
<b>Total</b>	<b>198</b>	<b>100.0</b>	
<b>Condom use with female sex worker during the last sex</b>			
Yes	77	65.2	49.1-82.5
No	21	34.8	17.5-50.9
<b>Total</b>	<b>98</b>	<b>100.0</b>	
<b>Consistent condom use with female sex worker in the past 12 months</b>			
Yes	39	37.8	18.3 – 62.7
No	59	62.2	37.3 – 81.7
<b>Total</b>	<b>98</b>	<b>100.0</b>	

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## CHAPTER 7

### 7 Knowledge about STIs and HIV and AIDS

In many cultures such as in Nepal, the dissemination of knowledge about STIs and HIV and AIDS may be due to shame or embarrassment. The Social perceptions towards HIV testing and counseling (HTC) as well as knowledge and familiarity about the availability of HIV testing facilities also play a critical role in dealing with the HIV epidemic from a public health perspective. This chapter explores the levels of knowledge about STIs and HIV and AIDS among PWIDs within the Pokhara Valley as well as the respondents' levels of awareness regarding ways in which HIV is transmitted and routes of transmission. The acceptability of information about the availability of HIV testing facilities and perceptions of HIV testing are also covered in this chapter.

#### 7.1 Knowledge about STIs

A relatively high proportion of the PWIDs (81.7%) in the Pokhara Valley had heard of STIs before the survey. PWIDs who had heard about STIs had a general understanding of male and female STI symptoms. The most commonly cited symptoms were genital discharge (46.9% in female and 61.4% in male) and genital ulcers/sores blister (51% in female and 77.2% in male). Symptoms like foul smelling discharges (43.8%) and abdominal pain (4.8%) were specifically mentioned as female STI symptoms by some PWIDs. In the same way, a burning sensation while urinating was mentioned as a male STI symptom by 21 percent of respondents (Table 7.1).

**Table 7-1: Knowledge about STI Symptoms**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Ever heard about STI</b>			
Yes	290	81.7	78.9-87.8
No	55	18.3	12.2-21.1
<b>Female STI Symptoms*</b>			
Genital ulcers/sore	148	51.0	
Genital discharge	136	46.9	
Foul smelling	127	43.8	
Itching	87	30.0	
Burning pain on urination	21	7.2	
Abdominal pain	14	4.8	
Swelling in groin area	12	4.1	
Others (weight loss , Dizziness )	9	3.1	
Don't know	90	31.0	
<b>N</b>	<b>290</b>		
<b>Male STI Symptoms*</b>			
Genital ulcers/sore blister	224	77.2	
Genital discharge	178	61.4	
Itching	115	39.7	
Burning pain on urination	61	21.0	
Swellings in groin area	38	13.1	
Others (Common Cold, Foul smelling , Night fever, swelling )	7	2.4	
Don't know	43	14.8	
<b>Total</b>	<b>290</b>		

\* Because of Multiple responses cumulative percentages may exceed more than 100%

All the respondents were asked if they had ever experienced symptoms like genital discharge or genital ulcers/sores in the past year. Overall, 90.5 percent had never experienced any STI symptoms. Of the respondents who had ever experienced STI symptoms, 9.5 percent of PWIDs said that they had had genital discharge, while 18.1 percent of them mentioned that they had experienced genital ulcers/sores in the past year. Among those PWIDs who reported having had genital discharge in the past year, 5.6 percent said that they were experiencing genital discharge at the time of the survey. Similarly, among those PWIDs who had had genital ulcers/sores in the past year, 66.7 percent reported having the symptom at the time of survey (Table 7.2).

**Table 7-2: STI Symptom/s Experienced**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Had genital discharge in the past year</b>			
Yes	33	9.5	5.4-12.5
No	312	90.5	87.5-94.6
<b>Had genital ulcer/sore blister in the past year</b>	<b>N=33</b>		
Yes	5	18.1	14.6-42.9
No	28	81.9	57.1-85.4
<b>Currently had genital discharge</b>	<b>N=345</b>		
Yes	25	5.6	3.0-8.3
No	320	94.4	91.7-97.0
<b>Currently had genital ulcer/sore blister</b>	<b>N=25</b>		
Yes	15	66.7	8.5-69.0
No	10	33.3	31.0-91.5

Maximum of those PWIDs who had ever experienced an STI symptom (68.6%) had never sought any treatment. However, among those who had treatments, 10 percent treated through a private doctor and remaining 90 percent sought treatment from a hospital/health post (Table 7.3).

**Table 7-3: STI Symptoms Experienced and Treatment Sought**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>STI experienced in the past year</b>			
Yes	51	12.8	8.7-16.7
No	294	87.2	83.3-91.3
<b>STI treatment sought in the past year</b>	<b>N=51</b>		
Yes	10	31.4	6.9-59.8
No	41	68.6	40.2-93.1
<b>Source of treatment in the past year *</b>	<b>N=10</b>		
Private Doctor	1	10.0	
Hospital	9	90.0	
<b>Source of treatment during last STI symptoms experienced</b>	<b>N=345</b>		
Did not seek treatment	20	5.9	33.0-86.0
With private doctor	8	2.3	0.6-4.5

In hospital	17	3.5	1.9-5.9
No symptoms	287	85.5	80.9-89.3
Others	13	2.8	1.3-4.7

\* Estimated population Proportion (%) of the variables with asterisk (\*) did not meet the required numerator to be calculated with RDSAT. The proportion represented is therefore unadjusted and no value is mentioned under CI

## 7.2 Knowledge about HIV and AIDS

All respondents were aware of HIV and AIDS. About two third of them (64.9%) knew someone who had either died due to AIDS or currently has HIV and AIDS. When asked about their relations to those who had HIV and AIDS or had lost their lives because of AIDS, 16.8% mentioned that they were close relatives and 16.4% said they were close friends (Table 7.4).

**Table 7-4: Awareness of HIV and AIDS**

	N=345	%	CI
<b>Know anyone who has HIV and AIDS/died due to AIDS</b>			
Yes	229	64.9	59.3-70.8
No	116	35.1	29.2-40.7
<b>Nature of relationship with the person living with HIV and AIDS /died due to AIDS</b>	N=229		
Yes, a close relative	34	16.8	9.6-23.4
Yes, a close friend	52	16.4	9.5-23.2
None of above	143	66.8	60.1-76.0

More than two fifths of the respondents (41.6%) reported that they knew a PWID who has died last year, while about 7% knew of 2 or more death of PWIDs in the past year (Table 7.5).

**Table 7-5: Number of Known PWID Died in the Past Year**

	N=345	%	CI
<b>Known PWIDs died in the past one year</b>			
None	203	58.4	53.8-65.1
One	58	16.1	11.2-21.2
Two	15	2.7	1-4.5
Three and more	12	4	1.5-7.3
Don't know	57	18.8	12.8-23.1

Respondent's knowledge about the ways in which HIV is transmitted was further analyzed with the help of some questions on HIV and AIDS prevention. Their understanding of the three major HIV and AIDS prevention measures was assessed, namely:

- (A)- abstinence from sex;
- (B)- being faithful to one sex partner; and
- (C)- regular condom use.

In total, 34.5 percent PWIDs were aware of all three knowledge indicators. Fewer respondents were aware that abstinence from sex (38.3%) could be a prevention measure. Among the respondents (94.8%) knew that being faithful and using

condoms regularly (97.6%) could prevent HIV transmission. Additionally, 91.5% were aware that (D) a healthy-looking person could be infected with HIV, and a similar proportion (90.5%) also knew that (F) sharing meal with an HIV infected person did not put them at-risk of contracting HIV. However, a relatively low proportion of PWIDs (28.5%) agreed that (E) a person could not contract HIV virus from a mosquito bite. In total 56.5% of PWIDs were aware of all the five major indicators (BCDEF, which excludes abstinence) (Table 7.6).

**Table 7-6: Knowledge of Major Ways of Avoiding HIV and AIDS**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>A Abstinence from sexual contact</b>			
Yes	134	38.3	31.4-43.1
No	207	60.9	56.0-67.5
Don't know	4	0.8	0.0-2.5
<b>B Being faithful to one partner</b>			
Yes	326	94.8	92.5-97.2
No	13	3.4	1.6-5.8
Don't know	6	1.8	0.4-2.9
<b>C Condom use during each sexual contact</b>			
Yes	341	97.6	95.5-99.9
No	3	2	0.0-4.0
Don't know	1	0.4	0.0-0.7
<b>D A healthy-looking person can be infected with HIV</b>			
Yes	317	91.5	88.4-94.9
No	26	7.3	4.5-10.0
Don't know	2	1.2	0.00-2.9
<b>E A person cannot get the HIV virus from mosquito bite</b>			
Yes	98	28.5	23.0-34.4
No	229	66.2	61.0-72.6
Don't know	18	5.3	2.1-7.0
<b>F Sharing a meal with an HIV infected person transmit HIV</b>			
Yes	23	7.4	4.5-10.7
No	315	90.5	87.6-93.8
Don't know	7	2.1	0.4-3.2
<b>Knowledge of all three ABC</b>			
Yes	123	34.5	27.1-38.7
No	222	65.5	61.3-72.9
<b>Knowledge of all five BCDEF</b>			
Yes	195	56.5	51.0-62.9
No	150	43.5	37.1-49.0

An in-depth understanding on the various modes of transmission were further assessed with the help of probing questions to gauge the understanding of HIV and AIDS and its different modes of transmission with the help of probing questions. Almost ninety nine percent said that a person could get HIV by using a previously



used needle/syringe (98.6%), HIV can be transmitted through the transfusion of blood from an infected person to another (99.4%), and a person cannot get HIV by holding an HIV infected person's hand (5.5%). A considerable proportion of respondents also said that a drug user could protect himself from HIV by switching to non-injecting drugs (81.4%) and a pregnant woman infected with HIV and AIDS can transmit the virus to her unborn child (88.1%). A relatively lower percentage of respondents (55.1%) believed that women with HIV could transmit the virus to their newborn child through breast-feeding.

The respondents, who held the view that an HIV infected pregnant woman was capable of transmitting the virus to her unborn child, all were asked if they were aware of any measures that could reduce the risk of such transmission. Among them, about 43 percent of respondents suggested that the expecting mother could take medicine or antiretroviral treatment. Others (14.4%) suggested different measures like consulting with a doctor or performing a Cesarean delivery (Table 7.7).

**Table 7-7 : Knowledge of modes of HIV and AIDS Transmission**

	N	%	CI
<b>Statements related to HIV and AIDS *</b>			
Blood transfusion from an infected person to the other transmit HIV	343	99.4	
A person can get HIV by using previously used needle by others	340	98.6	
A pregnant woman infected with HIV and AIDS can transmit the virus to her unborn child	304	88.1	
An IDU can protect themselves from HIV and AIDS by switching to non-injecting drugs	281	81.4	
A woman with HIV and AIDS can transmit the virus to her new-born child through breast feeding	190	55.1	
A person cannot get HIV by holding an HIV infected person's hand	19	5.5	
<b>N</b>	<b>345</b>		
<b>Ways by which a pregnant woman can reduce the risk of transmission of HIV to her unborn child</b>			
Take medication (Antiretroviral)	140	43	37.1-50.4
Go to hospital/Consult doctor	51	14.4	9.9-19.8
Don't know	126	34.3	34.3-48.6

\* Estimated population Proportion (%) of the variables with asterisk (\*) did not meet the required numerator to be calculated with RDSAT. The proportion represented is therefore unadjusted and no value is mentioned under CI

### 7.3 Knowledge about HIV Testing Facilities

Survey participants were asked about the availability of confidential HIV testing facilities that allow people to get an HIV test promptly and without the fear of being exposed. Most of the PWIDs (97%) were aware of the existence of such facilities in their communities, almost half the respondents (51.5%) had never been tested for HIV, while the rest (48.5%) had been HIV tested before. Among those who had tested themselves, 22.5% had taken the test as required and 97.3% of them had received their test results. Nearly half of PWIDs (41.7%) had taken the test last year; however and the rest (58.3%) had tested more than a year ago (Table 7.8).

**Table 7-8 : Knowledge about HIV Testing Facilities and History of HIV Testing**

	N=345	%	CI
<b>A confidential HIV testing facility available in the community</b>			
Yes	336	97	94.4-98.8
No	9	3	1.2-5.6
<b>Ever had HIV test</b>			
Yes	193	48.5	44.4-58.6
No	152	51.5	41.4-55.6
<b>Types of taste taken</b>			
	<b>N=193</b>		
Voluntary	151	77.5	68.8-85.7
Required	42	22.5	14.3-31.2
<b>Test result received</b>			
Yes	185	97.3	95.1-99.7
No	8	2.7	0.3-4.9
<b>Timing of last HIV test</b>			
Within the past 12 months	89	41.7	34.3-54.3
Between 13-24 months	66	40.6	28.1-49.2
Between 25-48 months	27	11.5	4.0-18.7
49 months and more	11	6.2	1.4-13.1
<b>Times undergone for HIV test within the last 12 months</b>			
	<b>N=89</b>		
1 time	68	71.6	54.1-91.1
2 to 5 times	21	28.4	8.9-45.9

#### 7.4 Source of Knowledge about HIV and AIDS

The survey also focused on exploring sources and of knowledge and information related to HIV and AIDS. In the past year, PWIDs had also received HIV and AIDS related IEC materials from different sources. Of those receiving IEC materials, 29.4percent received HIV related information, 24.4percent received materials like brochures/booklet/pamphlets on HIV and AIDS and 25.6 percent received condoms/information relating to condoms (Table 7.9).

**Table 7-9 : Information/Materials Received During the Past Year**

	N=345	%	CI
<b>Received information on Condom</b>			
Yes	99	25.6	21.7-31.8
No	246	74.4	68.2-78.2
<b>Received brochures/booklets/pamphlets on HIV and AIDS</b>			
Yes	90	24.4	20.7-31.9
No	255	75.6	68.1-79.3
<b>Received information on HIV and AIDS</b>			
Yes	114	29.4	25.6-37.0

No	231	70.6	63.0-74.4
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## 7.5 Perception of HIV and AIDS

The stigma associated with HIV and AIDS increases the impact of HIV on the patients as well as on People at most High Risk. The perception of the PWIDs regarding HIV-infected persons and the stigma associated with the disease was examined with the help of series of questions.

Almost all the respondents were prepared to take care of either an HIV-positive male relative (96.1%) or an HIV-positive female relative (96.5%) in their homes if such a need arose. More than half of the sample population (56.8%), however, said that if a family member had HIV they would rather keep it confidential and not talk about it with others (Table 7.10).

The majority of the participants (92.6%) said that they would readily buy food from a HIV- positive vendor. 89.6 percent agreed that, unless very sick; people with HIV and AIDS should be allowed to continue their jobs (Table 7.10).

When asked about health care needs of HIV infected persons, 73.5 percent of the PWIDs maintained that they should be provided with the same care and treatment necessary for chronic disease patients, while 21.0 percent believed that the health care needs of a HIV infected person were more than those of people suffering from chronic diseases (Table 7.10).

**Table 7-10: Attitude towards HIV and AIDS**

	N=345	%	CI
<b>Willing to take care of HIV positive male relative in the household</b>			
Yes	332	96.1	93.4-98.1
No	13	39.9	1.9-6.6
<b>Willing to take care of HIV positive female relative in the household</b>			
Yes	333	96.5	93.6-98.3
No	12	3.5	1.7-6.4
<b>Willing to maintain confidentiality of a HIV positive family member</b>			
Yes	195	56.8	50.7-63.0
No	150	43.2	37.0-49.3
<b>Willing to buy food from HIV infected shopkeeper</b>			
Yes	322	92.6	89.8-95.8
No	23	7.4	4.2-10.2
<b>HIV infected person should get the same, more or less health care than someone with any other chronic disease</b>			
Same	254	73.5	68.9-78.9
More	78	21.0	16.8-26.7
Less	13	5.5	1.7-7.8
<b>HIV infected person should be allowed to continue working together</b>			

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Yes	310	89.6	86.5-93.2
No	35	10.4	6.8-13.5
<b>HIV infected students can study together in the class with other uninfected students</b>			
Yes	316	92.2	89.3-95.8
No	28	7.1	4.0-9.9
Don't know	1	0.7	0.0-2.1

## Chapter 8

### 8 Exposure to HIV and AIDS Awareness Programs

The exposure of the PWIDs to the ongoing HIV and AIDS awareness programs and their participation in these activities was examined in this survey. Respondents were asked several questions relating to some of the most important components of the ongoing HIV and AIDS-related programs run by different organizations.

#### 8.1 Peer/Outreach Education

The peer/outreach education component consists of activities that involve the mobilization of peer educators (PEs) and outreach educators (OEs) to carry out awareness raising activities at the community level. They meet the target groups and hold consultations on HIV and AIDS, safe injecting practices, safe sex and other related topics. They also distribute IEC materials, condoms, and refer the target group to drop-in centers and STI treatment services. Some also carry new sterile needles/syringes for distribution among the PWIDs.

In last 12 months, 20.9 percent respondents met or interacted with PE or OE. During their meetings, majority (86.1%) discussed on how HIV and AIDS can or cannot be transmitted, 83.3 percent discussed on safe injecting behavior, while only 6.9 percent discussed on quitting drug injection. PWIDs were also informed about regular/non-regular use of condoms (41.7%) and told on how STIs are transmitted (44.4% (**Error! eference source not found.**)).

Majority of the meetings were held by the OE/PE from *Namuna* (48.6%) followed by *Naulo Ghumti* (33.3%). Almost all of the respondents (100%) had met PE or OE more than once (Table 8.1).

**Table 8-1: Meeting with Peer Educators and Outreach Educators in the Last 12 Months**

	N=345	%	CI
<b>Met or discussed or interacted with PE or OE in the last 12 months</b>			
Yes	72	20.9	13.4 – 26.3
No	273	79.1	71.6 – 94.1
<b>Activities carried out with OE/PE *</b>			
Discussion on how HIV and AIDS is/isn't transmitted	62	86.1	
Discussion on safe injecting behavior	60	83.3	
Discussion on how STI is/isn't transmitted	32	44.4	
Regular/non-regular use of condom	30	41.7	
Demonstration on using condom correctly	11	15.3	
Discussion about how to leave injecting drug	5	6.9	
Discussion on Hepatitis B, C	1	1.4	
<b>N</b>	<b>72</b>		
<b>Organizations represented by OE/PE *</b>			
Namuna	35	48.6	
Naulo Ghumti	24	33.3	
Manish Care Foundation	2	2.8	

Community Support Group	2	2.8	
Recovering Nepal	1	1.4	
Gateway foundation Nepal	1	1.4	
Gaurav Nepal	1	1.4	
Asal Chimeki Nepal	1	1.4	
Don't know	7	9.7	
<b>N</b>	<b>72</b>		
<b>Number of meeting with PE or OE</b>	<b>N=72</b>		
Once	1	0.0	0.0-0.0
2-3 times	32	53.8	19.4-86.3
4-6 times	19	13.9	0.0-48.1
7-12 times	6	13.8	1.2 – 33.8
more than 12 times	14	18.5	6.4-43.9

\* Because of multiple responses percent total may exceed to more than 100%

## 8.2 Drop-in-Centers (DICs)

Drop-in-centers (DICs) are another important component of HIV prevention programs. The DICs not only provide a safe space for the target communities to socialize, but also offers a number of services including counseling, group classes, group discussions, individual counseling, and film showings about HIV and AIDS and STIs. Certain NGOs also run needle exchange programs through their DICs. The PWIDs are also provided with IEC materials and condoms here.

A total of 22.3 percent respondents visited a DIC past year. Majority of them (88.8%) had been there for a new syringe. PWIDs also collected condoms from DICs (41.8%) and some learned about safe injection behavior (16.3%) (Table 8.2).

DICs run by *Namuna* (60.2%) and *Naulo Ghumti* (27.6%) were the most visited centers. All of the respondents (100%) had been to DICs more than once past year (Table 8.2).

**Table 8-2: DIC Visiting Practices in the Last 12 Months**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Visited DIC/IC/CC in the last 12 months</b>			
Yes	98	22.3	18.9-29.5
No	247	77.7	70.5-81.1
<b>Participated activities at DIC/IC/CC *</b>			
Went to have new syringe	87	88.8	
Went to collect condoms	41	41.8	
Went to learn about the safe injecting behavior	16	16.3	
Went to meet friend	5	5.1	
Participated in discussion on HIV transmission	5	5.1	
Went to learn the correct way of using condom	3	3.1	
Went to collect spirit swab/cotton	1	1.0	
Went for free Wi-Fi	1	1.0	
Went to watch film on HIV and AIDS	1	1.0	
<b>N</b>	<b>98</b>		

Name of organizations that run DIC/IC/CC visited by them *			
Namuna	59	60.2	
Naulo Ghumti	27	27.6	
Community Support Group	4	4.1	
Manish Care Foundation	2	2.0	
Don't know	9	9.2	
N	98	100.0	
<b>Number of visits to the DIC/IC/CCs</b>	<b>N=98</b>		
Once	1	0.0	
2-3 times	24	21.3	10.3-37.6
4-6 times	19	19.5	9.5-35.3
7-12 times	8	8.1	0.7-9.9
More than 12 times	46	51.2	34.6-66.5

\* Because of multiple responses percent total may add up to more than 100

### 8.3 HIV Counseling and Testing (HCT) Centers

HCT centers form an integral part of the HIV and AIDS prevention programs. They provide HIV and AIDS and STI testing facilities and offer pre- and post-test counseling. Moreover, information related to safe injecting practices, HIV and AIDS, STI transmission and treatment facilities are also provided at these centers.

About 82.8 percent of PWIDs in Pokhara did not visit any of the HCT centers within last year. Of those respondents visiting the center, almost all (96.6%) were there for HIV blood test. Almost 90% received their results, with more than two thirds (67.8%) receiving pre- HIV test counseling and more than one third receiving post-HIV test counseling (35.6%). Some respondents also received information on safe injecting behaviors (25.4%), correct use of condoms (10.2%) and the window period of HIV (3.4%) at these centers (Table 8.3).

Among the PWIDs who visited the HCT centers 40.3 percent visited just once. The HCT center run by Namuna (42.4%) was the most popular among the PWIDs (Table 8.3).

**Table 8-3: HCT Center Visiting Practices in the Last 12 Months**

	N=345	%	CI
<b>Visited HCT center in the last 12 months'</b>			
Yes	59	17.2	13.2-23.2
No	286	82.8	76.8-86.8
<b>Participated activities at HCT center *</b>			
Blood sample taken for HIV and AIDS test	57	96.6	
Received HIV and AIDS test result	53	89.8	
Received pre-HIV and AIDS test counseling	40	67.8	
Received post HIV and AIDS test counseling	21	35.6	
Received information on safe injecting behavior	15	25.4	
Received counseling on using condom correctly in each sexual intercourse	6	10.2	

Received information on HIV and AIDS window period	2	3.4	
Took a friend with me	1	1.7	
N	59	100.0	
<b>Name of the organization that run the HCT centers visited *</b>			
Namuna	25	42.4	
Naulo Ghumti	18	30.5	
Don't know	16	27.1	
Gandaki Hospital	5	8.5	
N	59	100.0	
<b>Number of visits to the HTC centers</b>	<b>N=59</b>		
Once	34	40.3	11.8-67.4
2-3 times	23	59.7	32.6-88.2
4-6 times	1	0.0	
more than 12 times	1	0.0	

\* Because of multiple responses percent total may add up to more than 100

## 8.4 Participation on OST program

Out of total 345 PWID, 14 percent (n=54) of PWIDs had ever received any Opioid Substitution Therapy (OST) in the past 12 months. Among them, 30.9 percent (n=11) had received methadone service and rest had received Buprenorphine service. Six PWIDs are still in therapy where they are receiving methadone. About 33 percent (n=2) of PWIDs are receiving 40 mg and 30 mg methadone per day. Among 6 PWIDs some were receiving OST therapy since 2 months, 13 months and some since 24 months (Table 8.4)

**Table 8-4: OST Therapy**

	<b>N=345</b>	<b>%</b>	<b>CI</b>
<b>Ever received any Opioid substitution Therapy (OST)</b>			
Yes	54	14	10.8-19.0
No	291	86	81.0-89.2
<b>Received any OST in the past 12 months</b>	<b>N=54</b>		
Yes	12	30.9	7.0-45.3
No	42	69.1	54.7-93.0
<b>Service received</b>	<b>N=12</b>		
Methadone	11	30.9	7.0-45.3
Buprenorphine	1	69.1	54.7-93.0
<b>Still in therapy</b>			
Yes	6	30.9	7.0-45.3
No	6	69.1	54.7-93.0
<b>Amount (mg) of Methadone receiving per day *</b>	<b>N=6</b>		
4 mg	1	16.7	
8 mg	1	16.7	
30 mg	2	33.3	



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40 mg	2	33.3	
<b>Duration of OST Therapy (Month) *</b>			
2 months	1	16.7	
5 months	1	16.7	
7 months	1	16.7	
11 months	1	16.7	
13 months	1	16.7	
24 months	1	16.7	

*\* Estimated population Proportion (%) of the variables with asterisk (\*) did not meet the required numerator to be calculated with RDSAT. The proportion represented is therefore unadjusted and no value is mentioned under CI*

## Chapter 9

### 9 Comparative Analysis of Selected Characteristics

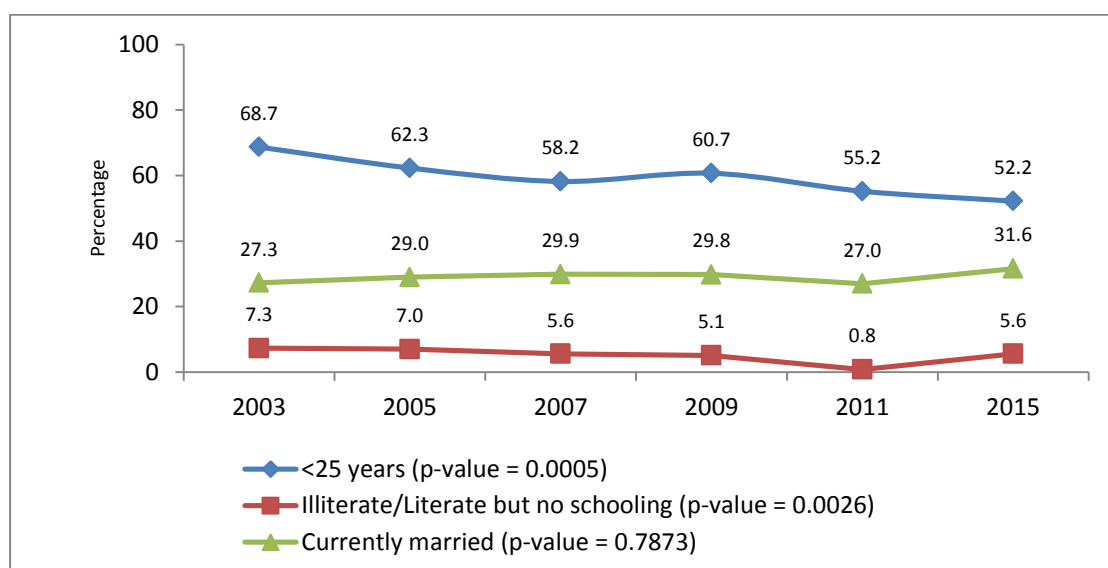
This chapter deals with a comparative analysis of selected characteristics and analyzes the trend in certain key selected indicators by comparing the data obtained from all six rounds of IBBS's among PWIDs conducted within the Pokhara Valley

#### 9.1 Socio-demographic Characteristics

The socio-demographic characteristics of PWIDs in Pokhara presented similar patterns in all of the six rounds. This is to a certain extent, a consequence of adopting the same sampling methodology for all five rounds.

As seen in Figure 9.1 the percentage of the young PWIDs less than 25 years old decreased to 52.2 percent in 2015 from 68.7 percent in 2003. Similarly, the educational background of the PWIDs in the Pokhara valley showed some significant changes as the percentages of PWIDs who were illiterate or literate but had not attended school increased to 5.6 percent. The marital status of the PWIDs in Pokhara valley however has also increased to 31.6 percent from 27.0 percent (2011).

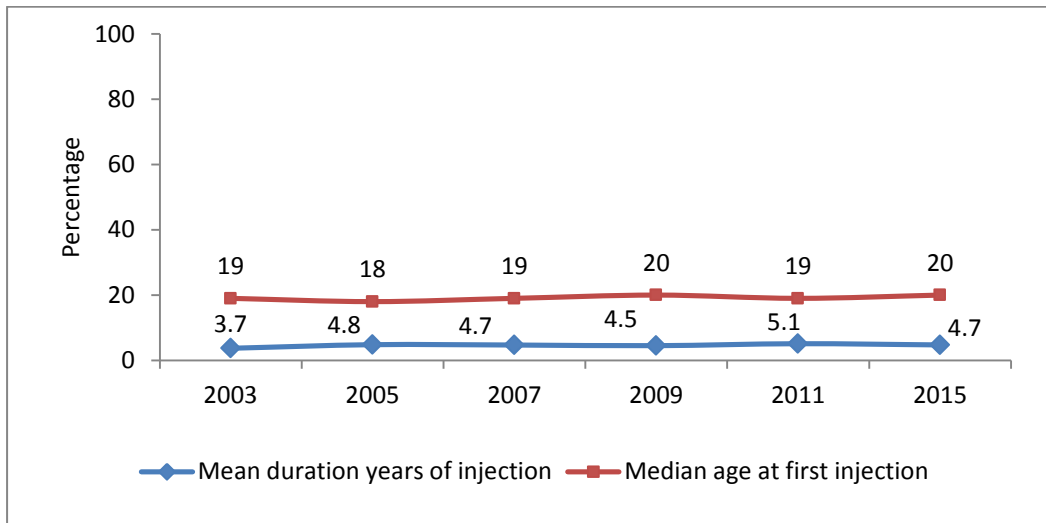
**Figure 9-1: Trend of Socio-Demographic Characteristic**



#### 9.2 Drug Injecting Practices

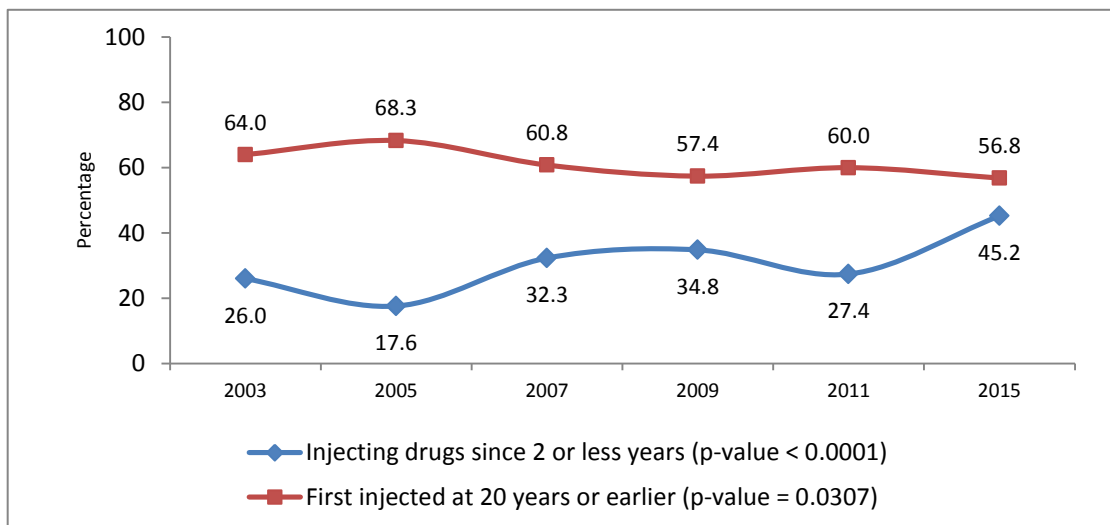
Data indicates the average amount of time that the respondents have been injecting drugs has increased to 4.7 years in the current 2015 survey from 3.7 years in 2003. The median age of the respondents at their first injection has remained the same as in 2009 (Figure 9.2).

**Figure 9-2: Mean years of duration of drug injection and median age at first injection**



The data indicates that PWIDs generally get into injecting practice at quite a young age. The percentage of PWIDs who had started to inject drugs before the age of 20 years has decreased to 56.8 percent from the last round of the survey (60.0% in 2011). Respondents who started injecting drugs since 2 or less years have increased to 45.2 percent (Figure 9.3).

**Figure 9-3: Injecting behavior of PWID**



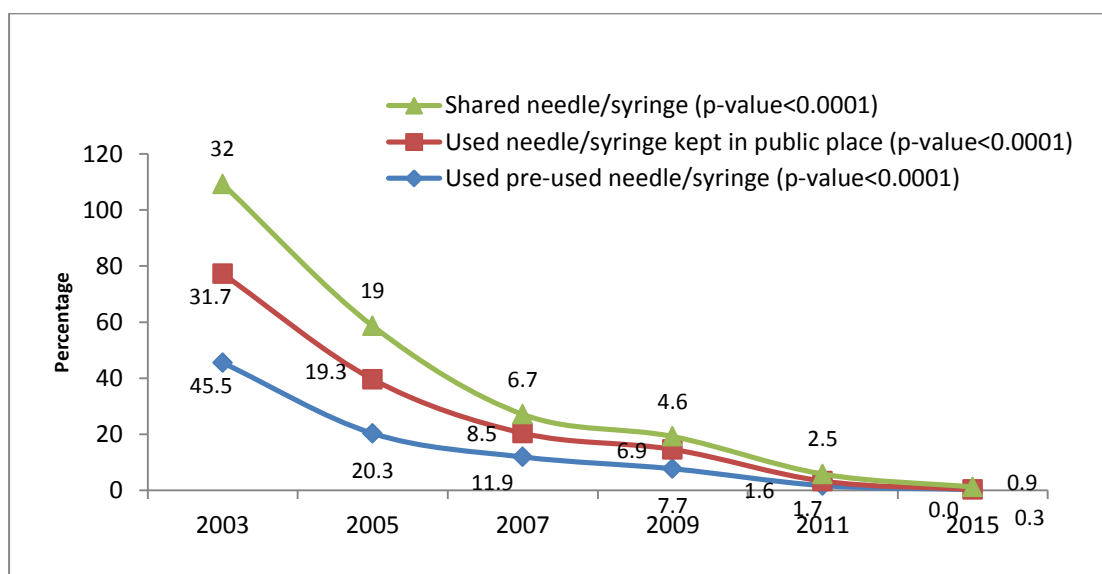
### 9.3 Needle/Syringe Using Practices in the Past Week

Trend analysis of proportion of IDUs who avoided unsafe injecting practices in the week preceding the survey has decreased significantly since the first round survey in 2003. High risk behavior such as injecting with a used needle/syringe went down from 21 percent in 2003 to 0.3 percent in 2015.

In the same way, 1.6 percent of PWIDs used syringes left in a public places in the week preceding the 2003 survey; and this has gone down to 0.9 percent in the sixth round.

Moreover the proportion of PWIDs who reported sharing their needle/syringe with anyone in the past week decreased significantly from 32 percent in 2003 to 0.9 percent in 2015 (Figure 9.4).

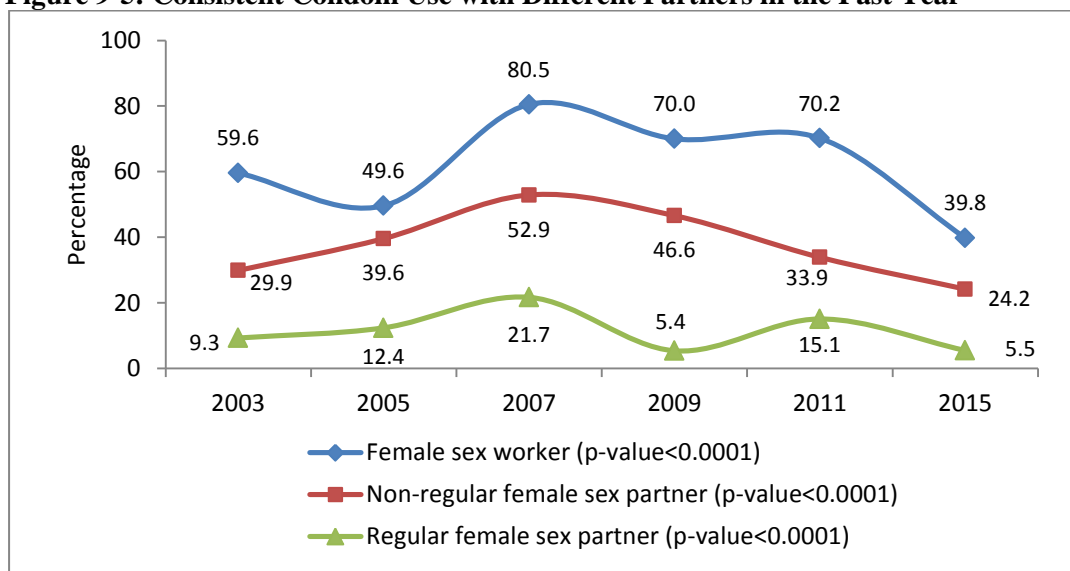
**Figure 9-4: Needle/syringe use behavior and sharing practice of the past week**



## 9.4 Consistent Condom Use with Different Partners in the Past Year

Data indicates that there has been a drop in consistent use of condoms with female sex workers and non-regular sex partners in this sixth round (2015) as compared to the previous rounds in 2007, 2009 and 2011. Consistent condom use with female sex workers has decreased to 39.8 percent (Figure 9-5).

**Figure 9-5: Consistent Condom Use with Different Partners in the Past Year**

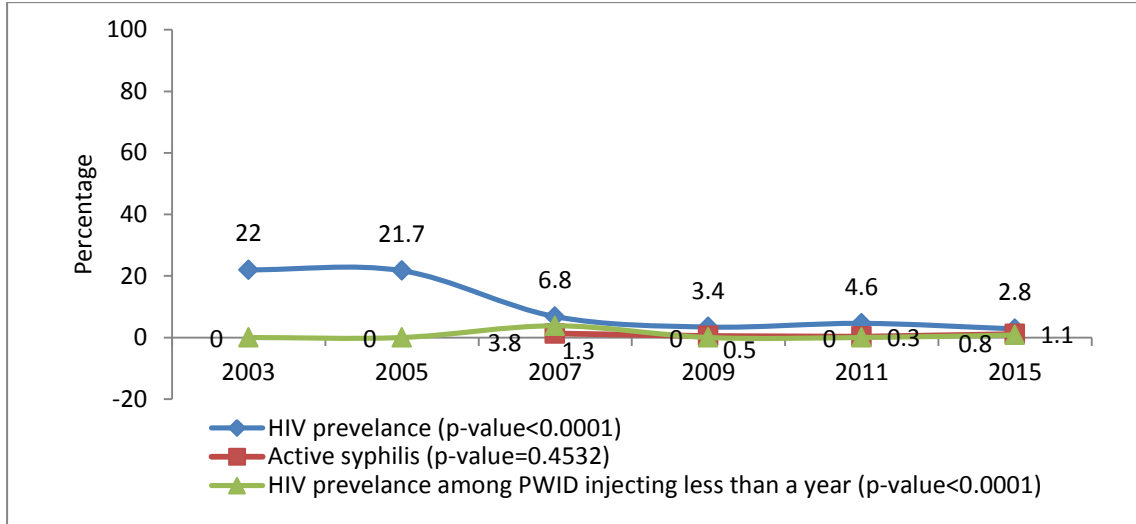


## 9.5 HIV and Syphilis Prevalence

The HIV prevalence among the respondent PWIDs of Pokhara Valley is on gradual decrease as indicated by the data, since the first round in 2003. The first round of IBBS found 22 percent HIV-positive respondents, in contrast to 2.8 percent in 2015. HIV prevalence among PWIDs injecting less than a year is 0.8 percent in 2015. The

HIV prevalence for this group can also be used proxy on the HIV incidence among PWIDs. Syphilis test was introduced only from the third round of IBBS in 2007 and it is on increasing trend from 0.3 percent in previous round (2011) to 1.1 percent this year (2015) see **Error! Reference source not found.**

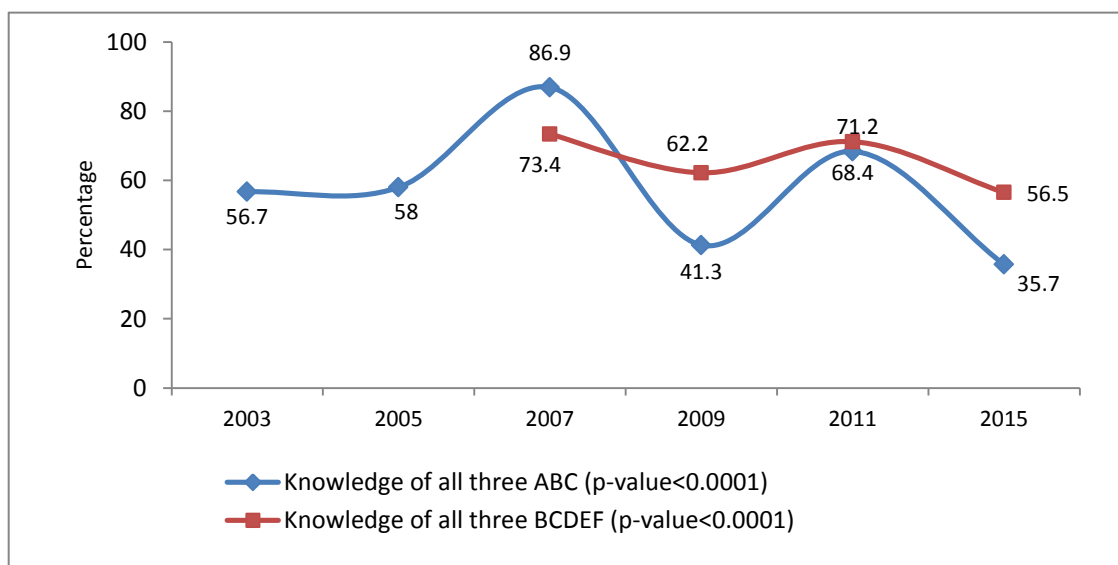
**Figure 9-6: HIV and Syphilis prevalence**



## 9.6 Knowledge and Behavior of HIV and AIDS Prevention

Knowledge assessed about HIV and AIDS prevention and ways in which HIV is transmitted among PWIDs' has been disaggregated into classified areas of awareness propagated safe sexual behaviors. They are: (A) abstinence from sex, (B) being faithful to one sex partner, and (C) consistent condom use. The data shows that the percentage of IDUs who were aware of all three methods decreased to 35.7 percent in 2015 from previous rounds. The overall trend, however, is not statistically significant. Comprehensive knowledge (BCDEF) of HIV also decreased to 56.5 percent (Figure 9.7).

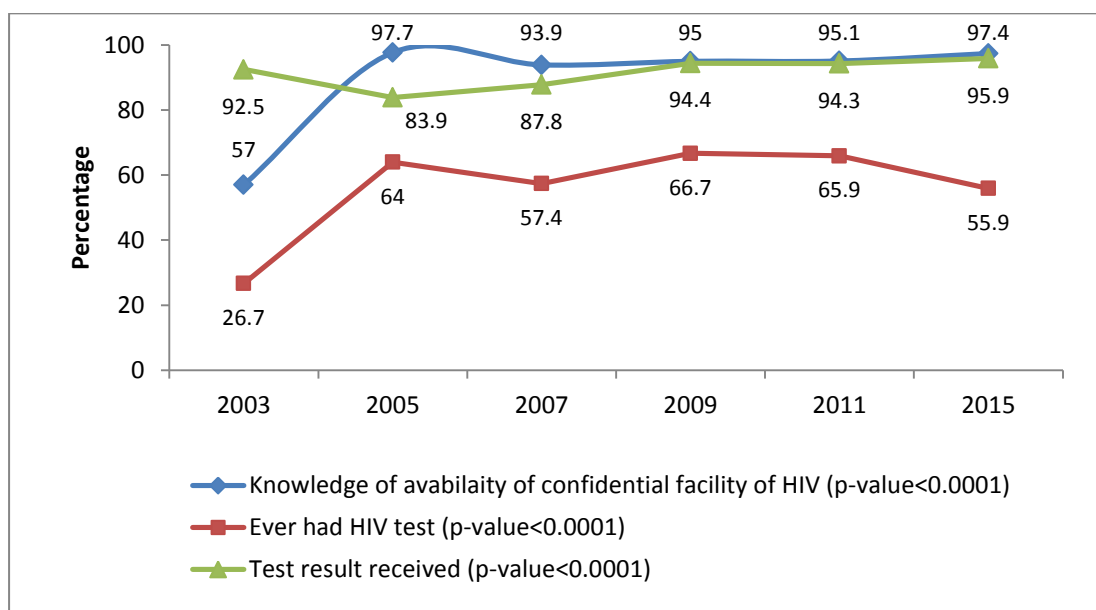
**Figure 9-7: Comprehensive Knowledge on HIV and AIDS**



The available data indicates that knowledge on availability of confidential HIV testing in their community in the PWIDs has increased in 2015 from previous round.

Similarly, numbers of those receiving test results is on the rise while the number of people who have done HIV test done has decreased by 10 percent to 55.9 percent from 2011 (Figure 9.8).

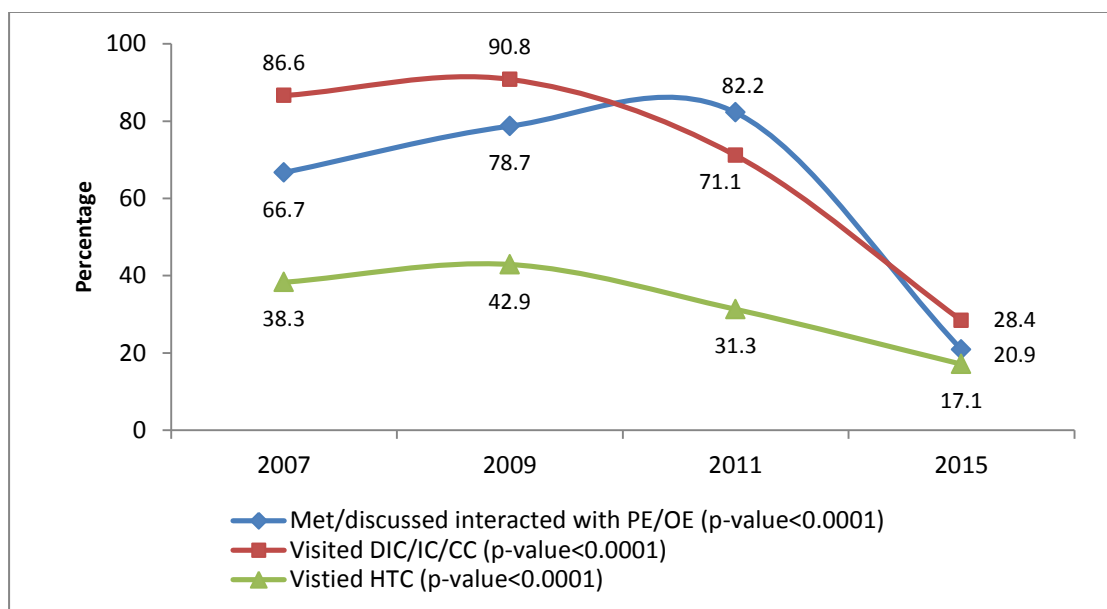
**Figure 9-8: Knowledge of HIV testing facility, test taken and received result**



## 9.7 Participation in different HIV and AIDS program in the past year

The proportion of survey participants who interacted with OEs or PEs, DIC/IC/CC and HCT has decreased from previous rounds as indicated by the data (Figure 9.9).

**Figure 9-9: Participation in different HIV and AIDS program in the past year**



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## Chapter 10

### 10 Summary of Key Findings and Recommendations

#### 10.1 Summary of Key Findings

The data from this survey indicates that the HIV prevalence rate among PWIDs in the Pokhara Valley has decreased. The HIV prevalence rate among PWIDs in the Pokhara Valley was found to be 2.8, percent, ranging between 1 -5.4 percent at a 95 percent confidence interval, showing that this survey represents a decrease from the previous rounds of the survey.

The HCV and HBV prevalence rate among PWIDs in the Pokhara Valley was found to be 13.1 and 1.1 percent respectively with no comparison reference due to the fact that HCV and HBV were not assessed in previous rounds of IBBS surveys.

The respondents consisted predominantly of young people; 31.5 percent were below the age of 20 years and 27.9 percent were between the ages of 20-24 years. Data showed that 68.6percent were unmarried.

Among the respondents who were aged 20 years and above, the prevalence of HIV was found to be 3.8 percent. Among the respondents who reported never having been married, prevalence of HIV was found to be 8.8 percent. Among the respondents who had reported having injected for more than 5 years 9.8 percent tested positive for HIV. Those who had a frequency of injecting up to 6 times a week, 4 percent tested positive for HIV. Also, 7.4 percent of those that reported having had sex with a regular female sex partner in the past 12 months were found to be HIV Positive. Further, 32.1 percent of those that reported having had sex with a female sex worker were found to be HIV positive.

Among the respondent above the age of 20, HCV prevalence was found to be present in all respondents of this cohort.

Through the survey investigations it was found that drinking alcohol and use of oral pharmaceutical prescription drugs were common among PWIDs; all of the respondents had taken oral drugs (100%) at one time or another and 14.9 percent consumed alcohol every day during the week prior to the survey. However, more than one fourth PWIDS (26.4%) reported that they had never consumed alcohol.

About 54 percent of PWIDs were recent drug users starting drug injection in the past two years, while 46 percent had been injecting for more than two years. Injecting practices during the week preceding the survey indicated that relatively fewer PWIDS are continuing with high risk behavior; 1.6 percent still injected with a used needle/syringe and none of the respondents reported using a syringe left at a public place.

Regarding drug sharing behavior, among the respondents, 2.7 percent reported that they had used non-sterile injecting equipment at any time in the past month. Also 3.8 percent reported injecting with a previously used needle/syringe by cleaning it without bleach. 12.1 percent of the respondents exhibited knowledge of where they could access a new needle/syringe . However 21.3 percent said that they had obtained a new needle/syringe from and OE/PE through a Needle and Syringe Program NSEP.

Almost all PWIDS (95%) reported having had sexual intercourse in the week prior to the survey. Among them, 85.9 percent reported being sexually active in the past year.

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In the year preceding the survey, 30.9 percent had sex with a regular partner, 59.6 percent with non-regular partners, and 26.2 percent with FSWs.

Regarding consistency of condom use, 75.8 percent reported having sex with a non-regular female sex partner without a condom in the last 12 months. Also, 60.2 percent reported having sex with an FSW without a condom in the last 12 months.

Majority of PWIDs (81.7%) had heard of STIs before. Overall, 9.5 percent complained about symptoms of genital discharge and 18.1 percent reported genital ulcers/sores in the past year. Among them, 33.3 percent said that they had genital ulcers/sores at the time of the survey and 5.6 percent were experiencing genital discharge.

Regarding awareness level, 34.5 percent were aware of the three major HIV prevention measures (abstinence - A, being faithful to single partner - B, and consistent condom use - C), while 56.5 percent had comprehensive knowledge of HIV i.e. knowledge of B, C, and DEF (the three major misconceptions about HIV transmission).

A little over half of the respondents (58.4 %) said that they knew some PWID who had died from HIV and AIDS related complications in the past year.

Almost all of the respondents (97%) knew that a confidential HIV testing facility was available in their community. Among the respondents 51.5 percent reported never having had an HIV test before in the past.

The findings indicated that 20.9 percent of the respondents had had an interaction with an OE or PE in the last 12 months. Also, 22.3 percent reported visiting a DIC and 17.2 percent said that they had visited an HTC service center in the past year. Out of total 340 PWID, 86 percent of PWIDs had never received Opioid Substitution Therapy (OST) in the past 12 months.

## 10.2 Recommendation

### **Recommendation 1: On activities to target youths and adolescent PWIDs**

Data from the study indicates that respondents consisted predominantly of young people; 31.5 percent were below the age of 20 years and 27.9 percent were between the ages of 20-24 years. Therefore, it is recommended that specific program activities that target youths and adolescents should be designed. In particular, those should provide information, awareness, education and services with behavior and lifestyle change communication related to drug use, sexual reproductive health and HIV interventions in a mutually reinforcing manner. The communication channels could be contemporary electronic and social media as well as those coupled with peer based community in reach for the most hard to reach young populations. Different mediums of communications such as hotlines, websites, print media, radio/television and social media should be widely utilized to reach these groups.

### **Recommendation 2: Regarding access and availability of sterile needle and syringe exchange program**

Based on high percentage of recent drug users (54%) and other risk indicators still present in the community, it is recommended that the access to and availability of clean and sterile needle and syringe program exchange programs should be further increased by incorporating low dead space needle and syringes. According to WHO guidelines for people who inject drugs it is suggested that needle exchange programs



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provide low dead space syringes for distribution to people who inject drugs due to evidence that the provision of Low dead space syringes leads to a reduction in the transmission of HIV, and hepatitis B and C.<sup>4, 5</sup> If 50 percent of people who inject drugs switch to low dead space syringes an estimated reduction of 33percent of new HIV, and Hepatitis B and C infections will occur.<sup>6</sup> Evidence suggests that Low Dead Space Syringes (LDSS) may substantially reduce HIV transmission among PWID, who share syringes.

**Recommendation 3: With respect to the sustainability and scale up OST and harm reduction programs**

The study finding indicates interventions that promote behavioral change activities should be continued and scaled up to cover more PWIDs. Harm reduction initiatives should also be continued and expanded further to promote the transition from drug injecting practices to clinically supervised OST with a balanced mix of both Methadone and Buprenorphine and drug treatment programs to provide a comprehensive range of choices for service recipients.

**Recommendation 4: Comprehensiveness of programs with prevention components coupled with condom provision and promotion of condom use**

Among the respondents who reported never having been married, prevalence of HIV was found to be 8.8 percent. Also, 7.4 percent of those that reported having had sex with a regular female sex partner in the past 12 months were found to be HIV Positive. Further, 3.9 percent of those that reported having had sex with a female sex worker were found to be HIV positive. Almost all PWIDS (95%) reported having had sexual intercourse in the week prior to the survey. Among them, 85.9 percent reported being sexually active in the past year. In the year preceding the survey, 30.9 percent had sex with a regular partner, 59.6 percent with non- regular partners, and 26.2 percent with FSWs. Regarding consistency of condom use, 75.8 percent reported having sex with a non-regular female sex partner without a condom in the last 12 months. Also, 60.2 percent reported having sex with an FSW without a condom in the last 12 months.

These results show that risky sexual behavior is high, and condom usage by this community is still low. The decreasing trend of consistence condom use with FSW and non-regular sex partners (as shown by the trend), as well as low condom use with a regular partner, are causes for concern. It is recommended to implement “combined” prevention programming, including condom social marketing to significantly increase consistent condom use for primary sexual partners and for casual partners. Cumulative implementation of combined prevention programming for PWID has been associated with substantial decreases in sexual risk behavior among HIV seropositives.<sup>7</sup>

**Recommendation 5: The need of mobilization of HIV testing services at community level**

In this study, it was found that majority of PWIDs (81.7%) had heard of STIs before. Overall, 9.5 percent complained about symptoms of genital discharge and 18.1

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<sup>4</sup>[http://apps.who.int/iris/bitstream/10665/77969/1/9789241504379\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/77969/1/9789241504379_eng.pdf)

<sup>5</sup>[http://apps.who.int/iris/bitstream/10665/77969/1/9789241504379\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/77969/1/9789241504379_eng.pdf)

<sup>6</sup>Modeling the effect of high dead- space syringes on the human immunodeficiency virus (HIV) epidemic among injecting drug users. *Addiction* [0965-2140] Bobashev yr:2010 vol:105 iss:8 pg:1439 -1447

<sup>7</sup><http://www.ncbi.nlm.nih.gov/pubmed/24271348>

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percent reported genital ulcers/sores in the past year. Among those, 33.3 percent said that they had genital ulcers/sores at the time of the survey and 5.6 percent were experiencing genital discharge. Almost all of the respondents (97%) knew that a confidential HIV testing facility was available in their community. Among the respondents 51.5 percent reported never having had an HIV test before in the past.

In light of these and other findings from this survey, it is recommended that increasing awareness about confidential HIV testing facilities in the community and increasing HIV test uptake is of crucial importance to control the transmission of HIV and STIs. Provision of client-friendly service during HIV-test and STI treatment should be strengthened to increase HIV and STI test intake. Bearing in mind that testing is the entry point to treatment, Peer/outreach educators are good contact points to disseminate necessary information to expand coverage HTC (full form when first used in a paragraph). Further, it should be noted that in resource-limited countries HTC can be substantially increased using an intervention that involves community-led testing, mobilizing targeted communities, and the provision of post-testing support. Community LED testing is associated with higher testing coverage for to reach populations as compared with conventional voluntary counseling and testing (VCT) services, and can lead to the diagnosis of more unidentified cases of HIV. Bringing VCT directly to communities and linking HTC with mobilization efforts and support services after HIV testing results in substantially greater uptake of both HIV testing and case detection than does standard voluntary counseling and testing.<sup>8</sup> The benefits of community-led testing extend beyond increasing the number of tested individuals and HIV cases diagnosed, and could help combat the stigma the surrounds HIV as well.

There are however some challenges when considering the introduction of community-based testing, in particular the use of peer-led testing within a service. The most important is ensuring that staffs conducting HIV testing are trained to ensure that the clients receive high quality service and, in particular, any positive test results are handled sensitively and professionally. Clinical oversight from medical professionals would also need to be place from both a professional and legal standpoint.<sup>9</sup>

**Recommendation 6: The need for expanded quality, coverage and information dissemination regarding integrated services to PWID**

Regarding awareness level, 34.5 percent were aware of the three major HIV prevention measures (abstinence - A, being faithful to single partner - B, and consistent condom use - C), while 56.5 percent had comprehensive knowledge of HIV i.e. knowledge of B, C, and DEF (the three major misconceptions about HIV transmission). The findings indicated that 20.9 percent of the respondents had had an interaction with an OE or PE in the last 12 months. Also, 22.3 percent reported visiting a DIC and 17.2 percent said that they had visited an HTC service center in the past year.

It is necessary to increase the geographical and demographical coverage of hard to reach groups through innovative approaches by the introduction of program activities into mainstream health services with a strong accompanied referral and follow-up mechanism to address the compartmentalization of HIV related services within the

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<sup>8</sup><http://www.aidsmap.com/Community-based-testing-increased-rates-of-HIV-testing-and-detection-in-resource-limited-settings/page/1789140/>

<sup>9</sup><http://endinghiv.org.au/nsw/community-based-testing/>

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public health sector. In order to achieve this it is also recommended to increase the human resource allocation component for OE/PE to increase the overall awareness about the availability and access service even remotely linked with HIV services. Further it is recommended to integrate a number of services to create a "one stop shop" solution.

**Recommendation 7: Need for program for HCV and HBV case detection surveillance with entry point to treatment**

Testing for Hepatitis C and B among the PWIDs was introduced for the first time in IBBS in this sixth round. In this sixth round of IBBS, results for Hepatitis C have shown that HCV prevalence is higher than the actual estimated rate of infection in the general population. The HCV and HBV prevalence rate among PWIDs in the Pokhara Valley was found to be 13.1 and 1.1 percent respectively with no comparison reference due to the fact that HCV and HBV were assessed in previous rounds of IBBS surveys. Among the respondent below the age of 20, HCV prevalence was found to be present in all respondents of this cohort, which should have broad implications for HCV programming.

Since drug injecting behavior has been linked with HCV infection in Nepal and elsewhere, the current finding shows that interventions are urgently required. HBV prevalence was found to be lower than reported previously on PLHIV populations. However, it is important to note that since although HBV vaccine is available, it is also a blood borne pathogen therefore constant surveillance with vaccination strategy should be implemented in this population to prevent future increase in infection and prevalence. Therefore more awareness programs should be conducted among PWIDs focusing on improving their knowledge on Hepatitis B as well as Hepatitis C.

**Recommendation 8: Access to Sexual reproductive Health, information services and HIV prevention**

The respondents consisted predominantly of young people; 31.5 percent were below the age of 20 years. and 27.9 percent were between the ages of 20-24 years. Data showed that 68.6 percent were unmarried. Among the respondents who reported never having been married, prevalence of HIV was found to be 8.8 percent. Also, 7.4 percent of those that reported having had sex with a regular female sex partner in the past 12 months were found to be HIV Positive. Further, 3.9 percent of those that reported having had sex with a female sex worker were found to be HIV positive. Almost all PWIDS (95%) reported having had sexual intercourse in the week prior to the survey. Among them, 85.9 percent reported being sexually active in the past year. In the year preceding the survey, 30.9 percent had sex with a regular partner, 59.6 percent with non-regular partners, and 26.2 percent with FSWs. Regarding consistency of condom use, 75.8 percent reported having sex with a non-regular female sex partner without a condom in the last 12 months. Also, 60.2 percent reported having sex with an FSW without a condom in the last 12 months.

Youth is a vulnerable period when many become sexually active and are curious about their sexual and reproductive health. The reality in Nepal is that more young people are engaging in pre-marital sex and unsafe sexual behavior. It is necessary to ensure that every young person's potential is fulfilled in order to prevent HIV transmission and unwanted pregnancies as well as ensuring universal access to sexual and reproductive health. Reaching such socially excluded and economically

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marginalized people for increasing access of SRH information and services is a challenge to Nepalese GO, I/NGO and external development partners<sup>10</sup> as well. A decade of evidence gathered worldwide has emphasized the usefulness of investing in youth development strategies for improving the short-term and long-term health of adolescents, including sexual and reproductive health<sup>11,12</sup>. In this context, there is a tremendous need for a focused program for marginalized, under served and ethnic minority groups in rural areas of Nepal in order to increase their access to Sexual reproductive Health, information services and HIV prevention.

**Recommendation 9: generation of strategic information to inform policy planning and implementation at the national level**

There is a need to further assess the current situation and identify possible recommendations to improve policy and practice in areas of epidemiology and policy and the role of the health sector for advocacy and prevention, and, treatment and care. Periodic IBBS with sub-population will help design and implement timely intervention strategies and monitor the changes in diversity of and effectiveness of the interventions in controlling the epidemic. By reviewing the available evidence from research-driven protocols or evaluations of interventions conducted under specific field conditions (effectiveness studies), where insufficient evidence exists, evaluation studies may need to be implemented to support evidence-based decision-making. This is an important step, although it is often not sufficiently funded. It is recommended that resource allocation should be prioritized at the national and policy levels for the generation of strategic information in order to render interventions effective.

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<sup>10</sup>Ministry of Health and Population 2007, Population Report 2007

<sup>11</sup>Resnick MD. Health youth development: getting our priorities right. *Med J Aust* 2005; 183: 398–400.

<sup>12</sup>Lonczak HS, Abbott RD, Hawkins JD, Kosterman R, Catalano RF. Effects of the Seattle social development project on sexual behavior, pregnancy, birth, and sexually transmitted disease outcomes by age 21 years. *Arch Pediatr Adolesc Med* 2002; 156: 438–47.

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## 12 .Annexes

### 12.1 Annex -1: Indicators for Monitoring and Evaluation of HIV Response

Selected Key Indicators	Total (N=345)
HIV	2.8%
Active Syphilis	1.2%
Syphilis History	1.2%
Hepatitis B	1.8%
Hepatitis C	13.1%
Median age (Range)	24 (17 - 48)
Literate	98.9%
Ever Married	31.4%
Consumed alcohol everyday	14.9%
Ever been imprisonment	51.0%
Mean $\pm$ SD/Median(Range) Duration (in months) of Injecting Drugs	57.6 $\pm$ 57.02/36 (3-300)
Median age (Range) of first drug Injection	20 (12 - 42)
People injecting more than once every day	0.5%
Shared needle in the past week	0.3%
Used non sterile syringe/needle in past month	3.0%
Used non sterile injecting equipment in past month	2.7%
Premarital sex (n=325)	63.5%
Consistent condom use with regular female sex partners in the past year (n=109)	5.5%
Consistent condom use with FSW in the past year (n=98)	39.8%
Consistent condom use with non-regular female sex partner in past year (n=198)	24.2%
Knowledge of all three indicators: ABC	34.5%
Knowledge of all five indicators: BCDEF	56.5%
Ever had HIV test	48.5%
Met/Interacted with PE/OE/CM	20.9%
Visited DIC	22.3%
Visited HTC Center	17.2%
Received OST Services	14.0%
Needle obtained from needle exchange program	21.3%

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## 12.2 Annex – 2: Sample Size Estimation

$$n = D \frac{[Z_{1-\alpha} \sqrt{2\bar{P}(1-\bar{P})} + Z_{1-\beta} \sqrt{P_1(1-P_1)} + P_z(1-P_z)]^2}{(P_2 - P_1)^2}$$

n= required minimum sample size per survey round

D= Design effect (assumed in the following equations to be the default value of 2)

P<sub>1</sub>= The estimated proportion at the time of the first survey.

P<sub>2</sub>= The target population at some future date, so that (P<sub>2</sub>-P<sub>1</sub>) is the magnitude of change of change you want to be able to detect.

$\bar{P}$ = (P<sub>1</sub>+P<sub>2</sub>)/2

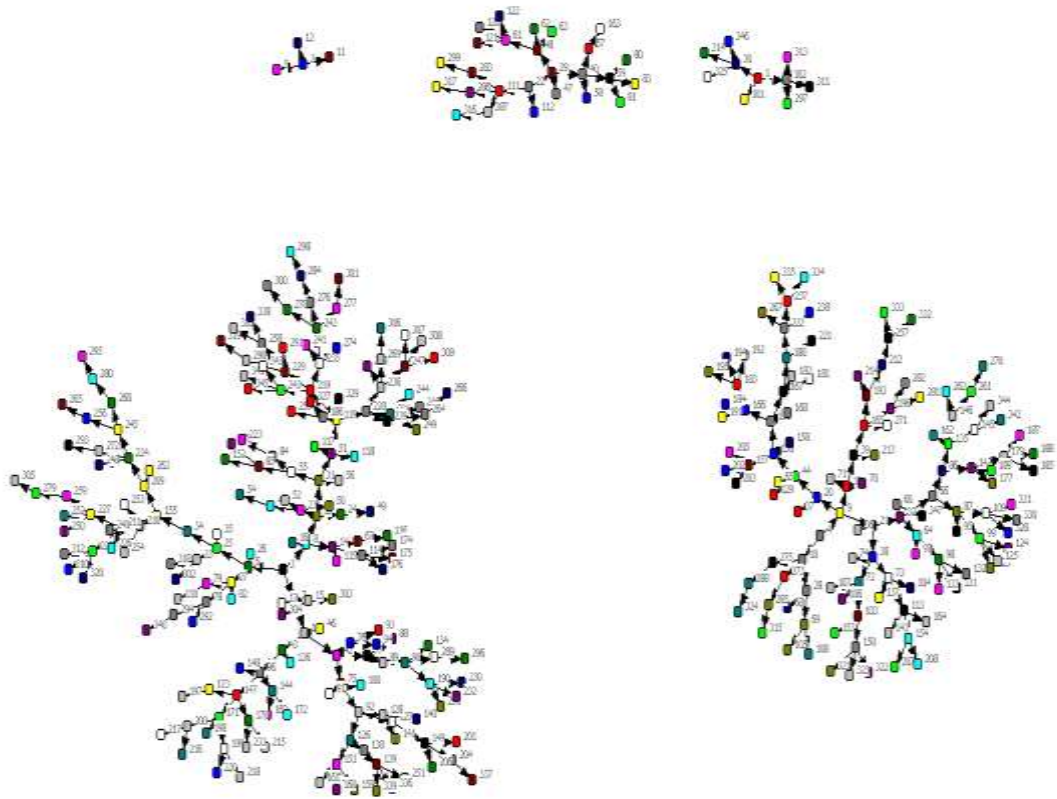
Z<sub>1- $\alpha$</sub> = The Z-score corresponding to the level of significance

Z<sub>1- $\beta$</sub> = The Z-score corresponding to the level of power

\*Guidelines for repeated behavioral surveys in populations at risk of HIV, Page 47, FHI-2000.

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### 12.3 Annex – 3: Wave of Recruitment of PWID by 'Seeds'





## 12.4 Annex 4– Questionnaire

### Integrated Biological and Behavioral Surveillance Survey among People Who Inject Drugs in Pokhara Valley

Namaste! My name is ....., I am here from .....to collect data for a research survey. This survey is being conducted by National Centre for AIDS and STD Control (NCASC), Ministry of Health and Population. During this interview, I will ask you some personal questions that will be about sexual behavior, use and promotion of condoms, STI/HIV/AIDS and use of drugs and needle/syringes. You may feel uncomfortable to answer some questions relating to your personal behavior, but it is important that you provide correct information. We will also take about 5-7 ml blood sample for testing HIV and syphilis infection. If it is determined that you have any STI symptoms, we will provide treatment free of charge. We also will treat for syphilis on the basis of RPR test on the same day of interview. The information given by you will be strictly treated as confidential. Nobody will know whatever we talk about because your name will not be mentioned on this form and collected samples. All the mentioned information will be used only for the survey purpose. This survey will take about an hour.

It depends on your wish to participate in this survey or not. You do not have to answer those questions that you do not want to answer, and you may end this interview at any time you want to. But I hope you will participate in this survey and make it a success by providing correct answers to all the questions.

Would you be willing to participate?

1. Yes                      2. No

Signature of the interviewer:

Date:

/ / 2015

Operational definition of PWIDs:

“Current drug injectors aged 16 years or above who had been injecting drugs for non-medical purposes for at least three months prior to the date of the survey”

Seed:

Yes.....1

No.....2

Coupon brought by the respondents

Coupon number given:

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(Write '0' for seed)

1.

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2.

--	--	--	--	--

3.

--	--	--	--	--

Did the interviewee abandon the interview?

Yes .....1

No.....2

(Precise the number of the last question completed: Q \_\_\_\_\_)

Interviewer Name: \_\_\_\_\_ Code Interviewer: \_\_\_\_\_

Date Interview: \_\_\_\_/ \_\_\_\_/ 2015

Checked by the supervisor: Signature: \_\_\_\_\_ Date: \_\_\_\_/ \_\_\_\_/ 2015

Data Entry # 2: Clerk's name:

Date

/

/2015

001. Has someone interviewed you from ..... with a questionnaire in last few weeks?

1. Yes

2. No (continue interview)





	<b>number of the passed grade)</b>	<b>(write the completed grade)</b>	
106	What is your caste? <b>(Specify Ethnic Group/Caste)</b>	Ethnicity/Caste _____ Code No.....	
107	What is your current marital status?	Never married..... 1 Married..... 2 Divorced/Permanently separated..... 3 Widow ..... 4 Other (Specify)..... 96	→107
108	How old were you when you first got married?	Age ..... <b>(write the completed years)</b>	
109	Which of the following best describes your current living situation? (Select only one option)	Homeless on the street..... 1 Living in own home..... 2 Living in a residential hotel..... 3 Rented apartment..... 4 Other(specify)..... 96	
110	With whom you are living now?	Living with wife ..... 1 Living with female sexual partner..... Living without sexual partner..... 2 Others (Specify)..... 3 No response..... 96 99	
111	How many dependents are there in your family?	Number: .....	
112	During the past one-month how often have you had drinks containing alcohol? <b>(Such as beer, local beer etc.)</b>	Every day ..... 1 More than once a week..... 2 Less than once a week..... 3 Never drink..... 4 Others (Specify)..... 96 No response..... 99	

## 2.0 DRUG USE

Q.N.	Questions	Coding Categories	Skip to
201	How long have you been using drugs? <b>(Drug means medicine not used for treatment purpose rather used for Intoxication)</b>	Years..... Months..... No response .....99	
202	How old were you when you first injected drugs? <b>(Include self-injection or injection by another)</b>	Years ..... <b>(write the completed years)</b>	
203	How long have you been injecting drugs? <b>(Include self-injection or injection by others)</b>	Years ..... Months..... ..... No response .....99	
203.1	Have you injected drugs in the last month?	Yes.....1 No .....2	→ 204
203.2	If Yes, have you used non-sterile syringe/needle at any time in the last month?	Yes.....1 No .....2	

203.3	Have you used non-sterile injecting equipment at any time in the last month?	Yes.....1 No.....2							
204	Which of the following types of drugs have you used and/or injected in the past one-week? (Read the list, multiple answer possible)								
	Description	Used in Last-Week				Injected in Last-Week			
		YES	NO	DK	NR	YES	NO	DK	NR
	1. Tidigesic					1	2	98	99
	2. Brown Sugar	1	2	98	99	1	2	98	99
	3. Nitrosun	1	2	98	99	1	2	98	99
	4. Ganja	1	2	98	99				
	5. Chares	1	2	98	99				
	6. White Sugar	1	2	98	99				
	7. Phensydyl	1	2	98	99				
	8. Calmpose	1	2	98	99	1	2	98	99
	9. Diazepam	1	2	98	99	1	2	98	99
	10. Codeine	1	2	98	99	1	2	98	99
	11. Phenergan	1	2	98	99	1	2	98	99
	12. Cocaine	1	2	98	99				
	13. Proxygin	1	2	98	99	1	2	98	99
	14. Effidin	1	2	98	99	1	2	98	99
	15. Velium 10	1	2	98	99	1	2	98	99
	16. LSD	1	2	98	99				
	17. Nitrovote	1	2	98	99	1	2	98	99
	18. Combination (Specify)	1	2	98	99	1	2	98	99
	96. Others (Specify)_	1	2	98	99	1	2	98	99
204.0.1	Have you used these drugs in combination form?	Yes.....1 No.....2 No respons.....99				→ 204.1			
204.0.2	If yes, how many drugs has been used?	.....(numbers)							
204.0.3	What are the most frequently combination that is used ?	.....(Specify)							
204.1	In the last month, did you switch from one drug to another?	Yes.....1 No.....2				→ 205			
204.1.1	If yes, which drug?	From _____ drug To _____ drug							

204.1.2	What is the reason for switching?	Reduce the use of Tidigesic.....1 Costly.....2 Easily unavailable.....3 Others(specify).....96	
205	How many times would you say you injected drugs yesterday?	Times..... Not injected.....0	→ 209
206	Would you like to tell me why you did not inject yesterday?	Lack of money.....1 Inhaled Ganja.....3 Taken brown sugar.....4 Injected last day.....5 Drink Alcohol.....6 Unavailability of drugs.....7 Was in police custody.....8 Taken Nitrosun.....9 Was ill.....10 Used another medicine.....11 Busy in household work.....12 Others(specify).....96	
207	How many days ago you injected drugs ?		
208	How many times would you say you injected drugs on the last day?	Times.....	
209	During the past one-week how often would you say you injected drugs?	Once a week .....1 2-3 times a week.....2 4-6 times a week.....3 Once a day .....4 2-3 times a day .....5 4 or more times a day .....6 Not injected in the last week.....7 Don't know .....98 No response .....99	
210	(Ask whether the respondent was ever arrested or not then ask the following questions) Have you ever been imprisoned or detained for any reason?	Yes.....1 No .....2 No response .....99	→ 211
210.1	In the past year, have you ever been imprisoned or detained for any reason?	Yes.....1 No .....2 No response .....99	→ 211
210.2	In the past year, have you ever been imprisoned for drug-related reason?	Yes.....1 No .....2 No response .....99	→ 211

210.3	In the past year, how many times have you been imprisoned for drug-related reason?	Times ..... No response .....99	
210.4	Have you ever injected drugs while in prison?	Yes.....1 No .....2 No response .....99	
211	How often you cross the border (Indo-Nepal) to buy and use the illicit drugs in the past 12 months?	Always.....1 Most of the time.....2 Sometimes.....3 Never.....4 No response.....99	

3.0 NEEDLE SHARING BEHAVIORS

Q.N.	Questions	Coding Categories	Skip to
301	Think about the times, you have injected drugs yesterday/last day. How many times did you inject drugs on that day? <b>(Fill the number from answer to Q. 205 or 208 and verify by asking the respondent)</b>	Times .....	
302	The last time you injected, how did you get that syringe/needle? <b>(Public place means places other than the IDU's home that are used to hide syringe/needle)</b>	My friend/relative gave it to me after his use.....1 Unknown person gave it to me after he use..... I picked it up from a public place which was left there by others.....2 I picked it up from a public place which was left there by myself.....3 I used a new needle/syringe given by NGO4 staff/volunteer..... <b>(write the name of organization)</b> .....5 I used a needle/syringe which I purchased..... I reused my own needle/syringe.....6 My friend gave new needle/syringe.....7 Others (Specify).....8 Don't know.....96 No response.....98 99	
302.1	If you were in a group the last time that you injected, how many different people in the group do you think used the same needle?	Nos. .... Injected alone .....95	

303	<p>Think about the time before the last time you injected, how did you get that syringe/needle?</p> <p><b>(Public place means places other than the IDU's home that are used to hide syringe/needle)</b></p>	<p>My friend/relative gave it to me after his use..... 1</p> <p>Unknown person gave it to me after he use..... 2</p> <p>I picked it up from a public place which was left there by others..... 3</p> <p>I picked it up from a public place which was left there by myself..... 4</p> <p>I used a new needle/syringe given by NGO staff/ volunteer..... 5</p> <p><b>(write the name of organization)</b></p> <p>I used a needle/syringe which I purchased..... 6</p> <p>I reused my own needle/syringe..... 6</p> <p>My friend gave new needle/Syringe..... 7</p> <p>Others (Specify)</p> <p>Don't know..... 8</p> <p>No response..... 96</p> <p>98</p> <p>99</p>	
303.1	<p>That time, If you were in a group, how many different people in the group do you think had used the same needle?</p>	<p>Nos.....</p> <p>Injected alone .....9</p>	
304	<p>Now think about the time before (before Q.303), how did you get that syringe/ needle?</p> <p><b>(Public place means places other than the PWID's home that are used to hide syringe/needle)</b></p>	<p>My friend/relative gave it to me after his use..... 1</p> <p>Unknown person gave it to me after he use..... 2</p> <p>I picked it up from a public place which was left there by others..... 3</p> <p>I picked it up from a public place which was left there by myself..... 4</p> <p>I used a new needle/syringe given by NGO staff/ volunteer..... 5</p> <p><b>(Write the name of Organization)</b></p> <p>I used a needle/syringe which I purchased..... 6</p> <p>I reused my own needle/syringe..... 7</p> <p>My friend gave new needle/syringe..... 8</p> <p>Others (Specify) ..... 96</p> <p>Don't know..... 98</p> <p>No response..... 99</p>	
304.1	<p>That time If you were in a group, how many different people in the group do you think had used the same needle?</p>	<p>Nos.....</p> <p>Injected alone .....95</p>	
305	<p>Think about the times, you have injected drugs during the past one-week. How often was it with a needle or syringe that had previously been used by someone else?</p>	<p>Every times..... 1</p> <p>Almost every-times..... 2</p> <p>Sometimes..... 3</p> <p>Never used..... 4</p> <p>Not injected in the last week..... 5</p> <p>Don't know..... 98</p> <p>No response..... 99</p>	<p>→14</p>

305.1	When you injected drug during the past week, how often did you use a syringe/needle that had been left in public place? <b>(Public place means places other than the IDU's home that are used to hide syringe/needle)</b>	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
306	In the past one-week, did you ever share needles and syringes with any of the following?		
	<b>Read out list. Multiple answers possible</b>	<b>Yes</b>	<b>No</b>
	1.Your usual sexual partner	1	2
	2.A sexual partner who you did not know	1	2
	3.A friend	1	2
	4.A drugs seller	1	2
	5.Unknown Person	1	2
	96. Other (Specify) _____	1	2
307	With how many different injecting partners did you share needles or syringes in the past one- week? <b>(Count everyone who injected from the same syringe)</b>	Number of partners..... Don't know..... No response.....98 99	
308	In the past one-week, how often did you give a needle or syringe to someone else, after you had already used it?	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
309	In the past-week, did you ever inject with a pre-filled syringe? <b>(By that I mean a syringe that was filled without you witnessing it)</b>	Yes.....1 No.....2 Don't know.....98 No response.....99	
310	In the past one-week, how often did you inject drugs using a syringe after someone else had squirted drugs into it from his/her used syringe? <b>(Front-loading/back-loading/ splitting )</b>	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
311	In the past one-week, when you injected drugs, how often did you share a cooker/ vial/container, cotton/filter, or rise water?	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	



312	In the past one-week, how often you draw up your drug solution from a common container used by others?	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
312.1	In the past one year have you switched from sharing to non-sharing practice?	Yes.....1 No.....2	
<b>Check Q no. 305 and those who have not injected in the last one week go to Q314</b>			
313	In the past one-week, when you injected with needles or syringes that had previously been used, how often did you clean them first?	Every time.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Never reused.....5 Others (Specify).....96 Don't know.....98 No response.....99	} 314
313.1	If cleaned, how did you usually clean them?	With water.....1 With urine.....2 With saliva.....3 Boil the syringe in water.....4 With bleach.....5 Burning the needle with matchstick.....6 Others (Specify).....6 Don't know.....96 No response.....98 99	
314	Can you obtain new, unused needles and syringes when you need them?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 316

315	Where can you obtain new unused needles and syringes? <b>(Do not read out list. Multiple answers possible. Probe only with "Anywhere Else?")</b>	Drugstore.....1 Other shop.....2 Health work.....3 Hospital.....4 Drug wholesaler/drug agency.....5 Family/relatives.....6 Sexual partner.....7 Friends.....8 Other drugs users.....9 Drugs seller.....10 Needle exchange program of____ <b>(write the name of Organization)</b> ..... Steal from legitimate source11 (hospital./pharmacy)..... Buy on streets.....12 Other (Specify).....13 96	
316	In the past one-year, did you ever inject drug in another city/district (or another country)?	Yes.....1 No.....2 Don't remember.....98 No response.....99	} 316.4
316.1	If yes, in which other cities/districts did you inject, including cities in other countries?	Cities _____ _____ _____ Districts _____ _____ _____ Country _____ _____ _____	
316.2	Think about the times you injected drugs in another city/district (including abroad) how often was it with a syringe/needle that had previously been used by someone else?	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
316.3	When you injected drugs in another city, how often did you give a syringe/needle to someone else?	Every times.....1 Almost every-times.....2 Sometimes.....3 Never.....4 Don't know.....98 No response.....99	
316.4	In the last 12 months, have any of an outreach worker, a peer educator or a staff from a needle exchange program given you a new needle/syringe?	Yes.....1 No.....2 Don't remember.....98 No response.....99	
317	Are you currently under treatment (or receiving help) or have you ever received treatment (or help) because of your drug use?	Currently under treatment.....1 Was in treatment but not now.....2 Have never received treatment.....3 No response.....99	} 401

318	How many months ago did you last receive treatment or help for your drug use?	Months Don't know.....98 No response.....99	
319	What kind of treatment or help you received? (Do not read out the responses, probe asking, "Are there any other kinds of treatment that you've received?" <b>(Multiple Answers Possible)</b> )		
	<b>Types of Treatments</b>	<b>Name of Institutions</b>	
	1. Outpatient counseling		
	2. Self-help groups		
	3. Detoxification w/methadone		
	4. Maintenance w/methadone		
	5. Detoxification w/other drugs		
	6. Detoxification with no drug		
	7. Residential rehabilitation		
	8. Helped for cold turkey without medicine		
	9. Forced for cold turkey by others without treatment		
	96. Other (Specify)		
	99. No response		

#### 4.0 SEXUAL HISTORY

Q.N.	Questions	Coding Categories	Skip to
401	How old were you at your first sexual intercourse?	Years old..... <i>(Write completed years)</i> Never had sexual intercourse.....0 → Don't know.....98 No response.....99	601
402	Have you had sexual intercourse in the last 12 months?	Yes.....1 No.....2 No response.....99 }	404
403	In total, how many different female sexual partners have you had sex in the last 12 months?	Total Number .....	
403.1	How many were female "regular partners"? <b>(Your wife or live-in sexual partners)</b>	Number ....., 98 Don't know.....98 No response.....99	
403.2	How many were female "sex worker"? <b>(Partners to whom you bought or sold sex in exchange for money or drug)</b>	Number..... Don't know.....98 No response.....99	

403.3	How many were female "non-regular partners"? (Sexual partners, you are not married to and have never lived with and did not have sex in exchange for money)	Number..... Don't know..... 98 No response..... 99	
404	We have just talked about your female sexual partners? Have you ever had any male sexual partners also?	Yes..... 1 No..... 2 No response..... 99	} 501
404.1	If yes, have you had anal sex with any of your male partners in the last 12 months?	Yes..... 1 No..... 2 No response..... 99	} 501
404.2	With how many different male partners have you had anal sex in the last 12 months?	Number..... Don't know..... 98 No response..... 99	
404.3	The last time you had anal sex with a male sex partner did you and your partner use a condom?	Yes..... 1 No..... 2 Don't Know..... 98 No response..... 99	
404.4	How often have you used a condom in an anal sex with male sex partner in the past 12 months?	Every Times..... 1 Almost Every Times..... 2 Some Times..... 3 Never Used..... 4 Don't Know..... 98 No response..... 99	

## 5.0 NUMBERS AND TYPES OF PARTNERS

(Check Q. 403.1 and circle the response of Q.501 if necessary you may need to ask 403.1 once again and correct the response)

Q. N.	Questions	Coding Categories	Skip to
501.	Did you have sex with female regular partner (wife or live-in partner) during last 12 months?	Yes..... 1 No..... 2	<del>502</del> →
501.1	Think about your most recent female regular sexual partner. How many times did you have sex with her during last one-month?	Times..... 98 Don't know..... 99 No response.....	
501.2	The last time you had sex with a female regular partner did you and your partner use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	<del>501.4</del> → <del>501.4</del> }

501.3	Why did not you or your partner use a condom that time?  <b>(Do not read the possible answers, multiple answers possible)</b>	Not available..... 1 Too expensive..... 2 Partner objected..... 3 Don't like them..... 4 Used other contraceptive..... 5 Didn't think it was necessary..... 6 Didn't think of it..... 7 Other (Specify)..... 96 Don't know..... 98 No response..... 99	
501.4	How often have you used a condom with female regular partners in the past year?	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
501.5	Did your female regular partner also inject drugs?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
501.6	Have you ever had anal sex with your female regular partners?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	} 502
501.7	The last time you had anal-sex with a female regular partner did you and your partner use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
501.8	How often have you used a condom in an anal-sex with female regular partners in the past 12 months?	Every time..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
502	Did you have a sexual intercourse with a female sex worker in last 12 months? <b>(Check 403.2 and circle the response of Q. 502 if necessary you may need to ask 403.2 once again and correct the response)</b>	Yes..... 1 No..... 2	→ 503
502.1	Think about the female sex workers that you have had sex in the past one-month. In total how many female sex workers you sold sex in exchange for money or drugs?	Number..... Don't know..... 98 No response..... 99	

502.1.1	With how many sex workers you had sex in last month by paying them money or drugs?	Number..... Don't know..... 98 No response..... 99	
502.1.2	Where did you have sex with a last sex worker?	Hotel/lodge..... 1 Own house..... 2 Sex worker's house..... 3 Injecting site..... 4 Tea shop..... 5 Park/garden..... 6 Dance restaurant..... 7 Massage parlor..... 8 Bhatti pasal..... 9 Dohori restaurant..... 10 Don't Know..... 9899 No response .....	
502.2	Think about your most recent female sex worker. How many times did you have sexual intercourse with her in the past one-month?	Times..... Don't know..... No response..... 98 99	
502.3	The last time you had sex with a female sex worker did you and your partner use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	502.5 502.5
502.4	Why did not you and your partner use a condom that time?  <b>(Do not read the possible answers, multiple answer possible)</b>	Not available..... 1 Too expensive..... 2 Partner objected..... 3 Don't like them..... 4 Used other contraceptive..... 5 Didn't think it was necessary..... 6 Didn't think of it..... 7 Other (Specify)..... 96 Don't know..... 98 No response..... 99	
502.5	How often have you used a condom with female sex workers in the past year?	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
502.6	Do you know whether female sex worker with whom you had sex also injected drugs?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	

502.7	Have you ever had anal sex with your female sex workers?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	} 503
502.8	The last time you had anal-sex with a female sex worker did you use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
502.9	How often have you used a condom in an anal sex with female sex workers in the past 12 months?	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
503	Did you have a sexual intercourse with a female non-regular sex partner during last 12 months? <b>(Check 403.3 and circle the response of Q.503 if necessary you may need to ask 403.3 once again and correct the response)</b>	Yes..... 1 No..... 2	→ 503
503.1	Think about your most recent female non-regular sexual partner. How many times did you have sexual intercourse with her over the past one-month?	Times..... Don't know..... 98 No response..... 99	
503.2	The last time you had sex with a female non-regular partner did you and your partner use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	→ 503.4 } 503.4
503.3	Why did not you and your partner use a condom that time? <b>(Don't read the possible answers, multiple answer possible)</b>	Not available..... 1 Too expensive..... 2 Partner objected..... 3 Don't like them..... 4 Used other contraceptive..... 5 Didn't think it was necessary..... 6 Didn't think of it..... 7 Other (Specify)..... 96 Don't know..... 98 No response..... 99	
503.4	How often have you used a condom with a female non-regular partner in the past year?	Every times..... 1 Almost every-time..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	

503.5	Did you know whether your female non-regular partners also injected drugs?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
503.6	Have you ever had anal sex with your female non-regular partners?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	} 504
503.7	The last time you had anal sex with a female non-regular partner, did you and your partner use a condom?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
503.8	How often have you used a condom in an anal-sex with female non-regular partners in the past year?	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
504	Have you had anal sex with a male partner in the past one year? <b>(See the response in Q. 404.1 and circle Q.504 response if necessary you may need to ask 404.1 once again and correct the response)</b>	Yes..... 1 No..... 2	505
504.1	Think of your last male sex partner with whom you had anal sex: in the last one month, how many times you had anal sex with him?	Times..... Don't know..... 98 No response..... 99	
504.2	The last time you had anal sex with him; did you use condom? <b>(Check answer in Q no 404.3)</b>	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	504.4 504.4
504.3	Why didn't you use condom at that time? <b>(Don't read possible answer, multiple answer possible)</b>	Not available..... 1 Too expensive..... 2 Partner objected..... 3 Don't like..... 4 Used other contraceptive..... 6 Didn't think it was necessary..... 7 Didn't think of it..... 8 Other (Specify)..... 96 Don't know..... 98 No response..... 99	




504.4	How often have you used a condom during anal sex with a male partner in the past year? (Check Q no. 404.4)	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	
504.5	Do you know if your male partner with whom you had anal sex also injected drugs?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
504.6	Have you ever had sex in exchange for money or some commodities?	Yes..... 1 No..... 2	505
504.7	Before starting injecting drugs did you have sex in exchange for money or some commodities?	Yes..... 1 No..... 2	
504.8	After starting injecting drugs did you have sex in exchange for money or some commodities?	Yes..... 1 No..... 2	
504.9	Did you have sex in exchange for money or some commodities in the last 12 months?	Yes..... 1 No..... 2	505
504.10	In the last 12 month how many such sexual contacts did you have?	Number .....	
504.11	In the last 12 month how many such partners did you sell sex to?	Number .....	
505	Have you had sexual intercourse in the last month?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	507
505.1	If yes, did you or your partner use a condom when you had last sex in the last month?	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	
506	In the last month, how often did you or your partner use a condom when you had sex?	Every times..... 1 Almost every-times..... 2 Sometimes..... 3 Never used..... 4 Don't know..... 98 No response..... 99	

507	With whom did you have the last sexual intercourse?	FSW..... 1 Regular partner..... 2 <b>(Wife or live in sexual partner)</b> Other female friend..... 3 Male friend..... 4 Did not have sexual contact in the past year..... 5 Don't Know..... 98 No response..... 99	601
508	Did you use condom in the last sexual intercourse?	Yes..... 1 No..... 2	

## 6.0 USE AND AVAILABILITY OF CONDOM

*(Check responses in Q.N. 404.3, 404.4, 501.2, 501.4, 501.7, 501.8, 502.3, 502.5, 502.8, 502.9, 503.2, 503.4, 503.7, 503.8, 504.4, 505.1, 506, 508 and circle responses in Q. 601 & 602 and Probe if the response is contradictory)*

Q. N.	Questions	Coding Categories	Skip to
601	Have you ever heard of a condom? <b>(Show picture or sample of condom) Probe if the response is No</b>	Yes..... 1 No..... 2 Don't know..... 98 No response..... 99	} 701
602	Have you ever used a condom?	Yes..... 1 No..... 2	
603	Do you know of any place or person from which you can obtain condom?	Yes..... 1 No..... 2 No response..... 99	} 701
604	From which place or people, you can obtain condoms?  <b>(Multiple answer possible. Don't read the list but probe)</b>	Shop..... 1 Pharmacy..... 2 Clinic..... 3 Hospital..... 4 Family planning center..... 5 Bar/Guest house/Hotel..... 6 Health worker..... 7 Peer Educator/Outreach doctor..... 8 Friend..... 9 <i>Pan Pasa</i> ..... 10 Others (Specify)..... 96 No response..... 99	
604.1	Did any organization give you condom in the last 12 months?	Yes, free of cost..... Yes, by taking money..... No.....	
605	How long would it take <b>(from your house or the place where you work)</b> to obtain a condom?	Less than 30 minutes..... More than 30 minutes..... Don't know..... No response.....	

606	Do you usually carry condom with you?	Yes..... No.....	
607	At this moment how many condoms do you have at-hand with you? <b>(Observe and write)</b>	Numbers .	} 

## 7.0 KNOWLEDGE AND TREATMENT OF STIs

Q. N.	Questions	Coding Categories	Skip to
701	Have you ever heard of diseases that can be transmitted through sexual intercourse?	Yes.....1 No.....2 No response.....99	} <del>704</del>
702	Can you describe any symptoms of STIs in women?  <b>(Do not read possible answers, multiple answers possible.)</b>	Lower abdominal pain.....1 Genital discharge.....2 Foul smelling.....3 Burning pain on urination.....4 Genital ulcers/sore.....5 Swelling in groin area.....6 Itching.....7 Other (Specify).....96 Don't know.....98 No response.....99	
703	Can you describe any symptoms of STIs in men?  <b>(Do not read possible answers, multiple answers possible)</b>	Genital discharge.....1 Burning pain on urination.....2 Genital ulcers/sore blister.....3 Swellings in groin area.....4 Others (Specify).....96 Don't know.....98 No response.....99	
704	Have you had genital discharge/burning urination during the last 12 months?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 705
704.1	Currently, do you have genital discharge / burning urination problem?	Yes.....1 No.....2 Don't know.....3 No response.....4	
705	Have you had a genital ulcer/sore blister during the last 12 months?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 706
705.1	Currently, do you have genital ulcer/sore blister?	Yes.....1 No.....2 Don't know.....3 No response.....4	

706	Last time you had a genital discharge/ burning urination or a genital ulcer/sore blister, where did you go for treatment?	Did not seek treatment.....	1	
		With private doctor.....	2	
		In hospital.....	3	
		Never had such symptoms.....	4	
		Others (Specify).....	96	

8.0 KNOWLEDGE, OPINIONS AND ATTITUDES ON HIV/AIDS

Q. N.	Questions	Coding Categories	Skip to
801	Have you ever heard of HIV or the disease called AIDS? (Probe if the response if No)	Yes.....1 No.....2 No response.....99	
802	Do you know anyone who is infected with HIV or who has died of AIDS?	Yes.....1 No.....2 No response.....99	804
803	Do you have close relative or close friend who is infected with HIV or has died of AIDS?	Yes, a close relative.....1 Yes, a close friend.....2 No.....3 No response.....99	
804	Can a person protect himself/herself from HIV, the virus that causes AIDS, by using a condom correctly during each sexual act?	Yes.....1 No.....2 Don't know.....98 No response.....99	
805	Can a person get HIV, from mosquito bites?	Yes.....1 No.....2 Don't know.....98 No response.....99	
806	Can a person protect himself/herself from HIV, by having only one uninfected faithful sex partner?	Yes.....1 No.....2 Don't know.....98 No response.....99	
807	Can a person protect himself/herself from HIV, by abstaining from sexual intercourse?	Yes.....1 No.....2 Don't know.....99 No response.....	
808	Can a person get HIV, by sharing a meal with someone who is infected?	Yes.....1 No.....2 Don't know.....98 No response.....99	

809	Can a person get HIV, by getting injections with a needle that was already used by someone else?	Yes.....1 No.....2 Don't know.....98 No response.....99	
810	Can a person who inject drug protect himself/herself from HIV, the virus that causes AIDS, by switching to non-injecting drugs? <b>(Oral or inhaling drugs)</b>	Yes.....1 No.....2 Don't know.....98 No response.....99	
811	Can a pregnant woman infected with HIV transmit the virus to her unborn child?	Yes.....1 No.....2 Don't know.....98 No response.....99	843
812	What can a pregnant woman do to reduce the risk of transmission of HIV to her unborn child? <b>(Do not read the possible answers, multiple answers possible)</b>	Take medication (Antiretroviral).....1 Others (Specify).....96 Don't know.....98 No response.....99	
813	Can women with HIV transmit the virus to her newborn child through breast-feeding?	Yes.....1 No.....2 Don't know.....98 No response.....99	
813.1	Do you think a healthy-looking person can be infected with HIV?	Yes.....1 No.....2 Don't know.....99	
813.2	Can a person get HIV by shaking hand with an infected person?	Yes.....1 No.....2 Don't know.....99	
813.3	Can blood transfusion from an infected person to the other transmit HIV?	Yes.....1 No.....2 Don't know.....99	
814	Is it possible in your community for someone to have a confidential HIV test? <b>(By confidential, I mean that no one will know the result if you don't want him or her to know it.)</b>	Yes.....1 No.....2 Don't know.....98 No response.....99	
814.1	Do you know where to go for HIV test?	Yes.....1 No.....2	
815	I don't want to know the result, but have you ever had an HIV test?	Yes.....1 No.....2 No response.....99	901
816	Did you voluntarily take up the HIV test, or were you required to have the test?	Voluntary.....1 Required.....2 No response.....99	

817	When did you have your most recent HIV test?	Within the past 12 month ..... 1 Between 13-24 months ..... 2 Between 25-48 months ..... 3 More than 48 months ..... 4 Don't know ..... 98 No response ..... 99	
817.1	How many times have you undergone for HIV test within the last 12 months?	..... times	
818	Please do not tell me the result, but did you find out the result of your HIV test?	Yes ..... 1 No ..... 2 No response ..... 99	901 901
818.1	Why did you not receive the test result?	Sure of not being infected ..... 1 Afraid of result ..... 2 Felt unnecessary ..... 3 Forgot it ..... 4 Others (Specify) ..... 96 No response ..... 99	




#### 9.0 AWARENESS OF HIV/AIDS

If answer to Q. 801 "No", Go to Q. 902)

Q. N.	Questions	Coding Categories		Skip to
901	Of the following sources of information, from which sources have you learned about HIV/AIDS? <i>(Read the following list, multiple answers possible)</i>			
	<b>Source of Information</b>	<b>Yes</b>	<b>No</b>	
	1. Radio	1	2	
	2. Television	1	2	
	3. Newspapers/Magazines	1	2	
	4. Pamphlets/Posters	1	2	
	5. School/Teachers	1	2	
	6. Health Worker/Volunteer	1	2	
	7. Friends/Relatives	1	2	
	8. Work Place	1	2	
	9. People from NGO	1	2	
	10. Video Van	1	2	
	11. Street Drama	1	2	
	12. Cinema Hall	1	2	
	13. Community Event/Training	1	2	
	14. Bill Board/Sign Board	1	2	
	15. Comic Book	1	2	
16. Community Workers	1	2		
96. Others (Specify) _____				
902	Has anyone give you following information or items in the past year? <i>(Multiple answer possible, read the list)</i>			
	<b>Items</b>	<b>Yes</b>	<b>No</b>	
	1. Condom	1	2	
	2. Brochure/Booklets/Pamphlets about HIV/AIDS	1	2	
	3. Information about HIV/AIDS	1	2	
96. Others (Specify) _____				

#### 10.0 PROMOTION OF CONDOM (If answer to Q. 601 "No" Go to Q. 1004)

Q. N.	Questions	Coding Categories	Skip to																																																									
1001	<p>In the past one-year have you seen, read or heard any advertisements about condoms from the following sources? <i>(Read the following list, multiple answer possible)</i></p> <table border="1" data-bbox="300 376 826 1160"> <thead> <tr> <th data-bbox="300 376 826 421">Sources</th> <th data-bbox="826 376 1027 421">Yes</th> <th data-bbox="1027 376 1235 421">No</th> </tr> </thead> <tbody> <tr><td data-bbox="300 421 826 454">1. Radio</td><td data-bbox="826 421 1027 454">1</td><td data-bbox="1027 421 1235 454">2</td></tr> <tr><td data-bbox="300 454 826 488">2. Television</td><td data-bbox="826 454 1027 488">1</td><td data-bbox="1027 454 1235 488">2</td></tr> <tr><td data-bbox="300 488 826 521">3. Pharmacy</td><td data-bbox="826 488 1027 521">1</td><td data-bbox="1027 488 1235 521">2</td></tr> <tr><td data-bbox="300 521 826 555">4. Health Post</td><td data-bbox="826 521 1027 555">1</td><td data-bbox="1027 521 1235 555">2</td></tr> <tr><td data-bbox="300 555 826 589">5. Health Center</td><td data-bbox="826 555 1027 589">1</td><td data-bbox="1027 555 1235 589">2</td></tr> <tr><td data-bbox="300 589 826 622">6. Hospital</td><td data-bbox="826 589 1027 622">1</td><td data-bbox="1027 589 1235 622">2</td></tr> <tr><td data-bbox="300 622 826 656">7. Health Workers/Volunteers</td><td data-bbox="826 622 1027 656">1</td><td data-bbox="1027 622 1235 656">2</td></tr> <tr><td data-bbox="300 656 826 689">8. Friends/Neighbors</td><td data-bbox="826 656 1027 689">1</td><td data-bbox="1027 656 1235 689">2</td></tr> <tr><td data-bbox="300 689 826 723">9. NGOs</td><td data-bbox="826 689 1027 723">1</td><td data-bbox="1027 689 1235 723">2</td></tr> <tr><td data-bbox="300 723 826 757">10. Newspapers/Posters</td><td data-bbox="826 723 1027 757">1</td><td data-bbox="1027 723 1235 757">2</td></tr> <tr><td data-bbox="300 757 826 790">11. Video Van</td><td data-bbox="826 757 1027 790">1</td><td data-bbox="1027 757 1235 790">2</td></tr> <tr><td data-bbox="300 790 826 824">12. Street Drama</td><td data-bbox="826 790 1027 824">1</td><td data-bbox="1027 790 1235 824">2</td></tr> <tr><td data-bbox="300 824 826 857">13. Cinema Hall</td><td data-bbox="826 824 1027 857">1</td><td data-bbox="1027 824 1235 857">2</td></tr> <tr><td data-bbox="300 857 826 891">14. Community Event/Training</td><td data-bbox="826 857 1027 891">1</td><td data-bbox="1027 857 1235 891">2</td></tr> <tr><td data-bbox="300 891 826 925">15. Bill Board/Sign Board</td><td data-bbox="826 891 1027 925">1</td><td data-bbox="1027 891 1235 925">2</td></tr> <tr><td data-bbox="300 925 826 958">16. Comic Book</td><td data-bbox="826 925 1027 958">1</td><td data-bbox="1027 925 1235 958">2</td></tr> <tr><td data-bbox="300 958 826 992">17. Community Workers</td><td data-bbox="826 958 1027 992">1</td><td data-bbox="1027 958 1235 992">2</td></tr> <tr><td data-bbox="300 992 826 1025">96. Others (Specify)</td><td data-bbox="826 992 1027 1025"></td><td data-bbox="1027 992 1235 1025"></td></tr> </tbody> </table>	Sources	Yes	No	1. Radio	1	2	2. Television	1	2	3. Pharmacy	1	2	4. Health Post	1	2	5. Health Center	1	2	6. Hospital	1	2	7. Health Workers/Volunteers	1	2	8. Friends/Neighbors	1	2	9. NGOs	1	2	10. Newspapers/Posters	1	2	11. Video Van	1	2	12. Street Drama	1	2	13. Cinema Hall	1	2	14. Community Event/Training	1	2	15. Bill Board/Sign Board	1	2	16. Comic Book	1	2	17. Community Workers	1	2	96. Others (Specify)				
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1002	<p>What message did you get from the advertisement? <b>(Below are the multiple possible answers that the respondent may answer. DO NOT READ the possible answers. Please circle to 1 if they mention and circle to 2 if they do not mention)</b></p>	<p>Condoms should be used to prevent HIV/AIDS .....1  Condoms should be used to Prevent STI.....2  Condoms should be used for family planning, .....3  Condom should be used together with other FP methods.....4  Others (Specify) _____96</p>																																																										
	Network size																																																											

1003	Generally, where do you gather to inject drug? <b>(Type of injecting site and location too)</b>	Forest/bushes.....1 Open area/Planning area...2 Pond/river bank/slum area...3 Bus park.....4 School/campus/ground.....5 Camp/company.....6 Tunnel.....7 Pool house/swimming pool...8 Garage/junkyard.....9 Public toilet.....10 Hotel/lodge/restaurant.....11 Temple area.....12 Vacant house.....13 Shop.....14 Near Airport .....15 Tole/Lane.....16 Lonely place.....17 Others(specify).....96	
1004	How many IDUs do you know who also know you well? <b>(Knowing someone is defined as being able to contact them, and having had contact with them in the past 12 months )</b>	Total _____ Don't know.....98 No response .....99	1008 
1005.1	Among them, how many are male and female?	Male _____ Female _____ Don't know.....98 No response.....99	
1006	Among those persons, please try to estimate the number of people by range of age:	Less than 15 years old . 15-19 years old ..... 20-24 years old ..... 25-29 years old ..... 30-40 years old ..... > 40 years old .....	
1007	Again, among those, please try to estimate the number of people by religion:	Hindu ..... Buddhist..... Muslim..... Christian ..... Others (Specify) _____	



1008	How is the person who gave you the coupon related to you?  <b>(Do not ask to the Seed)</b>	A close friend ..... 1 A friend ..... 2 Your sexual partner ..... 3 A relative ..... 4 A stranger ..... 5 Others (Specify) _____ 96 Don't know ..... 98 No response ..... 99	
1009	In the past one year how many IDUs that you knew have died?	Numbers .....  Don't know ..... 98	<input type="text"/>

### 11.0 KNOWLEDGE AND PARTICIPATION IN STI AND HIV/AIDS PROGRAMS

Q. N.	Questions	Coding Categories	Skip to
1101	Have you met or discussed or interacted with Peer Educators (PE) or Outreach Educators (OE) or Community Mobilizers (CM) or Community Educators (CE) in the last 12 months?	Yes ..... 1 No ..... 2 No response ..... 99	1105 →
1102	What activities did these PE or OEs involve you in when you met them?  <b>(Multiple answers. DO NOT READ the possible answers)</b>	Discussion on how HIV/AIDS is/isn't transmitted ..... 1 Discussion on how STI is/isn't transmitted ..... 2 Discussion on safe injecting behavior ..... 3 Regular/non-regular use of condom ..... 4 Demonstration on using condom correctly ..... 5 Others (Specify) _____ 96	
1103	Do you know which organization were they from?  <b>(Multiple answers. DO NOT READ the possible answers)</b>	NGOs (Specify) _____ Other (specify) _____ Don't know _____	
1104	How many times have these PE, OE, CM and/or CE met you in the last 12 months?	Once ..... 1 2-3 times ..... 2 4-6 times ..... 3 7-12 times ..... 4 More than 12 times ..... 5  96	
1105	Have you visited or been to any out reach center(DIC, IC or CC) in the last 12 months? Drop-In Center (DIC), Information Center (IC), Counseling Center (CC)	Yes ..... 1 No ..... 2	→ 1109

1106	What did you do when you went to the out reach center (DIC, IC or CC) in the 12 last months?  (Multiple answers. DO NOT READ the possible answers)	Went to collect condoms.....1 Went to learn the correct way of using condom... Went to learn about the safe injecting behavior.....2 Went to watch film on HIV/AIDS.....3 Participated in discussion on HIV transmission...4 Went to have new syringe.....5 Other (Specify).....6 96	
1107	Do you know which organizations run those out reach center (DIC, IC or CC)?  (Multiple answers. DO NOT READ the possible answers)	NGOs (Specify)..... Other (specify).....96 Don't know.....98	
1108	How many times have you visited out reach centers (DIC, IC or CC) in the last 12 months?	Once.....1 2-3 times.....2 4-6 times.....3 7-12 times.....4 More than 12 times.....5	
1109	Have you visited any STI clinic in the last 12 months?	Yes.....1 No.....2	→ 1113
1110	What did you do when you visited such STI clinic?  (Multiple answers. DO NOT READ the possible answers given below)	Blood tested for STI.....1 Physical examination conducted for STI identification.....2 Discussion on how STI is/isn't transmitted.....3 Discussion on safe injecting behavior.....4 Regular/non-regular use of Condom.....5 Took a friend with me.....6 Other (Specify).....96	
1111	Do you know which organizations run those STI clinics?  (Multiple answers. DO NOT READ the possible answers)	Government sector (specify)..... NGOs (Specify)..... Other (specify).....	
1112	How many times have you visited STI clinic in the last 12 months?	Once.....1 2-3 times.....2 4-6 times.....3 7-12 times.....4 More than 12 times.....5	

1113	Have you visited any Health Counseling and Testing (HTC) centers in the last 12 months?	Yes ..... 1 No ..... 2	1116.1
1114	What did you do when you visited such HTC center/s?  (Multiple answers. DO NOT READ the possible answers)	Received pre-HIV/AIDS test counseling ..... 1 Blood sample taken for HIV/AIDS test ..... 2 Received post HIV/AIDS test counseling ..... 3 Received information on safe injecting behavior ..... 4 Received HIV/AIDS test result ..... 5 Received counseling on using condom correctly in each sexual intercourse ..... 6 Received information on HIV/AIDS window period ..... 7 Took a friend with me ..... 8 Other (Specify) ..... 96	
1115	Do you know which organizations run those HTC centers?  (Multiple answers. DO NOT READ the possible answers)	Government sector (specify) _____ NGOs (Specify) _____ Other (specify) _____	
1116	For how many times have you visited HTC center in the last 12 months?	Once ..... 1 2-3 times ..... 2 4-6 times ..... 3 7-12 times ..... 4 More than 12 times ..... 96	
1116.1	Have you ever received any Opioid substitution Therapy (OST)?	Yes ..... 1 No ..... 2 Don't Know ..... 98 No response ..... 99 5	1117
1116.2	Have you received any Opioid substitution Therapy (OST) in the past 12 months?	Yes ..... 1 No ..... 2 Don't Know ..... 98 No response ..... 99	1117
1116.3	Which service have you received?	Methadone ..... 1 Bupenorphine ..... 2	
1116.4	Are you still in therapy?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	1117
1116.5	What amount have you been receiving per day?	Methadone .....ml Or Buprenorphine ..... mg.	
1116.6	How long have you been in this therapy?	..... Years ..... Months	

1117	Have you ever heard about prevention of mother to child transmission services (PMTCT) for pregnant women?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1118
1117.1	Do you know from where pregnant women can get PMTCT services?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1118
1117.2	If Yes, please specify	Government sector (specify) _____ NGOs (Specify) _____ Other (specify) _____	
1118	Have you ever heard about anti-retroviral therapy (ART) services for HIV positive individuals?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1119
1118.1	Do you know from where HIV positive individuals can get ART services?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1119
1118.2	If Yes, please specify	Government sector (specify) _____ NGOs (Specify) _____ Other (specify) _____	
1119	Have you heard of viral load testing services for HIV positive individuals?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1120
1119.1	Do you know from where HIV positive individuals can get viral load testing services?	Yes.....1 No.....2 Don't know.....98 No response.....99	} 1120
1119.2	If Yes, please specify	Government sector (specify) _____ NGOs (Specify) _____ Other (specify) _____	
1120	Have you heard of any Community Home Based Care (CHBC) services that are provided for HIV positive people?	Yes.....1 No.....2	

## 12.0 STIGMA AND DISCRIMINATION

Q. N.	Questions	Coding Categories	Skip
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1201	If a male relative of yours gets HIV, would you be willing to take care of him in your household?	Yes.....1 No.....2 Don't know.....98	
1202	If a female relative of yours gets HIV, would you be willing to take care of her in your household?	Yes.....1 No.....2 Don't know.....98	
1203	If a member of your family gets HIV, would you want to keep it a secret?	Yes.....1 No.....2 Don't know.....98	
1204	If you knew a shopkeeper or food seller had HIV, would you buy food from him/her?	Yes.....1 No.....2 No response.....99 .....99	
1205	Do you think a person with HIV should get the same, more or less health care than someone with any other chronic disease?	Same.....1 More.....2 Less.....3 Don't know.....98 No response.....99	
1206	If one of your colleagues has HIV but he/she is not very sick, Do you think he/she should be allowed to continue working?	Yes.....1 No.....2 Don't know.....98 No response.....99	
1207			

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## 12.5 Annex – 5: Clinical/Lab Checklist

CONFIDENTIAL

### INTEGRATED BIO-BEHAVIORAL SURVEY (IBBS) AMONG INJECTING DRUG USERS IN SELECTED SITES OF NEPAL

#### Clinical/Lab Checklist

Respondent ID Number: \_\_\_\_\_

Date: 2072/\_\_\_/\_\_\_

Name of Clinician: \_\_\_\_\_

Name of Lab Technician: \_\_\_\_\_

(A) Clinical TEST	(B) Specimen collection	<u>Yes</u>	<u>No</u>
Weight : _____ Kg	Pre-test counseled	1	2
: _____ mm of			
B.P. Hg	Blood Collected for		
	HIV & Syphilis	1	2
Pulse : _____	Date & place for		
	post-test results given	1	2
Temperature : _____ ° F	Condom given	1	2
	IEC materials given	1	2

#### 1.0 Syndromic Treatment Information

101. Have you experienced genital discharge/burning urination/swelling and tenderness of testis or epididymis in the past one month?

1. Yes                      2. No

**[If yes, give urethral discharge/scrotal swelling syndrome treatment]**

102. Have you had genital ulcer/sore blister in the past one month?

1. Yes                      2. No

**[If yes, give genital ulcer syndrome treatment and time for follow-up]**

103. Have you had a tender or non-tender/solid or fluctuant swelling in the groin area in the past one month?

1. Yes                      2. No

**[If yes, give inguinal swelling (bubo) syndrome treatment and time for follow-up]**

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## 12.6 Annex – 6: Oral Informed Consent Form for Male Injecting Drugs Users

### Oral Informed Consent

#### **Integrated Biological and Behavioral Surveillance Survey among People Who Inject Drugs**

Namaste! My name is ....., I am here from .....to collect data for a research survey. This survey is being conducted by National Centre for AIDS and STD Control (NCASC), Ministry of Health and Population. During this interview, I will ask you some personal questions that will be about sexual behavior, use and promotion of condoms, STI/HIV AND AIDS and use of drugs and needle/syringes. You may feel uncomfortable to answer some questions relating to your personal behavior, but it is important that you provide correct information. We will also take about 5-7 ml blood sample for testing HIV and syphilis infection. If it is determined that you have any STI symptoms, we will provide treatment free of charge. We also will treat for syphilis on the basis of RPR test on the same day of interview. The information given by you will be strictly treated as confidential. Nobody will know whatever we talk about because your name will not be mentioned on this form and collected samples. All the mentioned information will be used only for the survey purpose. This survey will take about an hour.

It depends on your wish to participate in this survey or not. You do not have to answer those questions that you do not want to answer, and you may end this interview at any time you want to. But I hope you will participate in this survey and make it a success by providing correct answers to all the questions.

Would you be willing to participate?

1. Yes            2. No

Signature of the interviewer: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ /2072

## 12.7 Annex – 7: Tables

**Annex Table 7. 1: Reasons for Not Injected Drugs on the Previous Day**

	N	%
<b>Reasons for not injecting yesterday</b>		
Lack of money	157	51.6
Reduce the use of drugs	56	18.4
Unavailable of drugs	35	11.5
Busy in housework	10	3.3
Illness	7	2.3
Smoke Ganja	7	2.3
Took nitrosun orally	6	2.0
Used another medicine	5	1.6
Drank alcohol	4	1.3
Consume brown sugar	2	.7
Injected last day (day before yesterday)	1	.3
Others *	14	4.6
<b>Total</b>	<b>304</b>	<b>100.0</b>

*Note: Out of 345 PWID 41 were found not injected drugs on the previous day*

*\* Others includes; not a daily user, at rehab, bit sickness, was in custody, treatment process, used oral drug.*

**Annex Table 7. 2: Part of the Body for Injecting Drugs**

	N	%
<b>Typical Injection Points</b>		
Femur	205	54.2
Arm	77	25.2
Wrist	57	18.7
Thai	2	0.9
Calf	2	0.3
Finger	1	0.3
Back side of palm	1	0.3
<b>Total</b>	<b>345</b>	<b>100.0</b>

**Annex Table 7. 3: Gathering Place to Inject Drugs**

	N	%
<b>Gathering Places of PWID to Inject Drugs</b>		
Own/friend's house/room/toilet	118	34.2
Forest/bushes	112	32.5
Lonely place	31	9.0
River side/pond/ slum area	25	7.2
Hotel/ Lodge/ restaurant	21	6.1
Open area/ Planning area	13	3.8
Vacant house	9	2.6
Chok/galli	6	1.7



Bus park	5	1.4
School/campus/ground	2	.6
Garage/ junkyard	1	.3
Pool house/ swimming pool	1	.3
Camp/Company	1	.3
<b>Total</b>	<b>345</b>	<b>100.0</b>

**Annex Table 7. 4: Combination of Different Drugs Injected**

<b>Combination of Drugs</b>	<b>N</b>
Phenergan, Diazepam, Norphin	92
Phenergan, Diazepam,	7
Diazepam, Norphin	5
Diazepam, Stargan, Norphin	3
Norphin, Diazepam, Phenergan, Avil	3
trama, opidol	3
Avil, Phenergan, Diazepam,	2
Diazepam, Phenergan, Norphin, Stargan	2
Nitrosum,Nitrovate	2
Phenergan, Diazepam, Avil,Norphin, Stagun	2
ama, Spice, Coptab,Stagun	1
CBZ, Codine	1
Colonajpham,Notten,	1
diazepam, phenargan, norfin, avil, froxygun, nitrovate,	1
Diazepam, Phenergan, Lufigesic, Stragan	1
Diazepam, Phenergan, Statgan	1
Lori, Nofen, Spash	1
lori, trama	1
lori, trama,stargan, avil	1
Lori, Tramadol, Diazepam, Norphin, Phenergan	1
luri, mumi, coptrap, opidol	1
Norphin,Phenergan	1
Obidol, Cuftab, Bhomin	1
Opidol, Coliban, Spaspen, Trama	1
Opidol, Cronex	1
opidol, ctz, spash, tramadol, alfa	1
opidol, mumi, diazepam, norfin	1
opidol, spash pen, kapadi, brogadine	1
opidol, spash, cough D, phenargan, diazepam, norfin	1
Opidol,SpaSH, Caugh	1
Opidol,Tramma, Cough Tab, Space	1
opidol. Pen	1
Ovidol, Tremadol, luri, Stargan	1
phenargan, diazepam,norfin, LG	1
phenargan, diazepam,norfin, stargan, trama, spash, cough D	1

Phenergan, Diazepam, CTZ, Spash,Opidol,Tramavonin	1
Phenergan, Diazepam, Norphin, Aligic	1
Spase, Norphin, Diazepam, Phenergan	1
Spase, Opidol, Coldnight	1
Spase, Stragon,Tramma	1
Spase, Stragon,Tramma, Cough tab	1
trama, cough pad, cough D	1
trama, cough Tab, opidol	1
trama, opidol, spash	1
Tramma, Stagan, Triadol	1
Tramma,Opidol, Spash, Bomin	1
Trammadio, Spaset,Stragan	1
xycl, tab	1
Lori, Spash, Phoxygin, Norphin, Diazepam, Phenergan	

**Annex Table 7. 5: Frequency of Different Combination Drugs Injected**

<b>Frequently used combination</b>	
Phenergan, Diazepam, Norphin	234
diazepam, norfin	28
Phenergan, Diazepam,	18
Norphin, Phenergan	11
Diazepam, Stragan, Norphin	10
Diazepam, Stargan, Phenergan, Norphin	4
Avil, Diazepam, Phenergan	3
Diazepam, Phenergan, Avil, Norphin	3
Norphin, Phenergan, Diazepam, Stargon,avil	3
avil, norfin, diazepam	2
Avil,Diazepam,	2
Norphin, Phenergan, Diazepam, Stargon, algic	2
stargan, phenargan, norfin	2
brufenorfin, diazepam	1
CBZ, Codine	1
Codine,Diazepam	1
Codine,xycl	1
Diazepam, Phenergan, Lufigesic, Stragan	1
Koftab,Tramodol,Opidal ,	1
Nitrosum,Nitrovate	1
norfin, diazepam, algic	1
norfin, simon, stargan	1
norfin, stargan	1
phenargan, diazepam,norfin, brofin	1
Phenergan, Diazepam, Lupigiesic	1
Phenergan, Norphin, Avil	1
Stargan, Tidigesic, Diazepam	1
tidigesic, norfin, avil	1

Tidigesic, Norphin, Diazepam	1
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**Annex Table 7. 6: Reasons for Not Using Condom in the Last Sex with Different Sex Partners**

	N	%
<b>Reason of not using condom with regular female sex partner during last sex *</b>		
Didn't think it was necessary	52	60.5
Used other contraceptive	18	20.9
Don't like them	8	9.3
Not available	5	5.8
Didn't think of it	3	3.5
Partner objected	1	1.2
Others	9	10.5
<b>N</b>	<b>86</b>	<b>100.0</b>
<b>Reason of not using condom with female sex worker during last sex *</b>		
Don't like them	9	42.9
Not available	6	28.6
Didn't think of it	4	19.0
Others	5	23.8
<b>N</b>	<b>21</b>	<b>100.0</b>
<b>Reason of not using condom with non-regular female sex partner during last sex *</b>		
Didn't think it was necessary	50	54.3
Don't like them	27	29.3
Not available	14	15.2
Didn't think of it	7	7.6
Partner objected	3	3.3
Used other contraceptive	2	2.2
Others	7	7.6
<b>N</b>	<b>92</b>	<b>100.0</b>

\* Percentage total may add up to 100 because of multiple responses

**Annex Table 7. 7: Had Sex in Exchange for Money or Drugs**

	N=345	%
<b>Ever had sex for money or goods</b>		
Yes	2	.6
No	343	99.4
<b>Had sex for money or goods before started injecting drugs</b>		
Yes	1	.3
No	344	99.7
<b>Had sex for money or goods after started injecting drugs</b>		
Yes	2	.6
No	343	99.4

<b>Had sex for money or goods in the past one year</b>		
Yes	2	.6
No	343	99.4
<b>Frequency of sex with such partners in the past one year</b>		
None	343	99.4
1	1	.3
4	1	.3
<b>Number of such sex partners in the past one year</b>		
None	343	99.4
1	1	.3
4	1	.3

**Annex Table 7. 8: Distribution of Respondents Reached by OE/PE by Use of Other Services**

	<b>N=345</b>	<b>%</b>
<b>DIC visit</b>		
Yes	98	28.4
No	247	71.6
<b>HCT visit</b>		
Yes	59	17.1
No	286	82.9
<b>STI clinic visit</b>		
Yes	18	5.2
No	327	94.8