

**Laos (2012): Second Round HIV/STI Prevalence and
Behavioral
Tracking Survey among Male-to-Female Transgender in
Lao PDR**

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BCC	Behavior Change Communication
CCML	Centre Christophe Merieux Lao
CEM	Coarsened Exact Matching
CHAS	Center for HIV/AIDS and STIs
DiC	Drop-in Center
ELISA	Enzyme-Linked Immunosorbent Assay
HIV	Human Immunodeficiency Virus
IPC	Interpersonal Communication
MtF TG	Male to Female Transgender
OR	Odds Ratio
PCR	Polymerase Chain Reaction
PSI	Population Services International
RDS	Respondent Driven Sampling
STI	Sexually Transmitted Infection
TRaC	Tracking Results Continuously
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

With support from USAID, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, and Youth AIDS, PSI Laos launched the New Friends Drop in Center (DiC) in 2007 to provide transgender individuals with quality health products and services.

This HIV/STI prevalence and behavioral tracking survey examines HIV and STI prevalence among 417 male-to-female transgenders (MtF TG) in two provinces in Laos: Vientiane Capital and Savannakhet recruited using respondent driven sampling. All respondents provided a blood sample to test for HIV and a self-administered anal swab to test for Gonorrhea and Chlamydia. All anal swab samples were conducted using Polymerase Chain Reaction (PCR). All specimens that tested positive were re-tested using Unigold. If results were different, ELISA was conducted to provide final confirmation of results.

Results from the 2012 survey are compared to an earlier survey conducted in 2010. Findings are presented on prevalence of HIV, Chlamydia, Gonorrhea and co-infection. Findings are also presented on consistent use of condoms and water-based lubricants, and HIV and STI testing. The survey also examines whether Opportunity, Ability, and Motivation (OAM) factors influence behavioral outcomes and how exposure to the New Friends Drop in Center (DiC)/Peer Interpersonal Communication (IPC) affects these outcomes.

Key findings

- 1) There was no significant change in HIV prevalence between 2010 and 2012. 4.2% of respondents tested positive for HIV in 2010 and 3.1% in 2012.
- 2) There was no significant change in Chlamydia prevalence between 2010 (33.5%) and 2012 (38.1%). There was a significant increase in the percentage testing positive for Gonorrhea (11.7% in 2010 to 20.7% in 2012), and Chlamydia/Gonorrhea co-infection (6.4% in 2010 to 11.3% in 2012).
- 3) Selling sex in the past 12 months and living in Vientiane Capital increased the odds of testing positive for HIV. Respondents living or working in Vientiane Capital showed a higher prevalence of Chlamydia than respondents from Savannakhet (45.8%: 23.7%; p-value<0.001). Respondents from Vientiane Capital were more likely to test positive for Gonorrhea than respondents in Savannakhet. 26.1% of respondents from Vientiane Capital tested positive for Gonorrhea, compared to only 5.9% of respondents from Savannakhet (p-value<0.001).
- 4) There was a significant increase in HIV testing and STI screening in the past 12 months. Those testing for HIV increased from 37% in 2010 to 50.9% in 2012 (p-value <0.001). Those screening for STIs in the past 12 months, increased from 28.1% in 2010 to 34.5% in 2012 (p-value <0.05).

- 5) Consistent joint use of a condom and water-based lubricant with regular partners in the last month increased significantly from 42.4% in 2010 to 58.4% in 2012 (p-value<0.05).
- 6) Consistent joint use of a condom and water-based lubricant with casual partners in the last month increased significantly from 47.9% in 2010 to 59.8% in 2012 (p-value<0.05).
- 7) There was no significant change in consistent use of condom and water-based lubricant between with commercial partners between 2010 and 2012, either where the respondent was the paying partner, or where the partner was receiving money for sex.
- 8) High exposure to the New Friends DiC/Peer IPC was found. Almost three-quarters (71%) of respondents had been exposed to an IPC in the last year or had visited a Drop-in Center (DiC) in the last 3 months.
- 9) Exposure to the New Friends DiC/Peer IPC was found to be associated with higher rates HIV testing and STI screening. Over half (65%) of respondents who were exposed to the New Friends DiC/Peer IPC reported having had an HIV test in the past 12 months, compared with 14% of respondents who were not exposed to New Friends DiC/Peer IPC (p-value<0.001). And 44.9% of respondents exposed to the New Friends DiC/Peer IPC reported having STI screening in the past 12 months, compared with 5% of non-exposed respondents (p-value<0.001).

BACKGROUND

PSI is a nonprofit organization based in Washington, D.C. that harnesses the vitality of the private sector to address the health problems of low-income and vulnerable populations in more than 60 developing countries. With programs in malaria, reproductive health, child survival, HIV and tuberculosis, PSI promotes products, services, and healthy behaviors that enable low-income and vulnerable people to lead healthier lives. Products and services are sold at subsidized prices rather than given away for free in order to motivate commercial sector involvement. In collaboration with governmental programs, and with a focus on malaria prevention, HIV prevention, and family planning, PSI has been supporting the Lao people since 1999.

PSI Laos' New Friends transgender HIV/STI reduction program is funded through a three-year (2007-2010) USAID grant, a five-year (2007-2012) Global Fund to Fight AIDS, Tuberculosis, and Malaria grant, and a two-year (2008-2010) Youth AIDS/PSI grant. The New Friends Drop in Center (DiC) operates in two locations in Laos, Vientiane Capital and Savannakhet, providing Male-to-Female transgenders with access to quality health services, products, and information.

PSI Laos operates New Friends (*Peun Mai*) DiCs to provide a safe space where at-risk MtF TG and their partners can access quality sexual health services. New Friends peer outreach teams conduct daily visits to hot spots providing HIV and STI prevention products, information and referrals to testing and treatment. In addition to these services, PSI Laos created HIV/STI prevention products (i.e. condoms with sachets of flavored lubricant and STI treatments) specifically tailored to this target group. The program promotes consistent condom and water-based lubricant use for anal sex with all sexual partners, with a special focus on sex acts between regular partners (i.e. boyfriend) and commercial partners.

RESEARCH OBJECTIVES

The key objectives of the study were:

- To compare the prevalence of HIV and anal Gonorrhoea and Chlamydia among Lao MtF TG between the two rounds of the study: 2010 and 2012;
- To track changes between 2010 and 2012 in the consistent joint use of a condom and water-based lubricant in the past 1 month with different partner types;
- To track changes between 2010 and 2012 in the use of HIV testing and STI testing services;
- To track changes between 2010 and 2012 in factors associated with condom use and HIV testing

- To identify factors associated with consistent joint use of condoms and water-based lubricants for anal sex with regular partners and casual partners in the last month in 2012;
- To identify factors associated with a positive test for HIV and STIs in 2012; and
- To identify associations between New Friends DiC/Peer IPC exposure and HIV/STI testing.

METHODOLOGY

Study sites

The HIV/STI prevalence and behavioral tracking survey among Male-to-Female Transgender (MtF TG) was conducted in Vientiane Capital and Savannakhet Province to monitor disease and behavior change among this at-risk population.

Inclusion criteria

Selection criteria for survey participants were as follows:

1. Be a MtF TG. MtF TGs are individuals born male but identify a female. This includes both pre and post-gender re-assignment surgery individuals, MtF TG who lives and dresses as females, and MtF TG who live and dress as males.
2. Be a Lao citizen aged 15 to 35 years.
3. Have engaged in anal sexual intercourse in the past 6 months.
4. Be a resident of and/or working in Vientiane Capital or Savannakhet for at least 1 month.
5. Participate in three stages of this survey, including a behavioral questionnaire, an HIV test, and anal STI screening.
6. Provide verbal consent and voluntary agreement to participate.
7. Have an authentic and valid respondent driven sampling (RDS) coupon.

Sample size and sampling technique

The estimated sample size required for the 2012 study was 420 respondents. This was calculated through estimating the level of change to be observed in key indicators between the 2010 and 2012 surveys.

Survey participants were recruited using respondent driven sampling (RDS). Five “seed” participants were initially selected in Vientiane Capital, and three seeds in Savannakhet. Each seed was given 3 coupons and asked to use these coupons to recruit further participants from their social network who met the inclusion criteria.

All participants were screened to ensure that they met the study inclusion criteria. Participants were asked to go to a New Friends DiC for the interview and HIV/STI tests.

Each participant received US\$ 6.25 (equivalent to 50,000 Lao kip) to cover their transportation cost for participation in the study. Participating included answering a structured questionnaire and providing a blood sample for HIV testing and anal rectal sample for STI testing. Each participant received a further US\$ 2.50 (equivalent to 20,000 Lao kip) for each person that they subsequently recruited into the study.

In total, 420 participants were recruited into the study.

Laboratory Procedures

Following completion of the questionnaire, respondents were required to provide a blood sample to test for HIV and a self-administered anal swab to test for Gonorrhea and Chlamydia. All anal swab samples were conducted using Polymerase Chain Reaction (PCR), at the Centre Christophe Merieux Lao (CCML) laboratory in Vientiane Capital. Venous blood was drawn and tested with Determine HIV. All specimens that tested positive with Determine HIV were re-tested using Unigold. If different results presented, ELISA was conducted to provide final confirmation of results. All blood samples were analyzed at the Center of Laboratory and Epidemiology (CLE) in Vientiane Capital.

Training

Center for HIV/AIDS and STIs (CHAS) staff provided comprehensive four-day training sessions for all survey team members prior to data collection. All survey staff members were trained in the survey goals and objectives. They were also informed about research ethics, including the importance of protecting participant confidentiality and responding to any potential ethical breaches. Survey staff was also sensitized to HIV/AIDS issues and working with vulnerable populations.

PSI Laos staff supervised data collection. Interviewers were responsible for administering and witnessing informed consent and collecting information from participants using the approved structured questionnaire.

Analysis

UNIVARIATE analyses were applied to calculate the change over time between 2010 and 2012 for HIV/STI prevalence, condom use, HIV testing and STI screening. Socio-demographic variables were used as control variables, including the province where respondents were recruited from, education level, age, and income. Sex behaviors were also used as controls, including the total number of sex partners, and the types of partner that respondents reported having had sex with. Descriptive data analyses were used to describe the population characteristics, prevalence of HIV, gonorrhea,

chlamydia, and HIV/STI related risk behaviors. The sample is self-weighting, based on estimates of the population of transgender women in Vientiane and Savannakhet. All analyses were performed using SPSS software version 20.

Where findings from 2010 and 2012 are compared the estimates are adjusted for differences in the composition of the sample in those two surveys. This adjustment means that some of the 2010 estimates presented in this report may sometimes be slightly different to those reported in the 2010 report, when analysis was conducted with a single round of data.

Initially, a total sample size of 450 and 420 were established for the baseline and follow-up studies respectively. However, 2 cases from the 2010 round of data collection, and 3 cases from 2012, were removed from the analysis because of doubts over the validity of the data collected for those cases. In total, 448 cases and 417 cases were used for analysis.

Ethical Approval

The contents of study design and questionnaire were reviewed and approved by the Lao National Ethics Committee for Health Research before the study was carried out.

Partner Types

Behavioral indicators in this survey monitored sex-related risk behaviors with four different partner types. Partner types were defined as follows:

- **Regular Partners** include a spouse, boyfriend, or a partner to whom the MtF TG is emotionally committed; there is no payment required to have sex with this partner.
- **Commercial partners (MtF TG pays partner)** include partners to whom the MtF TG is not emotionally committed; the MtF TG must pay the partner to have sex.
- **Commercial partners (partner pays MtF TG)** include clients of the MtF TG to whom the MtF TG is not emotionally committed; MtF TG receives payment from this partner to have sex.
- **Casual partners** include partners to whom MtF TG are not emotionally committed, but payment for sex does not occur.

FINDINGS

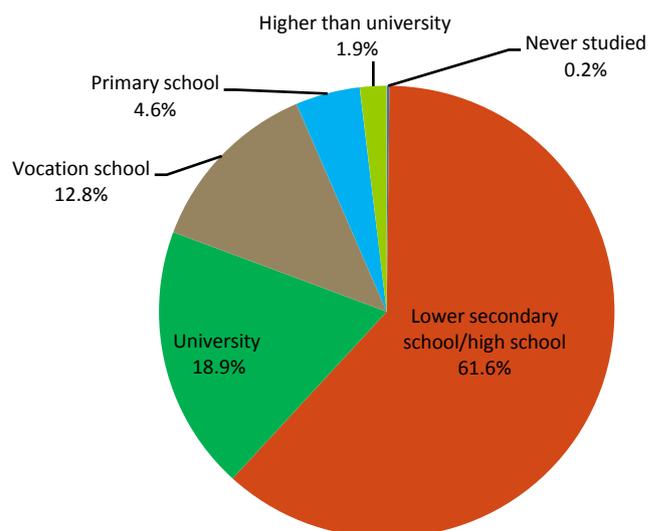
Profile of respondents

Out of 417 respondents 59% were between the ages of 15 and 22 and 41% were between 23 and 35 years old. The mean age was 22 years old.

The average reported monthly income was 1,038,000 Kip (approximately 129 USD) and average monthly expenses were 687,000Kip (approximately 85 USD).

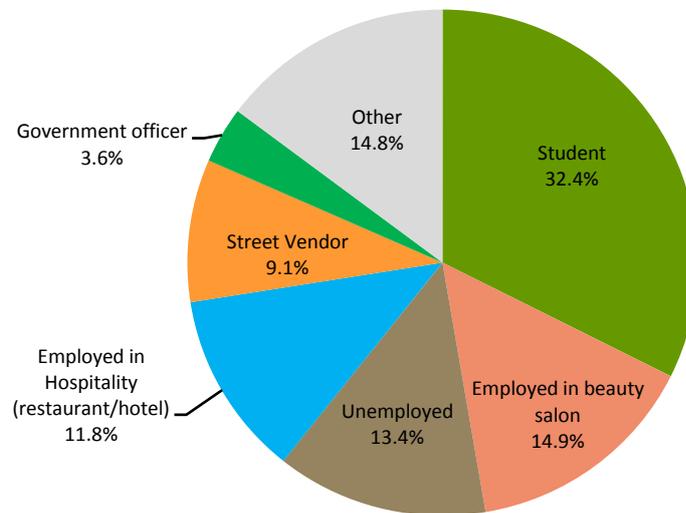
Almost all respondents (99.8%) had received a formal education of some kind. Over half of respondents attained a secondary or high school education (61.6%). 18.9% reported completing university. 12.8% completed vocational school. 4.6% completed primary school and 1.9% had studies beyond university.(Figure 1)

Figure 1: Education Levels of Respondents



Almost one-third of respondents were students (32.4%); 14.9% worked in a beauty salon; 13.4% of respondents were unemployed; 11.8% were employed in the hospitality industry; 9.1% were street vendors; and 3.6% were government officers. (Figure 2)

Figure 2: Occupations of Respondents (N=417)



Multiple partnering and average number of sexual partners and sex acts in the last month

Just over a quarter (26.9%) of respondents reported having anal sex with a regular partner in the past 1 month. Among these respondents, the average number of sex acts in the past 1 month was 11. The average number of regular partners reported in the past year was 2.

Just 7.2% of MtF TGs reported having anal sex with a commercial partner in the past 1 month where they were the paying partner. The average number of sex acts was 8. The average number of commercial partners (MtF TG pays) that respondents had in the past year was 1.

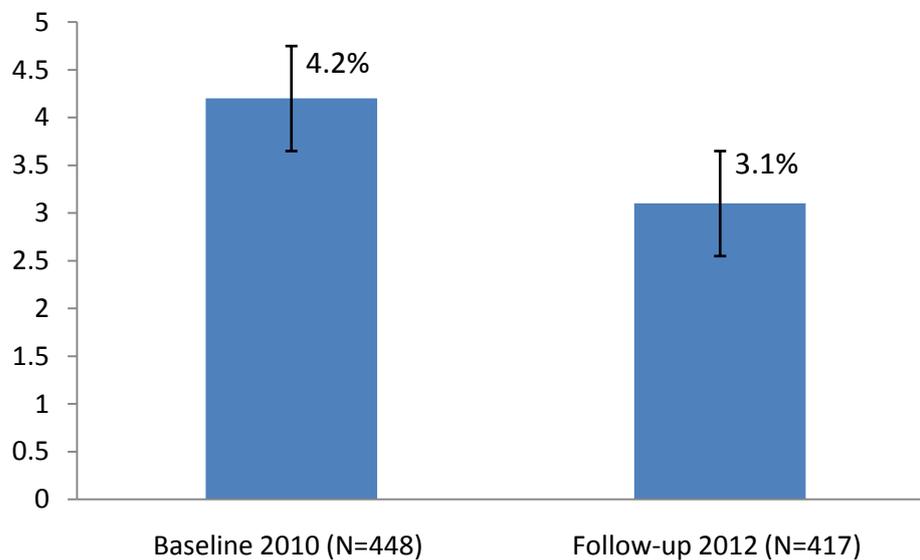
12% of MtF TGs reported having anal sex with a commercial partner in the last 1 month where their partner paid them. The average number of sex acts was 10. The average number of commercial partners (partner pays) that respondents had in the past year was 5.

39.6% of respondents reported having anal sex with a casual partner in the last 1 month. The average number of sex acts was 9. The average number of casual partners that respondents had in the past year was 16.

HIV/STI prevalence, condom and water-based lubricant use and HIV testing/STI screening: 2010 and 2012

Positive test results for HIV, Chlamydia and Gonorrhoea in 2010 and 2012 were compared between the 2010 baseline and 2012 follow-up survey. There was no significant change in the HIV prevalence between 2010 (4.2%) and 2012 (3.1%). There was no significant change in Chlamydia prevalence between 2010 (33.5%) and 2012 (38.1%). There was a significant increase in Gonorrhoea prevalence, from 11.7% in 2010 to 20.7% in 2012 (p -value <0.001). There was a significant increase in Chlamydia and Gonorrhoea co-infection from 6.4% in 2010 to 11.3% in 2012 (p -value <0.05). (Figure 3 and Figure 4)

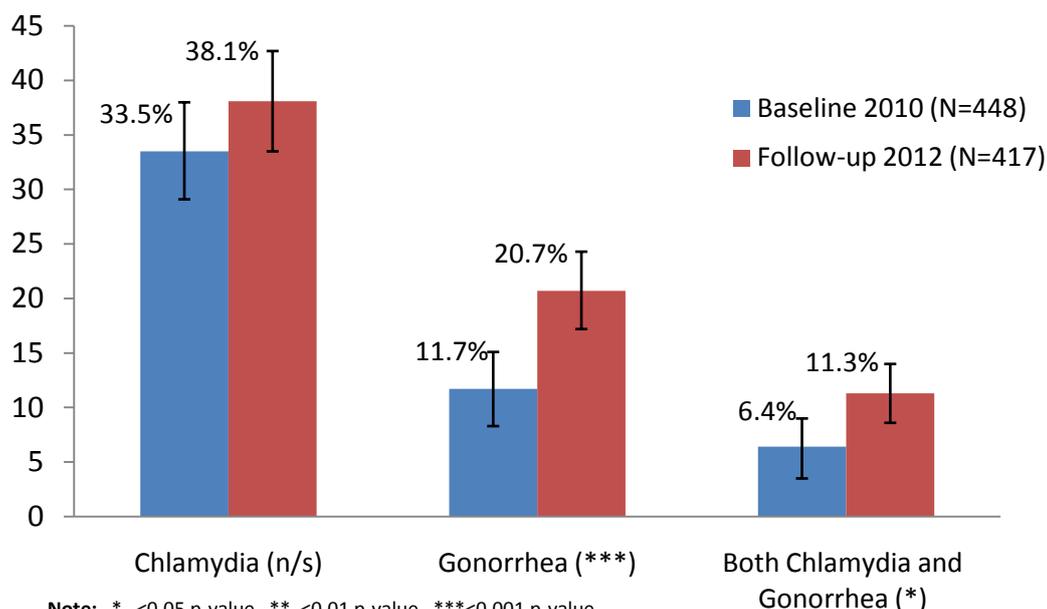
Figure 3: Positive tests for HIV, 2010 and 2012



Note: * <0.05 p-value ** <0.01 p-value *** <0.001 p-value

There was a non-significant decreased in HIV prevalence.

Figure 4: Positive tests Chlamydia and Gonorrhea, 2010 and 2012



Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value

1. There was a non-significant increased in Chlamydia prevalence.
2. There was a significant increased in Gonorrhea prevalence.
3. There was a significant increased in co-infection prevalence.

Self-reported consistent joint use of a condoms and water-based lubricant in last month by partner type

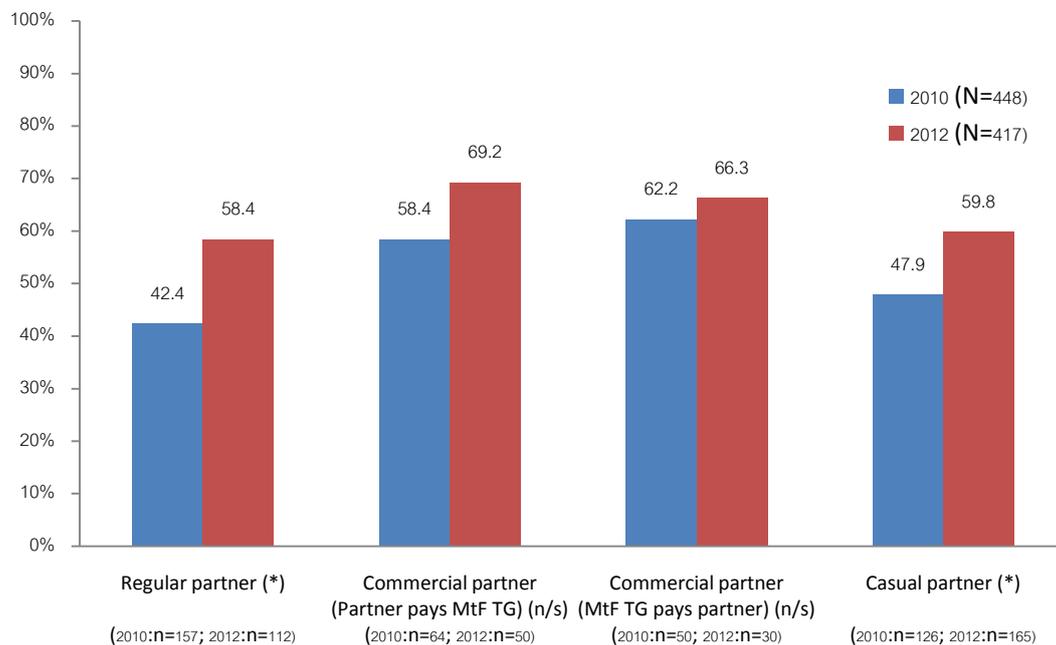
Reported consistent joint use of a condom and water-based lubricant with regular partners in the last month increased significantly from 42.4% in 2010 to 58.4% in 2012 (p-value<0.05).

There was no significant change in condom and water-based lubricant with commercial partners (where partner pays MtF TG) in the last month: 58.4% in 2010; 69.2% in 2012.

There was no significant change in consistent joint use of a condom and water-based lubricant with commercial partners (MtF TG pays partner) in the last month: 62.2% in 2010; 66.3% in 2012.

Reported consistent joint use of a condom and water-based lubricant with casual partners in the last month increased significantly from 47.9% in 2010 to 59.8% in 2012 (p-value<0.05). (Figure 5)

Figure 5: Reported consistent joint use of a condom and water-based lubricant in the past 1 month by partner type: 2010 and 2012



Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value

Condom and water-based lubricant use at last anal sex

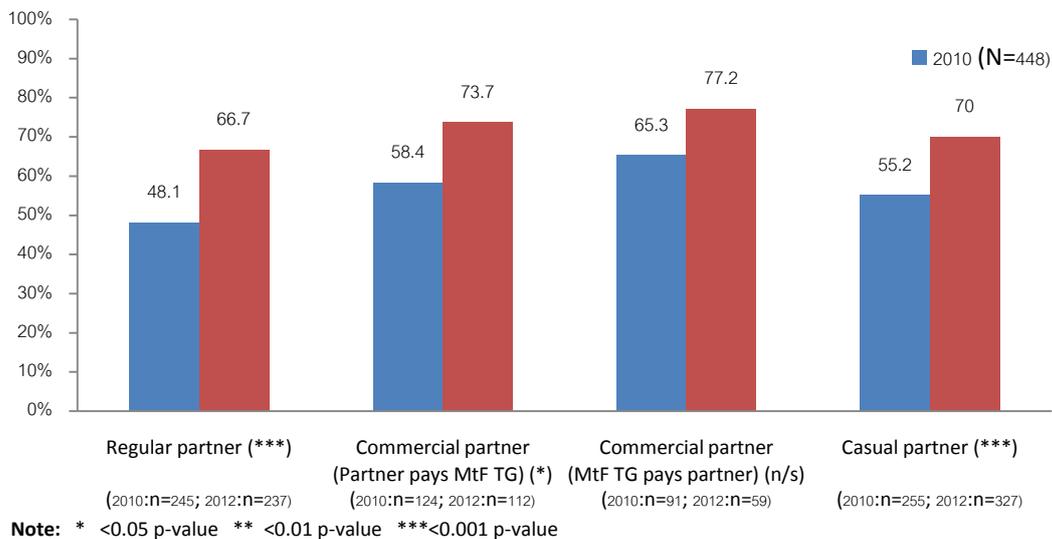
The proportion of respondents who reported joint use of a condom and water-based lubricant at last anal sex with regular partners increased significantly from 48.1% in 2010 to 66.7% in 2012 (p-value<0.001).

Reported joint use of a condom and water-based lubricant at last anal sex with commercial partners (partner pays MtF TG) increased significantly from 58.4% in 2010 to 73.7% in 2012 (p-value<0.01).

There was no significant change in reported joint use of a condom and water based lubricant at last anal sex with commercial partners (MtF TG pays partner): 65.3% in 2010; 77.2% in 2012.

Respondents reporting joint use of a condom and water based lubricant at last anal sex with casual partners increased significantly from 55.2% in 2010 to 70% in 2012 (p-value<0.001). (Figure 6)

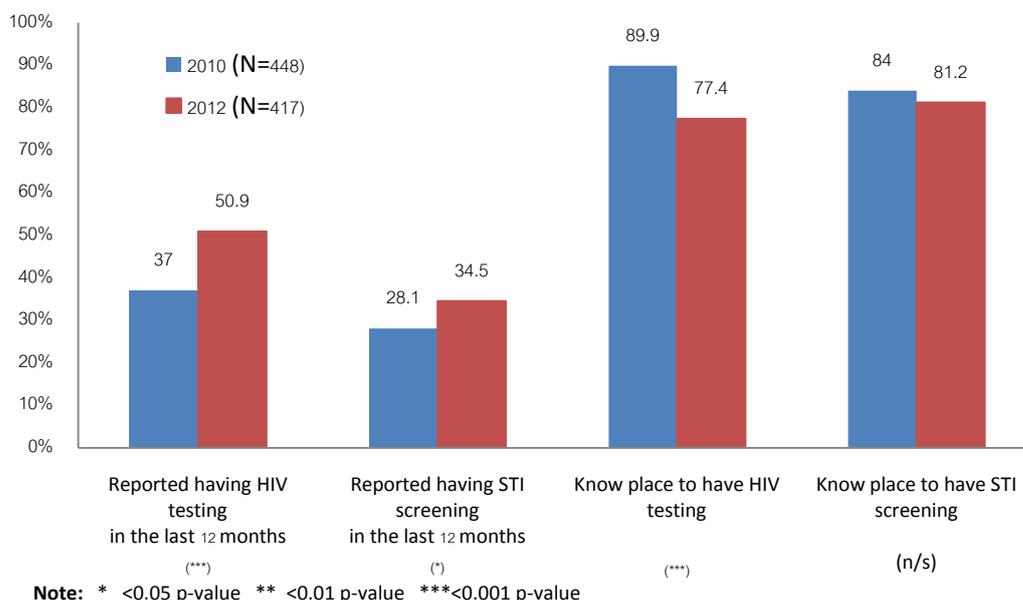
Figure 6: Reported joint use of a condom and water-based lubricant at last anal sex, by partner type: 2010 and 2012



HIV and STI testing

There was a significant increase in the percentage that reported having had an HIV test in the last 12 months, from 37% in 2010 to 50.9% in 2012 (p-value<0.001). There was also a significant increase in the percentage that reported having been screened for STIs in the past 12 months, from 28.1% in 2010 to 34.5% in 2012 (p-value<0.05). Respondent reported knowledge of a location for HIV testing decreased significantly from 89.9% in 2010 to 77.4% in 2012 (p-value<0.001). There was no significant change in knowledge of STI screening locations: 84% in 2010; 81.2% in 2012. (Figure 7)

Figure 7: HIV testing and STI screening behavior and knowledge of where to get tested for HIV and STIs, 2010 and 2012



Opportunity, Ability and Motivation factors related to condom use: 2010 and 2012

Availability

The proportion of respondents who perceived that Number One condom with lube sachet is available when needed has increased from 91% in 2010 to 97% in 2012 (p-value<0.001).

Knowledge

The proportion of respondents with knowledge that “using water-based lubricants with a condom reduces condom breakage” and “Everyone is more likely to contract STI/HIV if they don't use a condom during every sex act” remains high (near 100%) for 2010 and 2012.

Self-efficacy

The proportion of respondents who agreed with the statement that “I intend to use a condom for every sex act with a regular partner” significantly increased from 87% in 2010 to 95% in 2012 (p-value<0.001).

Compared to 2010, a significantly higher percentage of respondents in 2012 (88% in 2010 and 97% in 2012) feel very confident that they can use a condom correctly (p-value<0.001).

Similarly, the proportion of respondents who agreed with the statement “I am much more likely to use condom if water-based lubricant is available when having sex” significantly increased from 87% in 2010 to 93% in 2013 (p-value<0.05).

Beliefs

Findings indicated an increase in positive HIV/STI beliefs among respondents between 2010 and 2012.

The proportion of respondents who reported believing that she can get STI/HIV from regular partners has significantly increased from 87% in 2010 to 93% in 2012 (p-value<0.05).

The proportion of respondents who believe that even if a person uses water-based lubricant, a condom is still needed also significantly increased from 90% in 2010 to 96% in 2012 (p-value<0.001).

The proportion of respondents who believe it is very important to use condoms with regular partners to prevent STI/HIV infection significantly increased from 91% in 2010 to 99% in 2012 (p-value<0.001).

Likewise, there was a significant increase in the belief that it is necessary to use condoms with regular partners even if you trust him from 74% in 2010 to 96% in 2012 (p-value<0.001). (Table 1)

Table 1: Opportunity, Ability and Motivation factors related to condom use, 2010 and 2012

Indicators	Baseline	Follow-up	Sig.
	2010 N=448	2012 N=417	
Availability			
Perceived Number One condoms with lube sachet are available when needed.	91%	97%	***
Knowledge			
Using water-based lubricants with a condom reduces condom breakage.	95%	97%	n/s
Everyone is more likely to contract STI/HIV if they don't use a condom during every sex act.	99%	98%	n/s
Self-efficacy			
Intend to use a condom for every sex act with regular partner.	87%	95%	***
Intend to use a condom for every sex act with commercial partner (MtF TG pays)	96%	100%	n/s
Intend to use a condom for every sex act with commercial partners (partner pays)	97%	97%	n/s
Feel very confident to use a condom correctly	88%	97%	***
Much more likely to use condom if water-based lubricant is available when having sex	87%	93%	*
Belief			
Believe she can get STI/HIV from trusted regular partner	87%	93%	*
Believe that if a person uses water-based lubricant, a person still must use a condom	90%	96%	***
Believe it is very important to use condoms with regular partner to prevent STI/HIV	91%	99%	***
Believe it is necessary to use condoms with your regular partners even if you trust him	74%	96%	***
Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value n/s: non-significant			

Factors associated with consistent joint use of condoms and water-based lubricant, 2012

Analysis was conducted to identify the factors associated with consistent joint condom and water-based lubricant use during anal sex with regular and casual partners. Such an analysis helps understand the traits that differentiate respondents who report consistent joint use from those respondents who do not.¹

These variables are captured through a series of scaled statements using the 4-point Likert scale. The factors shown below demonstrated a strong relationship between the factor and the behavior in question.

An odds ratio (OR) for each factor is also given in the tables. The OR indicates the strength of the relationship between the factor and the behavior. Where an OR=1, the factor has no influence on the behavior. Higher ORs indicate the factor is more influential on the behavior.

The study found the following factors to be the most relevant statistically significant factors associated with higher rates of consistent joint condom and water-based lubricant use with regular partners and casual partners among respondents.

Beliefs

Respondents who have positive beliefs about the use of condoms and water-based lubricants are almost 60 times more likely to report consistent joint use of a condom and water-based lubricant for anal sex with regular partners in the last month than those who do not have such positive beliefs (OR: 59.8). Table 2

Respondents who believe that having an STI can increase the likelihood of contracting HIV are almost 2 times more likely to report consistent joint use of a condom and water-based lubricant for anal sex with regular partners in the last month than those who do not (OR: 1.9).Table 2

¹Segmentation tables are produced through three analysis procedures in SPSS: i) Exploratory Factor Analysis to identify scaled constructs and Reliability testing (Cronbach's Alpha) to establish reliability of scales; ii) Logistic regression is conducted to identify variables that are significantly associated with the behavior in question; iii) UNIANOVA is conducted to identify the estimated values for each factor identified as a significant determinant.

Table 2: Factors associated with consistent joint use of condoms and water-based lubricants for anal sex with regular partners in the last month

Indicator	Consistent joint use of a condom and water-based lubricant for anal sex with regular partners in the last month		OR	Sig.
	Yes n=60 (53.6%)	No n=52 (46.4%)		
Positive beliefs about the use of condoms and water-based lubricants (Scaled construct) <ul style="list-style-type: none"> ▪ Believe it is very important to use condoms with regular partners to prevent STI/HIV ▪ Believe it is necessary to use condoms with your regular partner even if you trust him ▪ Believes you can get STI/HIV from trusted regular partners ▪ Intend to use condom during every sex act with a regular partner ▪ Intend to use water-based lubricant during every sex act with regular partners ▪ Much more likely to use condom if water-based lubricant is available when having sex 	3.9	3.7	59.8	**
Believe that having an STI can increase the likelihood of contracting HIV	3.8	3.4	1.9	**

Note: *<0.05 p-value ; **<0.01 p-value ***<0.001 p-value

Respondents who believe that water-based lubricant is necessary during anal sex are six times more likely to report consistent joint use of a condom and water-based lubricant for anal sex with casual partners in the last month than those who do not have such a belief (OR: 6.1). Table 3

Table 3: Factors associated with consistent joint use of a condom and water-based lubricant for anal sex with casual partners in the last month

Indicators	Consistent joint use of a condom and water-based lubricant for anal sex with casual partners in the last month		OR.	Sig.
	Yes n=99 (60%)	No N=66 (40%)		
Water-based lubricant is necessary during anal sex	3.9	3.7	6.1	**
Note: *<0.05 p-value ; **<0.01 p-value ***<0.001 p-value				

Knowledge of HIV transmission routes (2012)

The majority of respondents possessed accurate knowledge of HIV/STI transmission. Most respondents agreed with the statement that an HIV-infected pregnant woman could transmit HIV to her baby (97%). A strong majority of respondents also know a healthy-looking person can still be infected with HIV/STIs (95%) and that monogamous couples can help prevent HIV transmission (85%). Around two-thirds of respondents were aware of the falsehood of some HIV-related myths. Namely, mosquitoes do not transmit HIV (69%) and sharing food or meals with an infected individual does not transmit HIV (67%).

Respondents' HIV/STI knowledge were recorded through five HIV/STI knowledge statements: i) whether or not an HIV-infected pregnant woman can transmit HIV to her baby; ii) if a healthy-looking person can still be infected with HIV/STIs; iii) if having only one wife/one husband can prevent HIV; iv) if mosquitoes can transmit HIV; and v) if sharing meals with HIV-infected individuals transmits HIV. Less than half of respondents (45%) were able to respond correctly to all five HIV/STI knowledge statements.

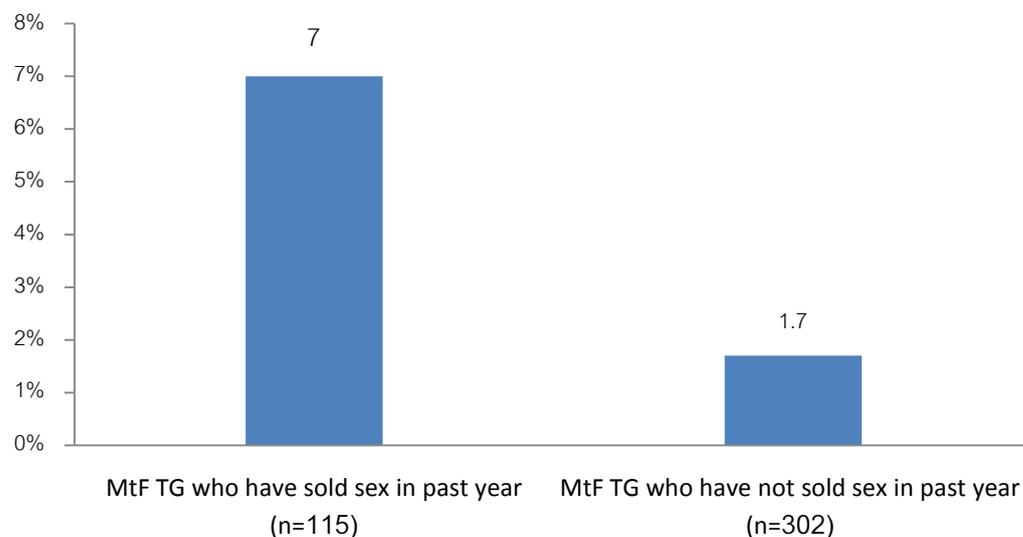
Table 4: Knowledge of HIV/STI transmission routes

Indicators	2012 N=417
An HIV-infected pregnant woman can transmit HIV to her baby	97%
A healthy-looking person can still be infected with HIV/STIs	95%
Having only one wife/one husband can prevent HIV	85%
Mosquitoes do not transmit HIV	69%
Sharing meals with HIV-infected individuals does not transmit HIV	67%
HIV/STI knowledge includes the following: <ul style="list-style-type: none"> • HIV-infected pregnant woman can transmit HIV to her baby • Know if a healthy-looking person can still be infected with HIV/STIs • Having only one wife/one husband can prevent HIV • Mosquitoes do not transmit HIV • Sharing meals with HIV-infected individuals does not transmit HIV 	45%

Factors associated with a positive test for HIV and STIs in 2012

Respondents who reported selling sex in the past year were more likely to be HIV infected than respondents who did not sell sex in the past year. 7% of respondents who reported selling sex in the past year are HIV positive, compared with 1.7% of respondents who did not sell sex in the past year (p-value <0.05). (Figure 8).

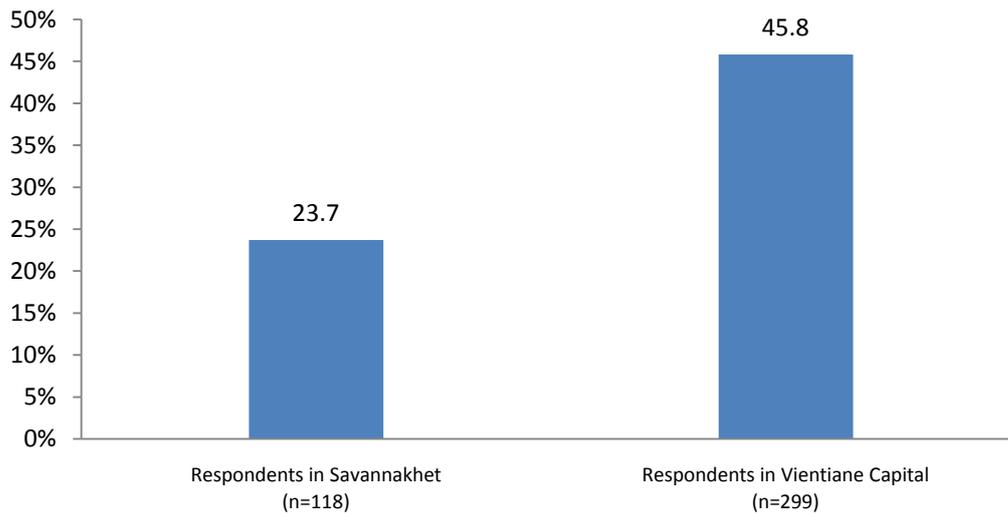
Figure 8: Prevalence of selling sex in the past 1 year among those who tested positive for HIV



Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value

Respondents living or working in Vientiane Capital showed a higher prevalence of Chlamydia than respondents from Savannakhet. 45.8% of respondents from Vientiane Capital tested positive for Chlamydia compared to only 23.7% from Savannakhet (p-value<0.001). (Figure 9)

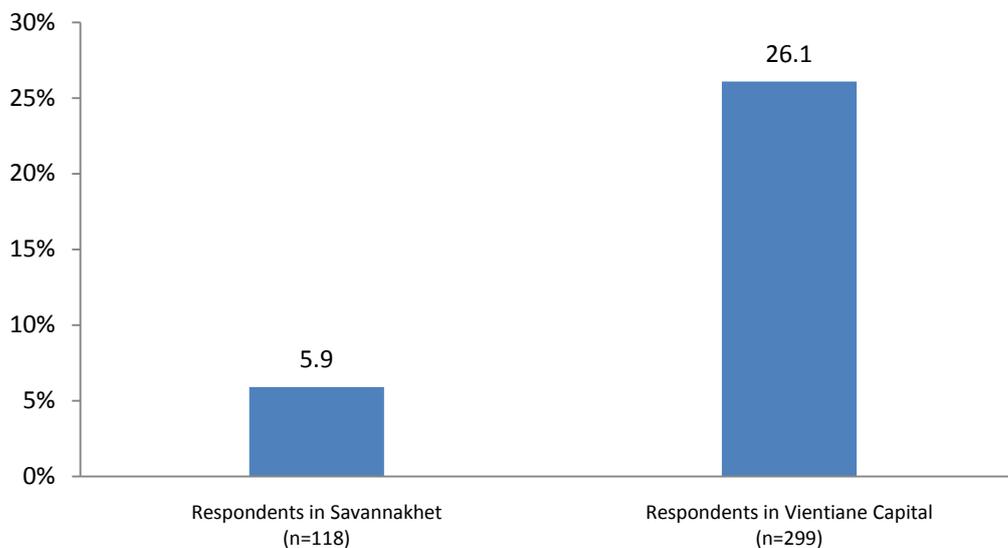
Figure 9: City of residence among respondents testing positive for Chlamydia



Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value

Similarly, respondents from Vientiane Capital were more likely to test positive for Gonorrhoea than respondents in Savannakhet. 26.1% of respondents from Vientiane Capital tested positive for Gonorrhoea, compared to only 5.9% of respondents from Savannakhet (p-value<0.001). (Figure 10)

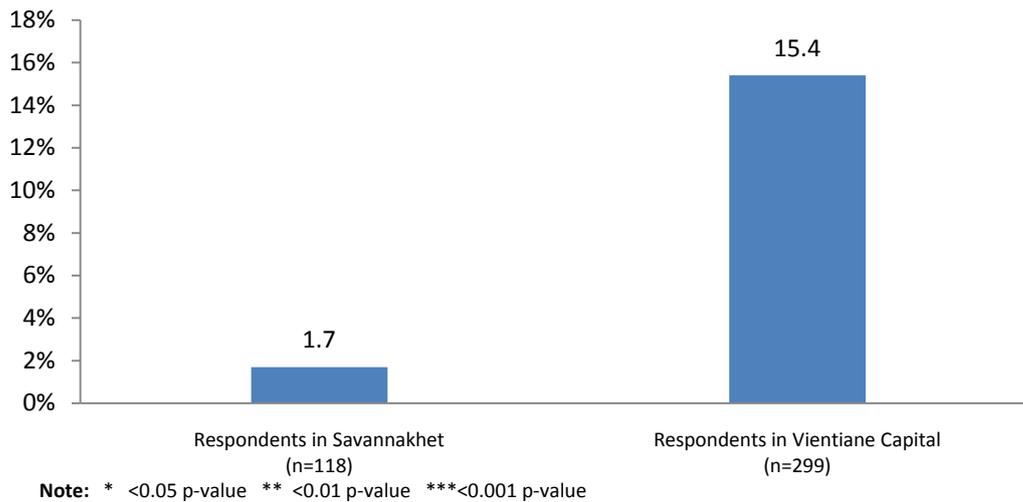
Figure 10: City of residence among those testing positive for Gonorrhoea



Note: * <0.05 p-value ** <0.01 p-value ***<0.001 p-value

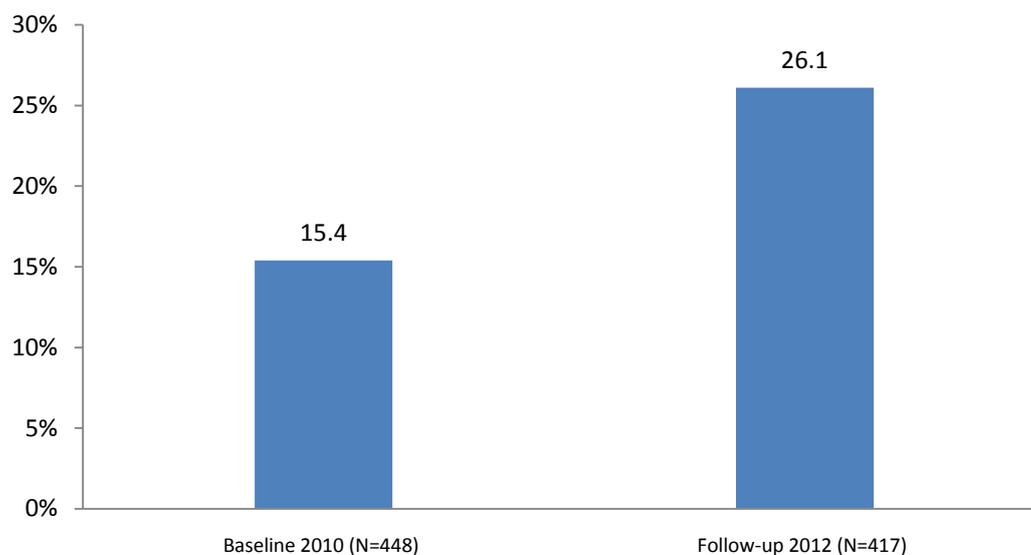
The proportion of respondents in Vientiane Capital who tested positive for both Chlamydia and Gonorrhea was also higher than the proportion of respondents from Savannakhet. 15.4% of respondents from Vientiane Capital tested positive for Chlamydia and Gonorrhea compared to 1.7% of respondents from Savannakhet (p-value<0.001). (Figure 11)

Figure 11: City of residence among those testing positive for both Chlamydia and Gonorrhea



There was also a significant increase in Gonorrhea prevalence in Vientiane Capital from 15.4% in 2010 to 26.1% in 2012 (p-value<0.001). (Figure 12)

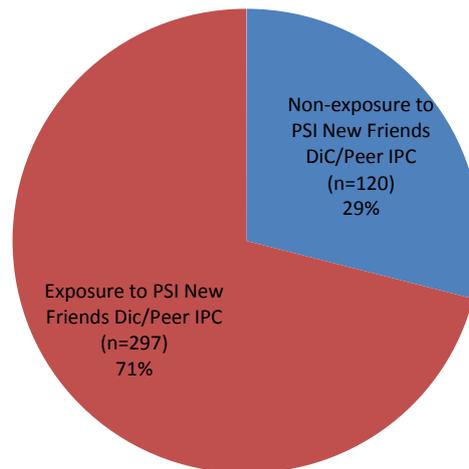
Figure 12: Percentage testing positive for Gonorrhea, 2010 and 2012



Association between New Friends DiC/Peer IPC exposure and HIV/STI testing, healthy behaviors, and knowledge and beliefs

Almost three-quarters (71%) of respondents have been exposed to PSI New Friends DiC/Peer IPC in the past 12 months. Exposure to the New Friends DiC/Peer IPC is defined as the respondent being exposed to an inter-personal communication (IPC) in the last year or visiting a Drop-in Center (DiC) in the last 3 months. (Figure 13)

Figure 13: Exposure to New Friends DiC/Peer IPC in the past 12 months (N=417)



Note:

Exposure to PSI New Friends DiC/Peer IPC: At least 1 contact of IPC in the last 12 months or DiC in the last 3 months.

Non-exposure to PSI New Friends DiC/Peer IPC: No contact of IPC in the last 12 months or DiC in the last 3 months.

"IPC" refers to Interpersonal Communication (either outreach worker or transgender peers working with PSI).

"DiC" means Drop in Center.

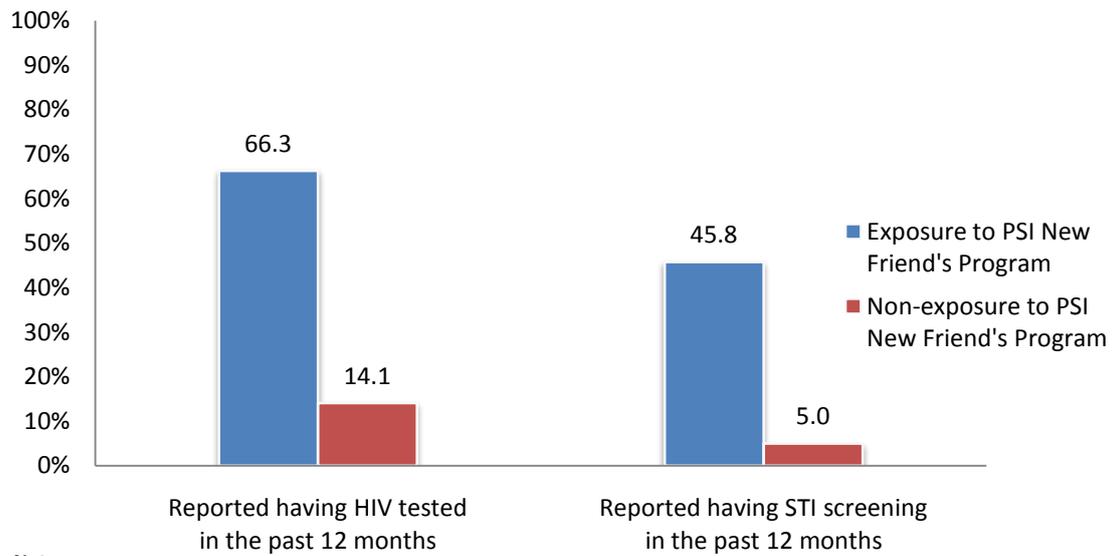
HIV tested in the past 12 months

Exposure to the New Friends DiC/Peer IPC correlated with higher rates HIV testing in the past 12 months. 66.3% of respondents who were exposed to the New Friends DiC/Peer IPC reported having had an HIV test in the past 12 months. Only 14.1% of respondents who were not exposed to DiC/Peer IPC reported having had an HIV test in the past 12 months (p-value<0.001). (Figure 14)

STI screening in the past 12 months

45.8% of respondents exposed to the New Friends DiC/Peer IPC reported STI screening in the past 12 months. Only 5% of non-exposed respondents reported the same (p-value<0.001). (Figure 14)

Figure 14: Exposure to New Friends DiC/Peer IPC and HIV & STI testing in the past 12 months



Note:

Exposure to PSI New Friend's Program: At least 1 contact of IPC in the last 12 months or DiC in the last 3 months.

Non-exposure to PSI New Friend's Program: No contact of IPC in the last 12 months or DiC in the last 3 months.

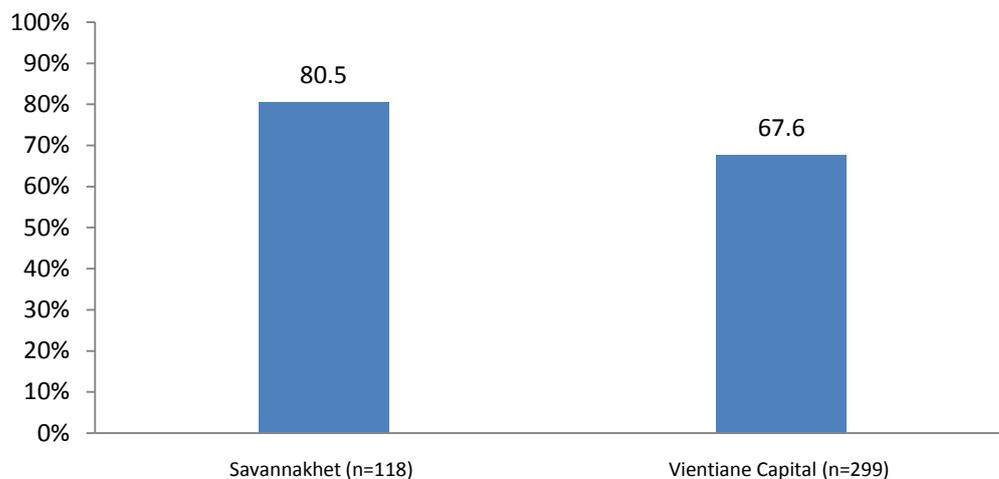
"IPC" refers to Interpersonal Communication (either outreach worker or transgender peers working with PSI).

"DiC" means Drop in Center.

*<0.05 p-value ; **<0.01 p-value ***<0.001 p-value

The survey also found that the respondent's location was a statistically significant factor in whether she was exposed to the New Friends DiC/Peer IPC. 80.5% of respondents in Savannakhet were exposed to the New Friends DiC/Peer IPC while only 67.6% of respondents were exposed in Vientiane Capital (p-value<0.01). (Figure 15)

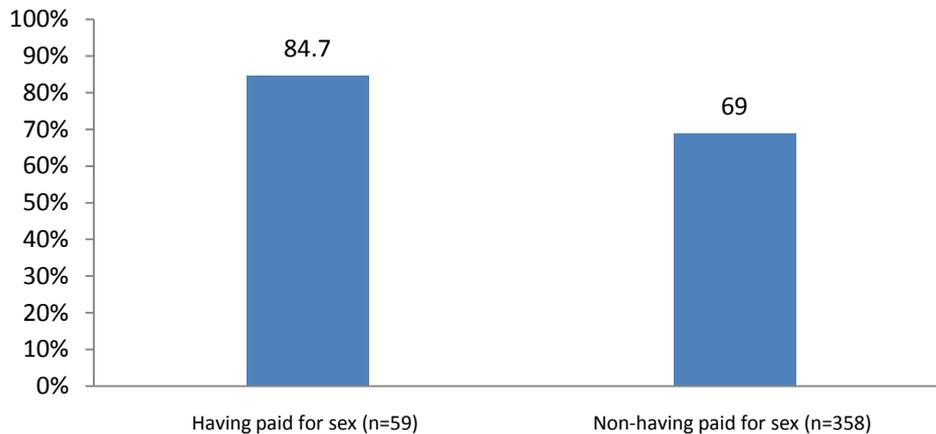
Figure 15: Exposure to New Friends DiC/Peer IPC by city of residence



Note: There was a statistical association between province and exposure to PSI New Friends DiC/Peer IPC; p-value<0.01

There was also a statistical association between respondents who had paid for sex and exposure to the New Friends DiC/Peer IPC. Respondents who paid for sex (84.7%) were more likely to be exposed than respondents who did not pay for sex (69%). (p-value<0.01). (Figure 16)

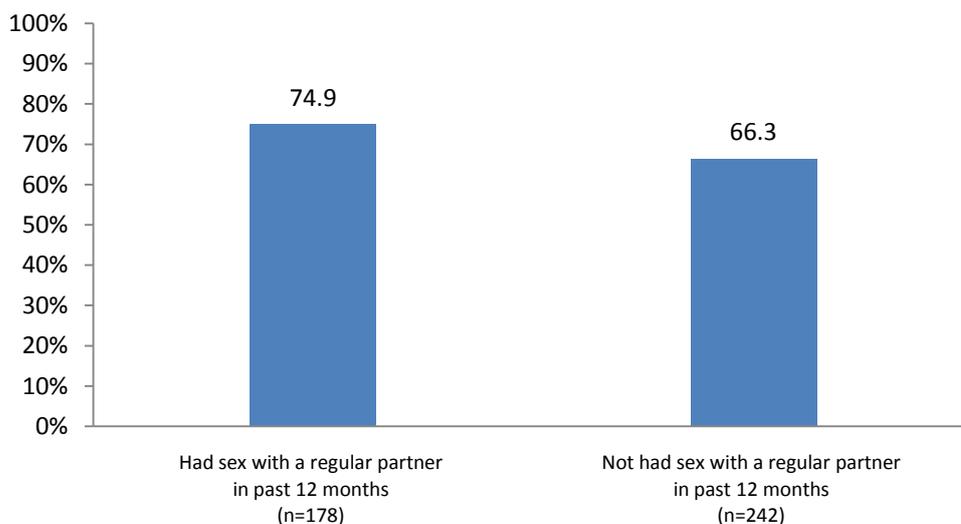
Figure 16: Percentage of those exposed to New Friends DiC/Peer IPC who report having paid for sex



Note: There was a statistical association of respondents who have paid for sex and exposure to PSI New Friends DiC/Peer IPC; p-value<0.01

Respondents who had sex with a regular partner in the past 12 months (74.9%) were more likely to be exposed to the New Friends DiC/Peer IPC than respondents who did not have sex with a regular partner in the past 12 months (66.3%) (p-value<0.05). (Figure 17)

Figure 17: Percentage of those exposed to New Friends DiC/Peer IPC that report sex with a regular partner in the past 12 months



Note: There was a statistical association between respondents who had sex with a regular partner and exposure to PSI New Friends DiC/Peer IPC; p-value<0.05

Association between New Friends DiC/Peer IPC exposure and the consistent joint use of a condom and water-based lubricant with all three partner groups (regular partners, non-regular partners, and any partner types) in the last three months, New Friends DiC/Peer IPC exposure and Chlamydia and Gonorrhea prevalence.

Analysis was conducted to explore the association between exposure to the New Friends DiC/Peer IPC and the consistent joint use of a condom and water-based lubricant with regular partners and non-regular partners in the last one month.

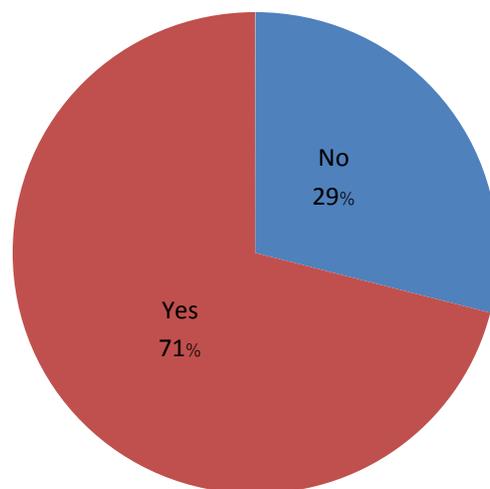
The analysis found no significant association between exposure to the New Friends DiC/Peer IPC and the consistent joint use of a condom and water-based lubricant with regular and non-regular partners. However, the number of respondents who reported having had sex with these partner types in the past one month was relatively small (n=83 for regular partners; n=163 for non-regular partners), making it difficult for associations to be statistically validated.

No significant association was found between exposure to the New Friends DiC/Peer IPC, and positive test results for chlamydia, although those utilizing New Friends services were more likely to test positive for gonorrhea. The study design does not allow for any conclusions to be drawn on the affects of program engagement on the risks of chlamydia/gonorrhea infection.

Coverage of the New Friends Program

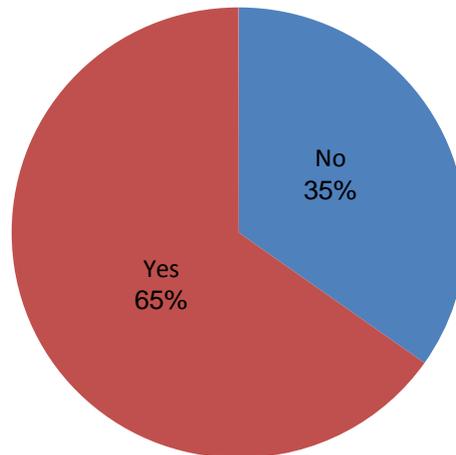
Most respondents (71%) reported meeting with a New Friends peer educator in the past. (Figure 18)

Figure 18: Percentage of respondents who report meeting with a New Friends Peer Educator in the past (N=417)



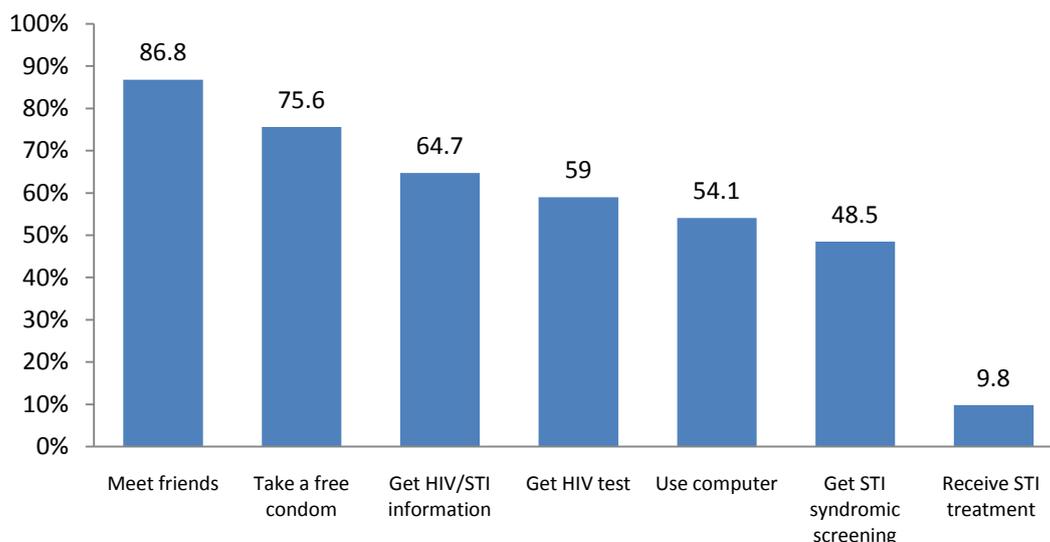
Over half (65%) of respondents reported visiting a New Friends DiC in the past month while 35% of respondents had not. (Figure 19)

Figure 19: Percentage of respondents who report visiting a New Friends DiC in the past 1 month (n=417)



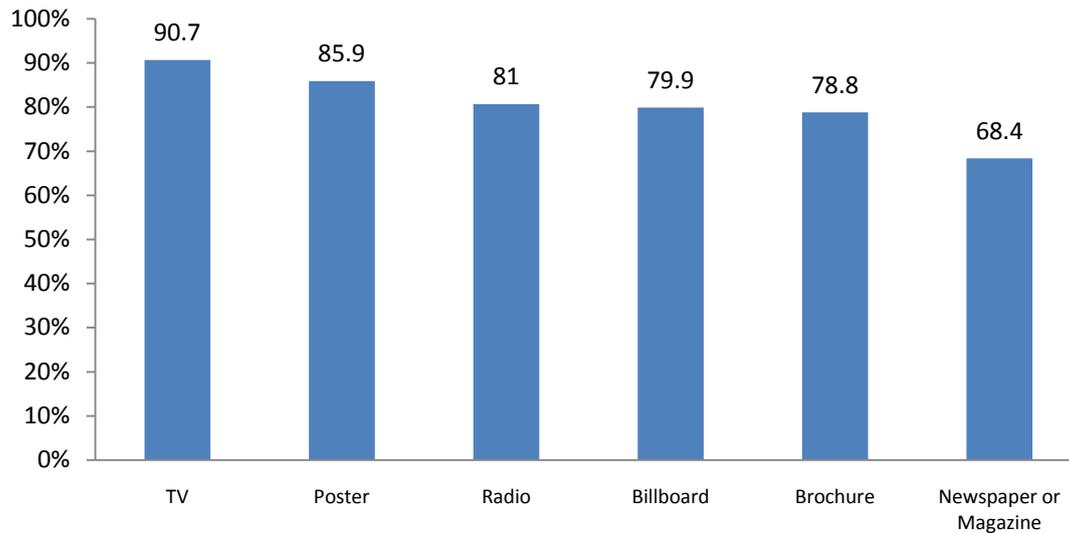
Reported reasons for visiting a New Friends DiC as provided by respondents included wanting to meet friends (86.8%), receive a free condom (75.6%), receive HIV/STI information (64.7%), get an HIV test (59%), use a computer (54.1%), receive an STI screening (48.5%) or receive STI treatment (9.8%). Multiple answers were possible. (Figure 20)

**Figure 20: Reported reasons for visiting the New Friends DiC (N=266)
"Multiple Answers"**



Among the respondents who reported seeing a Number 1 condom advertisement before, 90.7% reported seeing it on TV and 85.9% reported seeing the advertisement on a poster. Additional channels included radio (81%), billboard (79.9%), brochure (78.8%), and a newspaper or magazine (68.4%). (Figure 21)

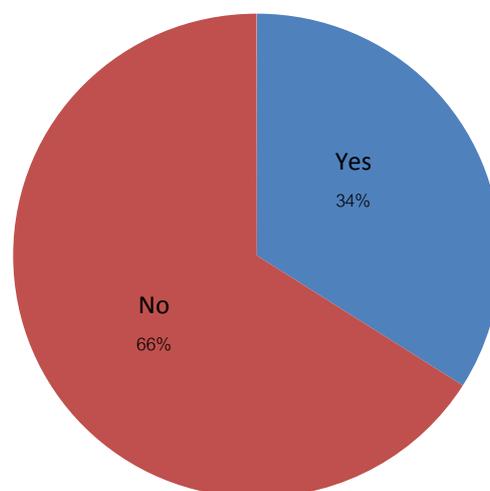
Figure 21: Percentage of respondents who have seen Number 1 condom advertisements by type of media (N=269)
“Multiple Answers “



Condom purchasing behavior and perceptions of Number 1 condoms

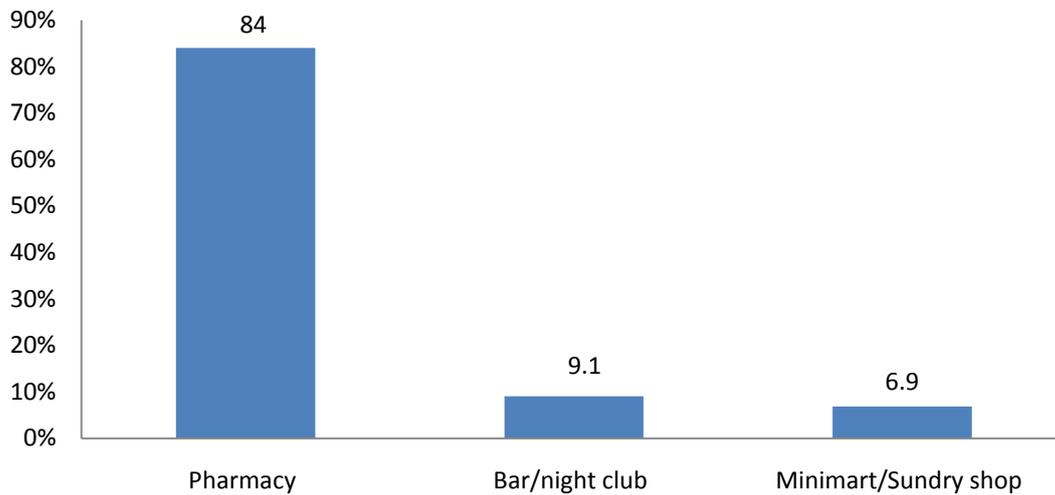
Nearly two-thirds (34%) of respondents reported buying a Number 1 condom in the last month while 66% did not buy a Number 1 condom in the last month. (Figure 22)

Figure 22: Respondents reported buying Number 1 condom in the last month (N=417)



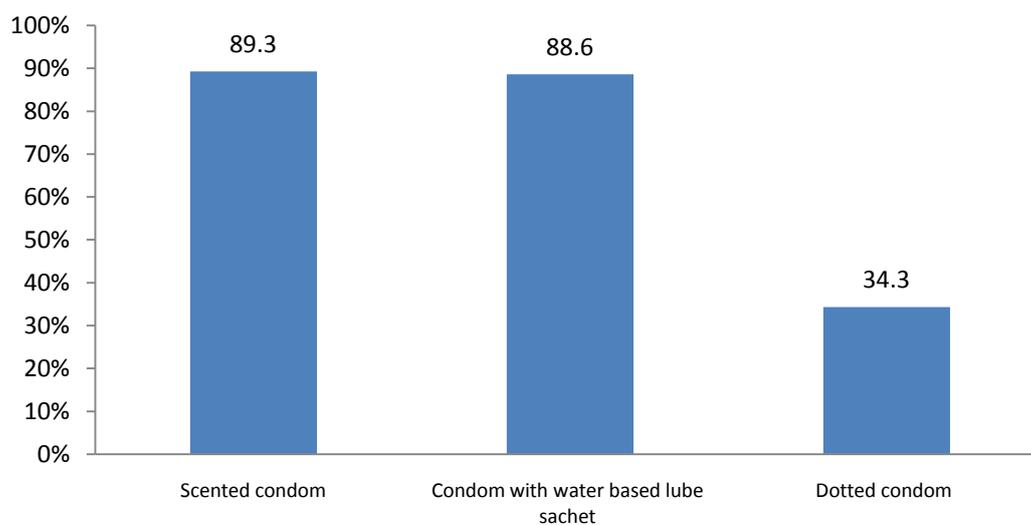
The majority of respondents (84%) bought their most recently purchased condom at a pharmacy. Only 9.1% of respondents reported buying a condom at a bar/night club and 6.9% of respondents reported buying condoms at a minimart/sundry shop. (Figure 23)

Figure 23: Places of last purchase of Number 1 condoms (N=175)



Scented condoms had the highest consumer preference (89.3%) followed by condoms with a water-based lubricant sachet (88.6%) and dotted condoms (34.3%). (Figure 24)

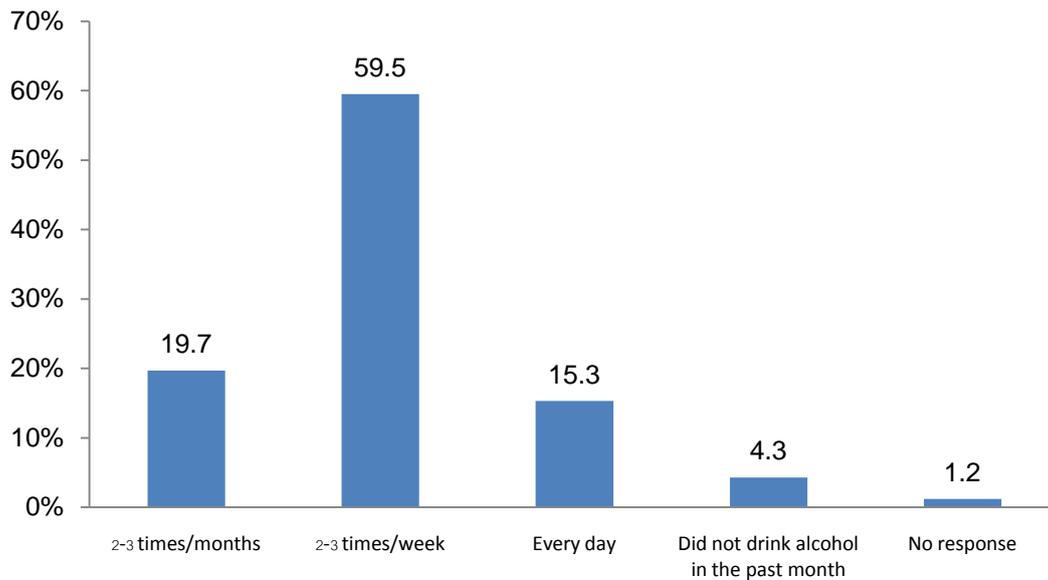
Figure 24: Favorite condom attributes (N=417)
"Multiple Answers "



Alcohol and drug use

Overall, 59.5% of respondents reported consuming alcohol two to three times per week. 19.7% of respondents reported consuming alcohol only two to three times per month and 15.3% of respondents consumed alcohol every day. Only 4.3% of respondents did not drink alcohol in the past month. (Figure 24)

Figure 25: Self-reported alcohol consumption frequency (N=417)



Only a small minority (11%) of respondents reported ever using drugs before. And 89% of respondents stated that they had never used drugs before. (Figure 25)

Figure 26: Percentage reporting that they have ever used drugs (N=417)

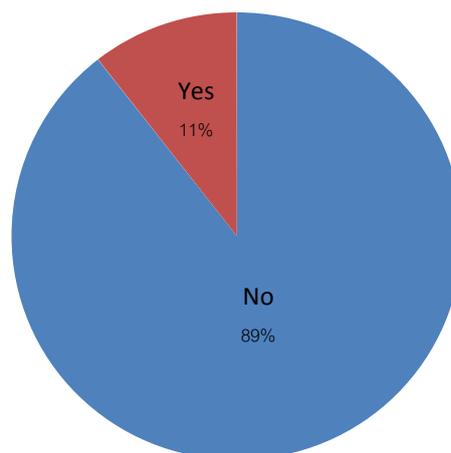
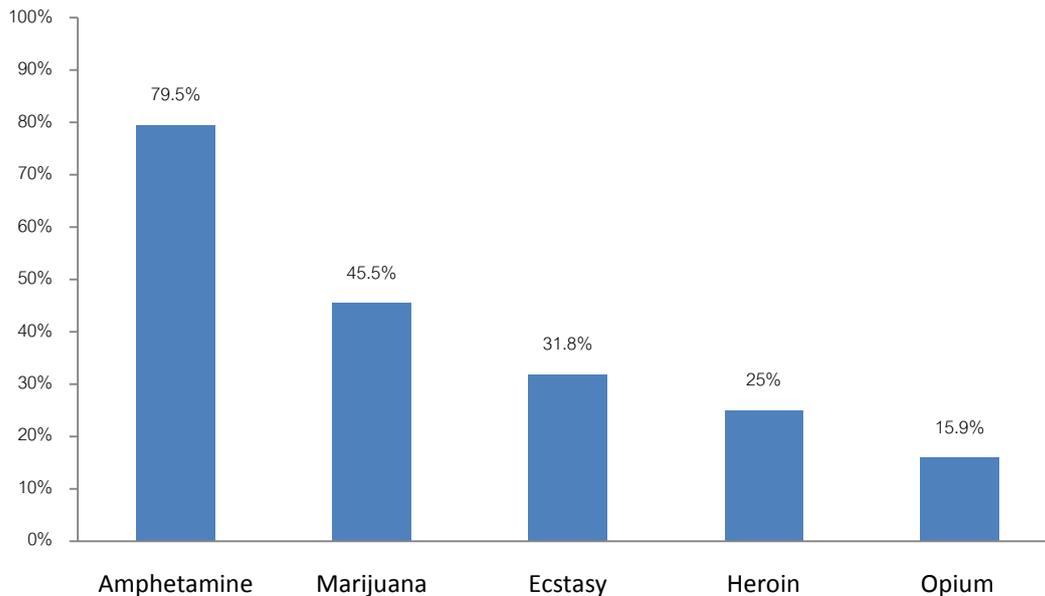


Figure 26 provides a break down in the type of drugs used among respondents who did use drugs (N=44). Multiple answers were possible. Amphetamine use was the most common with 79.5% of respondents reported having used the drug. Amphetamines were followed by marijuana (45.5%), ecstasy (31.8%), heroin (25%) and opium (15.9%).

Figure 27: Types of drugs used by those that report having ever used drugs (N=44)

“Multiple answers”



CONCLUSION

With support from USAID, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, and Youth AIDS, PSI Laos launched the New Friends Drop in Center (DiC) in 2007 to provide transgender individuals with quality health products and services.

This HIV/STI prevalence and behavioral tracking survey examines HIV and STI prevalence among 417 male-to-female transgenders (MtF TG) in two provinces in Laos: Vientiane Capital and Savannakhet recruited using respondent driven sampling. All respondents provided a blood sample to test for HIV and a self-administered anal swab to test for Gonorrhea and Chlamydia. All anal swab samples were conducted using Polymerase Chain Reaction (PCR). All specimens that tested positive were re-tested using Unigold. If results were different, ELISA was conducted to provide final confirmation of results.

Results from the 2012 survey are compared to an earlier survey conducted in 2010. Findings are presented on prevalence of HIV, Chlamydia, Gonorrhea and co-infection. Findings are also presented on consistent use of condoms and water-based lubricants, and HIV and STI testing. The survey also examines whether

Opportunity, Ability, and Motivation (OAM) factors influence behavioral outcomes and how exposure to the New Friends Drop in Center (DiC)/Peer Interpersonal Communication (IPC) affects these outcomes.

There was no significant change in HIV prevalence between 2010 and 2012. 4.2% of respondents tested positive for HIV in 2010 and 3.1% in 2012.

There was no significant change in Chlamydia prevalence between 2010 (33.5%) and 2012 (38.1%). There was a significant increase in the percentage testing positive for Gonorrhea (11.7% in 2010 to 20.7% in 2012), and Chlamydia/ Gonorrhea co-infection (6.4% in 2010 to 11.3% in 2012). Selling sex in the past 12 months and living in Vientiane Capital increased the odds of testing positive for HIV. Respondents living or working in Vientiane Capital showed a higher prevalence of Chlamydia than respondents from Savannakhet (45.8%: 23.7%; p -value <0.001). Respondents from Vientiane Capital were more likely to test positive for Gonorrhea than respondents in Savannakhet. 26.1% of respondents from Vientiane Capital tested positive for Gonorrhea, compared to only 5.9% of respondents from Savannakhet (p -value <0.001).

There was a significant increase in HIV testing and STI screening in the past 12 months. Those testing for HIV increased from 37% in 2010 to 50.9% in 2012 (p -value <0.001). Those screening for STIs in the past 12 months, increased from 28.1 % in 2010 to 34.5% in 2012 (p -value <0.05). Consistent joint use of a condom and water-based lubricant with regular partners in the last month increased significantly from 42.4% in 2010 to 58.4% in 2012 (p -value <0.05). Consistent joint use of a condom and water-based lubricant with casual partners in the last month increased significantly from 47.9% in 2010 to 59.8% in 2012 (p -value <0.05). There was no significant change in consistent use of condom and water-based lubricant between with commercial partners between 2010 and 2012, either where the respondent was the paying partner, or where the partner was receiving money for sex.

High exposure to the New Friends DiC/Peer IPC was found. Almost three-quarters (71%) of respondents had been exposed to an IPC in the last year or had visited a Drop-in Center (DiC) in the last 3 months. Exposure to the New Friends DiC/Peer IPC was found to be associated with higher rates HIV testing and STI screening. Over half (65%) of respondents who were exposed to the New Friends DiC/Peer IPC reported having had an HIV test in the past 12 months, compared with 14% of respondents who were not exposed to New Friends DiC/Peer IPC (p -value <0.001). And 44.9% of respondents exposed to the New Friends DiC/Peer IPC reported having STI screening in the past 12 months, compared with 5% of non-exposed respondents (p -value <0.001).

LIMITATIONS OF THE SURVEY

While the action plan has been implemented in many provinces, the survey was conducted at *Peuan mai* Drop in Centers in only two relevant provinces: Vientiane Capital and Savannakhet Province. As a result, findings are not representative of TG from all provinces across the country. In order to produce results that are representative of the whole MtF TG population in Laos, the next survey should be conducted in 6 provinces, like PSI Laos' previous survey for the SW target group.

RECOMMEDATIONS FOR FUTURE STUDY

1. There was no intention with this study to analyze the advantages and disadvantages of the Polymerase Chain Reaction (PCR), the method used for Gonorrhea and Chlamydia. Further studies should consider discussing the results of using PCR and if this method should be recommended as a testing method for Gonorrhea and Chlamydia in the future. More discussions on effective and efficient test methods should be carried out if possible.
2. In this study, a self-administered anal swab was performed by the participants. It is recommended that an analysis be conducted on how correct and reliable the process of self-administered anal swabs is. It is suggested to consider exploring this for the next study.

PROGRAMMATIC RECOMMENDATIONS

- 1. Emphasize the importance of joint condom and water-based lubricant use with all partners of Lao MtF TG.**

The findings reveal that joint condom and water-based lubricant use with all partners is low. Study findings suggest that PSI and other HIV prevention programs should:

i) Continue behavior change communication (BCC) messages related to joint condom and water-based lubricant use during anal sex with all partner types. This approach should integrate messages that convey the importance of using condoms with regular partners to prevent STIs and HIV. Other messages should include:

- Use condoms with your regular partners even if you trust them;
- Anyone can get an STI or HIV from a trusted regular partner;
- Having an STI can increase the likelihood of contracting HIV.

ii) Continue to ensure availability of condoms and water-based lubricants in non-traditional and traditional outlets including pharmacies, guesthouses, hotels, sundry shops and other sales outlets.

iii) Expand access to and promote the benefits of lubricant to reduce the risk of dry anal sex. Positive beliefs about the value of using lubricant during anal

sex is associated with consistent use of condoms and water-based lubricant with regular and casual partners.

2. Expand access to community based HIV testing and STI screening.

Findings showed a low proportion of MtF TG had been tested for HIV (50.9%) or an STI (34.5%) in the past 12 months. MtF TG who had been exposed to New Friends DiC/Peer IPC reported a considerably higher rate of HIV testing and STI screening in the past month comparing to non-exposed respondents. Expanding the reach of New Friends should promote greater access and use of HIV and STI services.

3. Recruit MtF TG who sell sex to work for Peer IPC campaign.

The study found that MtF TG who sell sex are more likely to be infected with HIV than MtF TG who do not sell sex (7% as opposed to 1.7%). Recruiting more MtF TG who are currently selling sex as peer outreach workers may help meet challenges that this group face in avoiding infection from STIs and HIV.