

Lao People's Democratic Republic

**Ministry of Health
Center for HIV/AIDS/STI (CHAS)**

Lao PDR 2009 Surveillance surveys:

Behavioral survey among service women

and

**Integrated biological and behavioral
surveillance survey among
men who have sex with men
in Luang Prabang**

2009

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
BSS	Behavioral Surveillance Survey
CLE	Center for Laboratory and Epidemiology
FSW	Female sex worker
HIV	Human Immunodeficiency Virus
NCCA	National Committee for the Control of AIDS
NGO	Non-governmental organization
PCCA	Provincial Committee for the Control of AIDS
PDA	Personal digital assistant
PDR	People's Democratic Republic
STI	Sexually transmitted infection
VCT	Voluntary Counseling and Testing

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Part 1: Behavioral survey among service women

Survey Team

I. Background and Rationales

Lao PDR has conducted three rounds of behavioral and biological surveillance of women selling sex at sentinel sites in 2001, 2004 and 2008. Provinces included in the sentinel surveillance were the most populated and those with easy access to the target populations. The surveillance schedule was adapted in 2009, in order to conduct regular surveys in a small number of provinces to serve as early warning and to closely monitor progress of programs implemented to this target population.

Women exchanging sex for money take diverse forms in Lao PDR. While opened prostitution recently appeared in the capital with a few street based female sex workers (FSW) and an increasing reporting of women contacting their clients through phone calls, the overwhelming majority of women selling sex are service women (i.e. women working in nightclubs, beer bars, and small drink shops). Indeed, 71% of the male clients surveyed in 2009 had met their paid sexual partner at drink shops or night-clubs. Other places where clients met FSW were guest houses and hotel, which were named by 15% of the clients in 2008.

Service women are female sex workers characterized by a low number of clients, a short duration of selling sex and a high level of condom use. Condom use with both clients and non-commercial non-regular partners has dramatically increased since 2004. These specificities largely explain why the prevalence of HIV has not increased in this group of female sex workers and may even be decreasing. Fortunately, very few service women use drug and when they do, they do not inject. The short duration of working at a specific place as well as the short duration of selling sex requires intensified prevention which is highlighted by the insufficient knowledge of HIV transmission reported by the majority of service women. Although condoms appear accessible, few women purchase their own condoms and most get their condoms from prevention projects or drink shop managers.

Service women are young and young women are biologically more vulnerable to STI than their peers. STI prevalence serves as a biological proxy for unprotected sex. The prevalence of STI among service women has dramatically decreased in provinces where periodic presumptive treatment (PPT) was implemented, which provinces also achieved a high level of condom use in commercial sex.

The integrated biological and behavioral survey conducted in 2008 as part of Lao PDR national surveillance found a 0.4% prevalence HIV among service women and 0.3% among state enterprise electricity workers (half of whom had purchased sex from service women in the year prior to survey). While syphilis prevalence was also low (0.4% life-time), the prevalence of other curable STI remained high

among service women (Chlamydia 18% and gonorrhea 7%). Chlamydial infections are also prevalent even in the general population (10%). Reducing rates of curable STI is a priority for HIV prevention strategy to countries with low-level HIV epidemics, where targeted interventions for vulnerable populations appear to be efficient and cost effective.

A set of indicators detailed in the grant assistance paper is required to document the end of the five years project of Global Fund Round 1, coming to a term in 2009. These indicators includes: trend in HIV prevalence, knowledge of HIV prevention, condom use, and uptake of STI services.

II. Objectives

Primary objective:

- To determine the level of HIV-related risk behaviors among service women

Secondary objectives:

- To provide data to construct trends in prevalence of sexual behaviors and uptake of prevention services
- To estimate the coverage and outcomes of the national HIV and STI prevention strategy
- To determine health-seeking behaviors among those reporting symptoms of STIs currently or/and in the previous year

III. Methods

3.1. Survey design:

A cross-sectional study design was used. Participation to the survey was voluntary and anonymous.

3.2. Survey population:

Defining and identifying women who sell sex for money in Lao PDR can be particularly difficult. Women working in small drink shops and nightclubs may engage in commercial sex transactions, but their employment in these venues does not automatically signify that they are selling sex, as opposed to just serving beer or having conversation with their customers. This population has been used in previous round of surveys to approximate female sex workers. However, women were not screened to determine whether they sold sex or not. Instead, all women who worked in these establishments and had direct contact with clients, whether by selling them drinks or sitting with them, were defined as service women.

Those eligible were:

- Women
- Aged between 15 to 49 years old
- Working in small drink shops, beer gardens, karaoke bars, or other entertainment establishments
- Not hanged over at the time of the interview

3.3. Survey areas:

Service women were selected in the capital city of selected provinces. The provinces included in the 2009 survey were selected purposively. The provinces selected included some provinces covered by the previous surveillance rounds to allow for comparability and construction of trends over time, as well as provinces that had never been surveyed in the past to explore potential variations in behaviors. Provinces surveyed in 2009 were: Vientiane capital, Bokeo, Luang Namtha, Sarravane, and Attapeu.

The provinces included in previous and present round of second generation surveillance by target population are as follows:

Table 1: Sentinel sites for service women by year of survey

AREA	2001	2004	2008	2009
Vientiane municipality	○	○	○	○
Champassak		○	○	
Savannakhet	○	○	○	
Bokeo		○	○	○
Luang Prabang	○		○	
Luang Namtha		○	○	○
Sarravane				○
Attapeu				○

3.4. Sample sizes:

Sample size was set at 300 for Vientiane capital and 150 for each of the remaining province.

3.5. Sampling design:

The Provincial Committee for the Control of AIDS Secretariat (PCCAsec) of the surveyed provinces established the sampling frames by listing all identified small drink shops, night clubs, guest house and karaoke bars located in the survey area with an estimate of the number of women working at each location. Establishments were selected randomly proportional to size. At second stage women were selected randomly in order to include:

- 20 participants from selected night clubs
- 5 participants from selected restaurants / drink shop or karaoke bars

- All participants when the provincial sample size was inferior to the number of women enumerated (Sarravane and Bokeo).

3.6. Survey procedures:

Informed consent

Upon recruitment, potential participants were explained the objectives and procedures of the study including: the roles of each of the different teams members, and the procedures for maintaining anonymity. The study team supervisor and one interviewer then proceeded to a private location where they read the detailed consent form written in Lao to the participant, answered any questions raised, and obtained oral informed consent that was witnessed. Potential participants were administered witnessed oral informed consent instead of written consent to ensure that no name was recorded. Each participant was given a list with names and contact of survey managers, and copies of the consent form was also available for participants who wished to keep them for reference.

Interviews

Data were collected through face-to-face interview conducted by trained same sex interviewer in a private location. The questionnaire was administered in Lao language that is spoken by all the populations and in all the provinces. Interview forms were cross-checked by the team supervisors in the field to ensure their completeness and were delivered to the provincial supervisor at the end of each day. They were kept in a secured location until they are delivered to the central supervisor in charge of securing them in the capital.

Data entry

Data were double entered into Epi-data, however, a single of those two entries was used for analysis.

3.7. Ethical review:

The study used the approval document from the Lao Ethical Review Board for the Second Generation Surveillance that was submitted in 2004. In this approval the ethics committee deemed HIV behavioral surveillance as a non-research activity.

IV. Results

Data were collected in August 2009 among 912 service women. All interviews were conducted in Lao language except for Attapeu where 18 interviews (12% of interviews in Attapeu province) were conducted in Vietnamese. Cluster information were not completed and data weighting was therefore not performed in the subsequent analysis.

4.1. Demographic characteristics

While the majority participants from Vientiane capital and Attapeu were recruited in night-clubs, most participants from other provinces worked in drinking shops. Service women were young: about half were teenagers (46%) and their mean age was 21 years old. The majority (78%) had never married and another 19% were divorced or separated. They had a low level of education with 84% who had not studied further than primary school. In Vientiane about half of the service women were native from Vientiane municipality. In other provinces only a minority of the service women were native from the province where they worked. Luang Prabang province provided a substantial proportion of service women to Northern provinces. Women from Vientiane provided about a quarter of the service women to the Southern provinces. Service women are mobile as 70% had been living in the province of interview for less than 6 months.

Table 2: Demographic characteristics of service women, by province

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Place of recruitment						
Night club	44	11	1	9	53	27
Drinking shop	46	77	64	85	21	57
Restaurant	7	2	32	0	11	10
Guest house/hotel	2	10	3	0	3	3
Karaoke	2	0	0	6	13	4
Age						
15-19	44	67	63	34	25	46
20-24	45	26	29	38	36	36
>=25	11	7	8	28	39	17
Mean	21	19	20	22	24	21
Median	20	19	19	21	23	20
Province of birth						
Vientiane	47	1	4	36	23	26
Luang Namtha	1	5	7	1		2
Bokeo	0	3	18	1		4
Saravane	0			4	1	1
Attapeu	0			1	10	2
Luang Prabang	17	44	30	13	6	21
Other	34	47	40	46	47	41
Thailand / Vietnam	1				13	2
Highest level of education attended						
<= Primary school	77	93	88	85	84	84
Lower secondary school	20	7	13	14	15	15
Upper secondary / university	3	0	0	1	1	1
Marital status						
Never married	83	84	82	70	65	78
Currently married	1	3	1	7	5	3
Divorced / widow	17	13	16	23	29	19
Language						
Lao	100	100	100	100	88	98
Vietnamese	0	0	0	0	12	2
Duration living in this city						
<=6 months	57	81	77	79	66	70
>6 months	43	19	23	21	34	30

4.2. First sex

Service women had first sex on average at 17 years of age. Depending on the province, a quarter to a third of the service women had initiated sex with a client.

Table 3: Age at first sex and first sexual partner among service women

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Age at first sex						
Mean	17	16	16	18	18	17
Median	17	16	16	18	18	17
First sexual partner						
Husband	10	13	12	21	25	15
Boy friend	60	51	51	43	51	53
Client	24	31	30	33	22	27
Other	5	5	8	3	1	5

4.3. Reproductive history, contraceptive use and abortions

While 17% of service women currently had children, 10% had been pregnant in the past 6 months and another 10% were pregnant in the past 6 to 12 months. It is likely that most of the recent pregnancies were unwanted as 18% of the service women had undergone an abortion in the past year. The majority of the abortions were conducted by the women themselves, without any medical supervision. Overall, 15% of the service women reported using modern contraceptives other than condoms.

Table 4: Reproductive history, use of contraceptives and history of abortion among service women

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Currently have children	12	13	13	23	29	17
Time since last pregnancy						
Never pregnant	64	63	72	58	52	62
<= 6 mth	16	10	5	10	5	10
>6 & <=12 months	6	12	11	12	11	10
>12 months	14	15	12	20	32	18
Ever aborted (among those ever pregnant)	79	75	67	64	68	71
Aborted past year (among all women)	21	18	16	16	16	18
Who conducted last abortion						
Self inflicted	67	83	64	34	55	61
Medical staff	33	17	36	61	45	38
Friend	0	0	0	5	0	1
Type of contraceptive currently used						
Pill	8	45	2	15	12	15
Injectable	0	11	1	5	3	3
IUD	0	0	0	3	1	1
Withdrawal	17	11	5	4	10	11
Currently using any modern contraceptive method appart from condom	8	45	3	16	12	15

4.4. History of selling sex

About a quarter of service women sold sex at sexual initiation. It is noteworthy that almost all (98%) reported having sold sex in the past 3 months, which qualifies the population as female sex workers. The turnover of service women was high, ranging from half of the service women being new to the job every 4 months in Bokeo, to half of the service women being new to the job every 12 months in Vientiane. Overall, a quarter of the service women had been doing this job for 24 months or more (data not shown). This high turnover means that most of the service women are new to comers in the sex trade market and are ready to get infected.

Depending on the province, half of the service women had been staying from 1 to 4 months in the same establishment. However, the mean was substantially higher than the median indicating that some women stay for a long period of time in the same establishment. Still this information indicates a high mobility of a fringe of the service women population, which poses a challenge for outreach interventions and requires frequent visits to establishments to ensure a high coverage.

Table 5: History of selling sex and mobility of service women

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Sold sex at first sex	24	31	30	33	22	27
Duration selling sex (months)						
Mean	15	15	12	12	18	14
Median	9	8	4	8	12	8
Sold sex in past 3 months	98	100	97	94	99	98
Had worked as service women in other provinces	8	34	25	33	40	25
Duration in current establishment (months)						
Mean	9	4	4	3	9	6
Median	4	1	1	1	3	2
Number of months doing this job						
Mean	15	15	12	12	18	14
Median	9	8	4	8	12	8

4.5. Sexual Partners

The mean number of clients reported by service women for the past week remains low and comparable to previous round of surveillance (mean: 2.5 clients per week). About half of service women reported having some regular partners paying with gifts, which are called “regular clients” in the present report. In addition, 14% had casual partners defined as non-paying and non-regular partners.

Table 6: Number and type of partners reported by service women

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Had regular partner giving gift but no money in past 3 months	51	56	44	36	39	46
Number of clients past week						
Mean	2.3	3.4	2.4	2.4	2.3	2.5
Median	2	3	2	2	2	2
Had non-paying & non-regular partner past 3 months	18	13	11	16	7	14

4.6. Last clients characteristics

Clients of service women are a majority of Lao national (78%) or citizens from the neighboring Asian countries (21%). About half of service women did not know the profession of their last client. Civil servants represented 13% of the last clients, so did military and police. Sexual services are more expensive in Vientiane or Attapeu than in other cities. Half of the clients pay at least 250,000 Kips per sexual service.

Table 7: Characteristics of last client

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Nationality of last client						
Lao	71	77	84	89	76	78
Thai	7	2	7	2	1	4
China	9	20	7	5	0	8
Vietnam	1	1	1	4	22	5
Burma	9	0	0	0	0	3
Japan/Korea	2	0	0	0	0	1
Western	1	0	0	0	1	0
Profession of last client						
Gov staff	7	17	12	15	22	13
Military/Police	9	20	18	14	9	13
Salesman	9	9	7	11	14	10
Tourist	5	5	1	1	0	3
Driver	1	6	4	3	1	3
Company/factory	4	5	5	17	11	8
NGO staff	3	0	1	1	2	2
Don't know/ No answer	61	38	51	39	41	49
How much did last client pay (Kip)						
Mean	452,000	179,000	289,000	237,900	343,000	325,000
Median	300,000	150,000	250,000	200,000	300,000	250,000

4.7. Availability and use of male latex condoms

More than half of the service women had purchased condoms in the month prior interview. However less than 10% of service women were carrying condoms at the time of interview, except for Attapeu, where 44% of participants could show a condom to interviewers. In every surveyed province, the overwhelming majority reported that condoms were available at their workplace.

Table 8: Condom availability

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Carries and can show condom at time of interview	7	8	7	11	44	14
Purchased condom pasts month	48	78	68	80	51	62
Cost of a pack of 12 condoms (Kip)						
Mean	5,396	2,513	4,340	4,670	4,174	4,282
Median	5,000	2,000	5,000	3,000	5,000	5,000
Condom available at work place	90	83	93	79	76	85

In every province, more than 95% of service women reported using condom at last sex with client. Overall, 89% reported always using condoms with clients in the past week and 83% in the past month. However, they were 53% to report having clients refusing to use condoms in the past month. In most instances, clients were opposed to using condom: 39% of service women had clients who propose to pay more for unprotected sex, and 36% of service women had clients threatening them to obtain unprotected sex. Clients' difficulty to sustain an erection was a minor cause of unprotected sex: 12% of service women reported unprotected sex past month due to clients' alcohol imbibitions, whereas 2% of service women had unprotected sex in the past month caused by clients high on drugs.

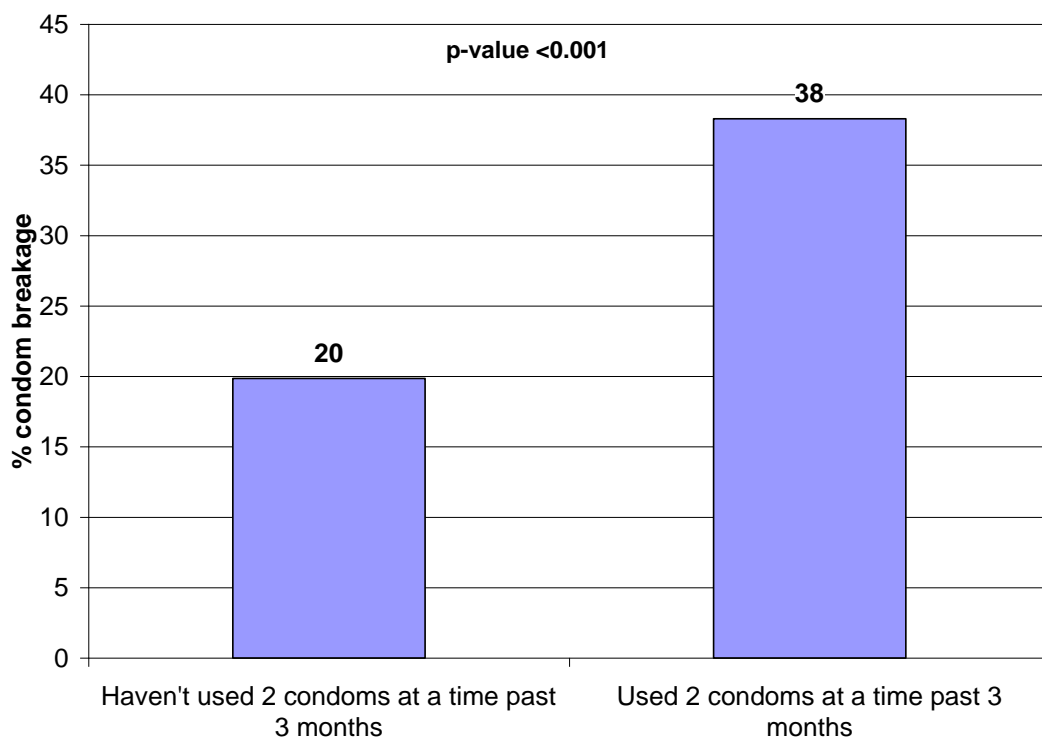
While 81% had used condom at last sex with casual partner, less than half had used condom at last sex with regular client. Overall, 30% of service women had unprotected sex with a regular client in the past month and 4% with casual partners.

Table 9: Condom use

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Condom use at last sex						
With client	95	98	97	97	98	97
With regular client	50	54	49	48	42	49
With casual partner	71	90	76	91	90	81
Condom use with client past week						
Always	84	92	86	95	94	89
Sometime	12	8	9	4	6	9
Never	3	0	4	1	1	2
Condom use with client past month						
Always	79	85	77	89	91	83
Sometime	19	15	22	10	8	16
Never	2	0	1	1	1	1
Had client refusing to use condom past month	57	60	46	37	59	53
Had client proposing money for unprotected sex past month	43	53	34	27	36	39
Had been threatened by client for unprotected sex past month	38	43	19	24	55	36
Had client too drunk to use condom past month	11	24	8	7	8	12
Had client too high on drugs to use condom past month	1	3	1	3	1	2
Had client who removed condom before the end of intercourse past month	1	0	1	0	0	0
Condom use with casual partners past 3 months						
No casual partner	81	87	89	79	93	85
Always	12	12	8	18	6	11
Sometime	3	1	1	2	1	2
Never	4	1	3	1	0	2
Condom use with regular client past 3 months						
No regular client	49	44	56	66	61	54
Always	16	19	16	15	11	16
Sometime	18	19	14	6	11	14
Never	17	17	14	13	17	16
Had condom breakage past 3 months	26	30	14	28	23	24
Used two condoms on the top of one another at last sex	9	2	5	9	5	7
Used two condoms on the top of one another past 3 months	32	15	15	30	27	25

Service women were 24% to have experienced condom breakages in the past three month. They were 25% to have used two condoms on the top of one another in the past three months. Using two condoms at a time was associated with breakages as those who had used two condoms at a time in the past three months had experienced twice more breakages than those who had not used two condoms at a time in the past three months ($p < 0.001$, see Figure 1).

Figure 1: Condom breakage past 3 months by use of two condoms at a time



4.8. Female condom

While 76% of service women from Vientiane had heard of female condoms, only a quarter to a third of service women from province had heard of such device. In Vientiane, 20% of service women had ever used a female condom. In the provinces, however, less than 10% of service women had ever used a female condom. Among those who had ever used female condoms, 56% reported feeling comfortable using them.

Table 10: Use of female condoms

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Ever heard of female condom	76	32	28	28	39	46
Ever used female condom	20	6	3	7	4	10
Ever used female condom (n)	n=59	n=8	n=5	n=11	n=6	n=89
Feel comfortable using female condom	56	50	60	73	33	56

4.9. Violence to service women

A quarter of the service women from Vientiane and a third of those in Luang Namtha had been forced into sex in the past year. In addition 5% of service women had been molested by clients in the past 3 months.

Table 11: Report of aggressions

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Forced into sex past year	25	32	16	11	15	21
Molested by client in the past 3 months	7	8	2	5	2	5

4.10. Drug use

Only 5% of service women had ever used opium, heroin or methamphetamine. One percent of service women acknowledge having injected drugs in the past year.

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Ever used opium, heroin or methamphetamine	4	7	8	4	7	5
Ever used methamphetamine	4	7	8	4	7	5
Ever used thinner	0	0	1	1	0	0
Ever used heroin	0	0	1	1	0	0
Ever used opium	0	0	0	1	0	0
Ever used cannabis	0	0	1	1	0	0
Injected drugs past year	1	0	1	2	0	1

4.11. Knowledge of HIV

The overwhelming majority of service women knew that HIV is transmitted through unprotected sex (98%), stained needles (95%), or from mother to child during pregnancy or delivery (92%). However, fewer reported that HIV could be avoided by being faithful to an uninfected faithful partner (78%) or by abstaining from sex (26%). It is plausible that service women reported what they thought as a possible strategy to protect themselves against HIV rather than reporting their knowledge of the strategy.

Misconceptions on HIV modes of transmission were still substantial: 36% believed that HIV could be transmitted through mosquito bites (52% in Saravanne which is the province most affected by malaria), 12 % believed they could identify HIV infected individuals, and another 12% believed that HIV could be transmitted by sharing food utensils. Moreover 38% believed that they could prevent from getting infected with HIV by taking antibiotics before or after sex.

Overall, 45% of service women had answered correctly to the five questions composing the UNGASS indicator (including: condom use, faithfulness, recognizing infected people, sharing food, and transmission from mosquitoes).

Table 12: Knowledge of HIV transmission and prevention among service women

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Know that HIV can be prevented by using condoms when having sex	99	100	97	96	98	98
Know that HIV can be prevented by being faithful to one partner	78	89	81	66	79	78
Know that HIV can be avoided by abstaining from sex	35	19	16	28	21	26
Know that HIV can be transmitted by stained needles	95	99	94	88	98	95
Know that HIV can be transmitted from mother to child during pregnancy	95	91	92	83	97	92
Know that HIV infected person can look healthy	87	96	81	82	93	88
Know that HIV is not transmitted by mosquitoes	71	63	66	48	68	64
Know that HIV is not transmitted by sharing food utensils with HIV infected person	90	87	84	82	95	88
Know that taking antibiotics before / after sex does not prevent HIV	73	67	80	59	83	72
UNGASS knowledge indicator	47	53	46	29	47	45

4.12. Reported symptoms of STI and attendance to STI clinic

Overall, 31% of service women reported having had STI symptoms in the past three months and 18% reported having symptoms at time of interview. The frequency of reporting of STI symptoms was higher in Vientiane and the Northern provinces than in the Southern provinces (Saravane and Attapeu). The most frequently reported symptom of STI was vaginal discharge that is known to be a poor predictor of STI. Genital ulcer, genital vesicles, and genital warts were seldom reported.

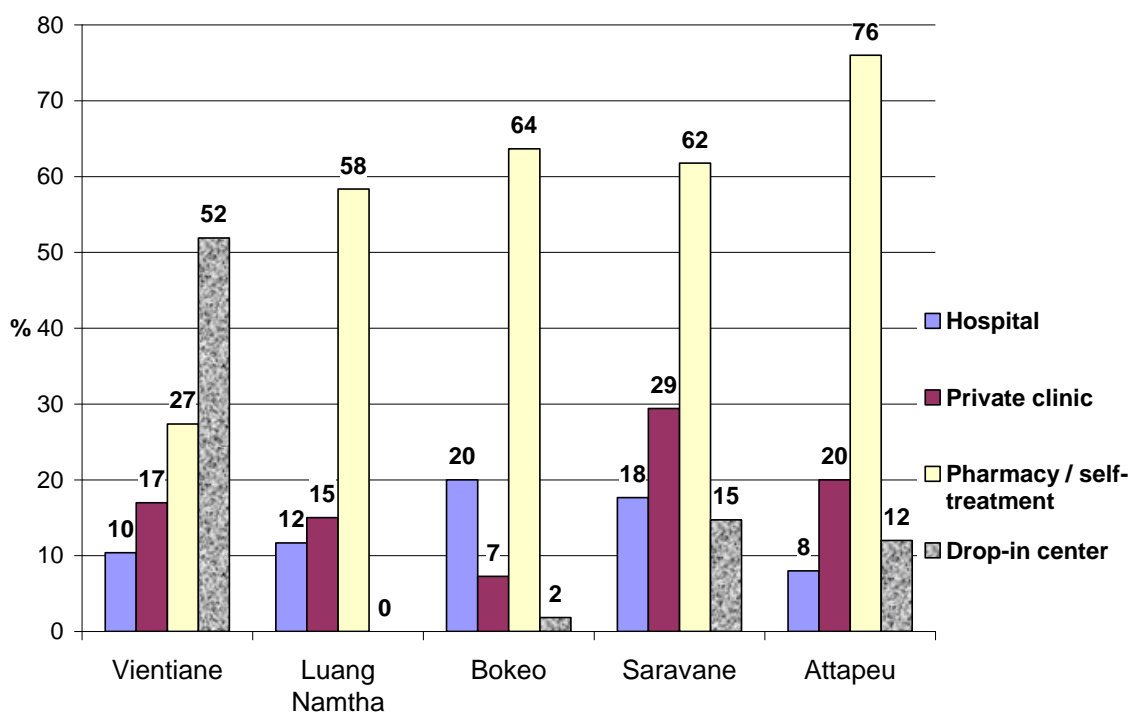
In Vientiane, about half of the service women from had undergone a routine STI checkup in the past three months, and a third had attended the STI clinic twice or more. In the other surveillance provinces, less than 20% had a routine STI checkup in the past three months and 4% or less had attended multiple times.

Table 13: Reported symptoms of STI and attendance to routine checkups

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Currently have symptom of STI, including:	19	20	25	17	6	18
Lekorrhea	18	19	25	16	6	17
Genital ulcer	2	1	1	2	0	1
Genital vesicles	2	1	1	1	0	1
Genital wart	0	1	0	1	0	0
Had STI symptoms in the past 3 months, including:	35	40	36	23	17	31
Lekorrhea	34	39	36	21	16	30
Genital ulcer	5	1	1	2	1	3
Genital vesicles	5	1	1	1	0	2
Genital wart	1	1	0	1	0	1
Number of attendings to STI checkup in the past 3 months						
Never attended	52	88	86	90	81	75
One	15	8	10	7	17	12
2 to 3 times	22	3	3	3	1	9
>3 times	10	1	1	0	0	4

About of half of those from Vientiane who had symptoms of STI in the past three months sought treatment at a drop-in center. In other provinces the majority self treated or chose to ask for advises at a pharmacy.

Figure 2: Source of treatment at last episode of STI, which occurred in the past three months



4.13. Uptake of HIV testing services

The proportion of service women who acknowledged having ever been tested for HIV was in the range of 43% in Vientiane to 16% in Bokeo. While a third of service women from Vientiane and a quarter of the service women from the Southern provinces (Saravane and Attapeu) reported having received HIV test results in the past year, less than 10% of service women in the Northern provinces accessed to their HIV serostatus past year.

Table 14: Uptake of HIV testing services

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Ever tested for HIV	43	23	16	34	35	33
Tested for HIV and received test results in the past 12 months	36	6	10	24	26	23

Service women were asked which type of services they received at last HIV test and their satisfaction with services provision. VCT services appear fairly comprehensive in all surveyed provinces but Luang Namtha. In Luang Namtha, the majority of those tested (80%) reported not receiving pre-test or post-test counseling and received not explanation about their test results.

Table 15: Array of services received by service women at last HIV testing

Ever tested for HIV	Vientiane n=130 %	Luang Namtha n=35 %	Bokeo n=25 %	Saravane n=54 %	Attapeu n=53 %	Total n=297 %
Had pre-test counseling at last test	98	20	88	89	98	86
Had post-test counseling at last test	96	20	76	85	100	84
Found the staff friendly	100	23	88	80	100	86
Received results the same day	99	23	88	83	100	87
Received information about HIV transmission	68	14	60	63	53	57
Received information on how to prevent HIV	95	17	84	93	98	85
Received explanation about the meaning of the test result	96	20	84	94	98	86
Received information on hygiene for people living with HIV	89	20	84	93	96	82

4.14. Source of information and coverage of prevention services

Overall, 77% of service women received information on HIV in the past year and there was no major difference across provinces. In Vientiane, 77% of service women acknowledge having received information on HIV from NGO in the past three months. In other provinces NGO coverage was substantially lower, ranging from 55% in Bokeo to 23% in Attapeu where there is no NGO implementing prevention program. In all survey provinces, the majority of service women had received free condoms in the past three months. However, only in Vientiane was the condom distribution taking place on a regular basis (more than half of service women had received free condoms on at least 3 occasions).

Most service women had received information on HIV and condoms when they started working at their current location. In most instances, the information was provided by colleagues (46%), the mamasan (22%), or outreach workers (21%).

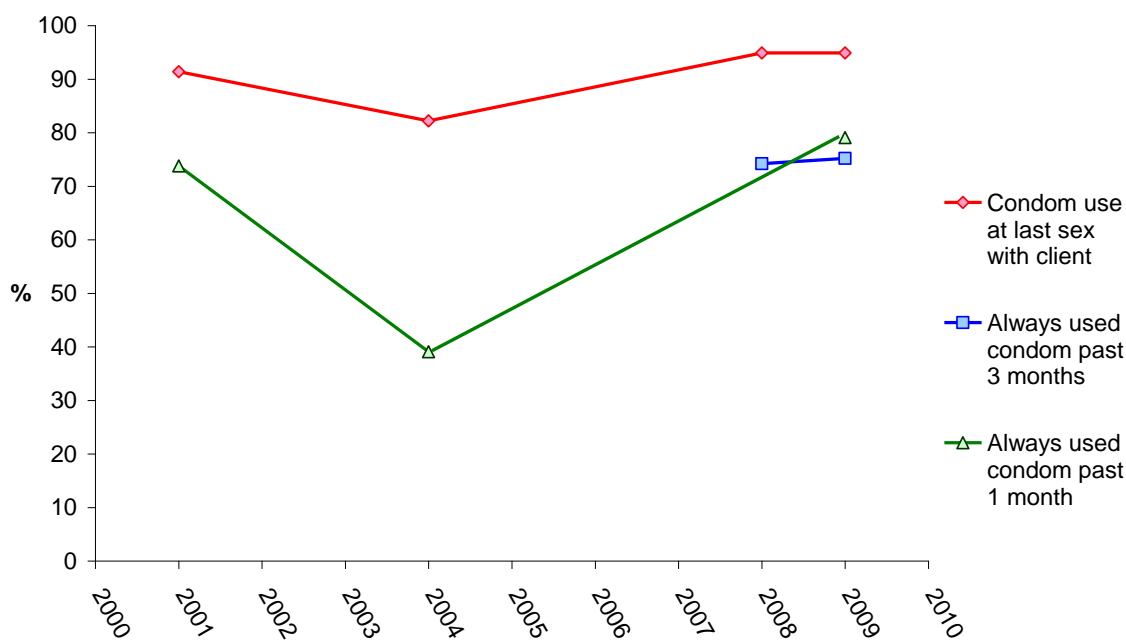
Table 16: Coverage of prevention services

	Vientiane n=300 %	Luang Namtha n=150 %	Bokeo n=152 %	Saravane n=160 %	Attapeu n=150 %	Total n=912 %
Attended health staff meeting or outreach session on HIV past year	81	82	72	62	83	77
Received information on HIV from NGO in the past 3 months	74	38	55	39	23	51
Number of times received free condoms in past 3 months						
Never	18	21	36	45	25	28
Once	9	13	25	20	31	18
2 to 3 times	20	46	28	23	29	28
>3 times	53	19	11	13	15	27
Received printed HIV information material in the past 6 months	44	39	54	28	42	42
Have poster on HIV / STI at workplace	27	27	43	25	25	29
Received information on condom and HIV when initiated working at current place	74	96	59	61	83	74
Who provided information when initiating working at current workplace						
Colleague	36	72	44	31	44	46
Mamasan	18	17	16	36	27	22
Outreach worker	27	3	27	20	26	21
Medical staff	5	7	11	12	0	7
Other	13	1	2	1	2	5

4.15. Trends in condom use among service women selling sex in Vientiane

Vientiane is the only city that always included in all surveillance round. To ensure comparability across survey the trends were constructed exclusively for Vientiane. The trend in condom use at last sex with clients has remained around 90% since the first round of surveillance in 2001. Consistent use of condoms with client in the past 3 months remained unchanged 2008 to 2009. Consistent use of clients in the past month decreased substantially from 2001 to 2004 but dramatically increased after that.

Trend in condom use with clients among service women from in Vientiane



V. Conclusions and recommendations

5.1. Recommendations

- Due to the frequent mobility of service women and their short duration staying in one establishment, prevention interventions should be done regularly.
- Prevention should include condom skills to address the frequency of condom breakage and inadequate use of condoms
- Prevention should include condom negotiation skills with focus on new FSW.
- Messages on condom use with regular clients should be strengthened.
- Distribution of condoms to service women is insufficient to bolster the importance messages on consistent use of condoms with clients. The strategy on condom distribution needs to be revised.
- Female condoms appear acceptable and the use of female condom as an alternative for client refusing to use condoms should be piloted.
- Geographical coverage should be strategic to ensure quality services in all provinces.
- Quality of implementation should be strengthened in provinces to ensure quality services.

- Each province should have a STI service dedicated to FSW (private, NGO, DIC....). Drop-in centers appear widely used where they exist and they should therefore be sustained.
- Reproductive health services (family planning) should be integrated with STI services to address the issue of unwanted pregnancies and frequent abortions among service women.
- Regular partners of service women (i.e. regular clients) need to be treated for STI.
- Results of the present survey should be shared with the Lao Women Union to address issues related to violence.
- Gaps in surveillance:
 - Ethnographic study among FSW on mobility and motivations.
 - Inclusion of HIV module questions in DHS.
 - Assessment of use and satisfaction of female condom.

5.2. Conclusions

The level of risk behaviors among service women has remained unchanged since 2008. There is no significant difference in behaviors between service women from remote areas and those from Vientiane capital. However, access to services may vary significantly by province. Uptake of VCT services and STI treatment remain too low in some province.

**Part 2: Integrated Behavioral and
Biological Surveillance Survey among
men who have sex with men
in Luang Prabang**

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VI. MSM background

While the prevalence of HIV among female sex workers and clients remains inferior to 0.5% as 2008, a survey conducted the same year in Vientiane found 5.5% prevalence of HIV among MSM. Additional information is needed to document the state of the epidemic in this particular high risk group that is currently the group with the highest incidence in neighboring Thailand.

VII. Objectives

Primary objectives:

- To assess the prevalence of HIV among MSM in Luang Prabang.
- To assess the prevalence of HIV-related risk behaviors among MSM in Luang Prabang.
- To assess the prevalence of rectal chlamydia and gonorrhoea among MSM in Luang Prabang.

Secondary objectives:

- To set a baseline for the monitoring of epidemiologic trends in HIV/STI prevalence among MSM in Luang Prabang.
- To pilot respondent driven sampling among MSM
- To pilot data collection using personal digital assistant
- To develop capacity of the Lao MOH and the CHAS to conduct HIV and STI surveillance in populations among MSM.

VIII. Methods

8.1. Survey design:

A cross-sectional study design was used. Participation to the survey was voluntary and anonymous.

8.2. Survey population:

Those eligible to participate in the survey were

- Biological male
- Aged 15 to 49 years
- Lao citizens
- Resident of Luang Prabang province for at least two weeks
- Who had anal sex with a man in the past 6 months
- Who have authentic and valid coupon
- Who gave informed consent

8.3. Survey area:

Survey area included Luang Prabang province.

8.4. Sample size:

The sample size was selected in an empirical manner based on the sample sizes used in previous rounds of surveillance. A sample size of 300 allows disaggregating behavioral data by two variables. It will also allow detecting a 12% change from a 50% baseline with 95% confidence and 80% power if surveys of similar sample sizes are conducted in the future.

8.5. Sampling design:

Participants were selected using respondent driven sampling (RDS). RDS is an enhancement of chain-referral sampling designed to overcome the limitations of snowball sampling. In theory, RDS yields a homogeneous sample after at least 3 waves of recruitment. RDS starts with a selection of seeds which should be as heterogeneous as possible to ensure that any kind of members of the surveyed group are likely to be recruited.

An initial set of 4 “seeds” was selected through the NGOs working with MSM. The seeds included some transgender as well as non-transgender MSM, various age groups (aged below 20 and aged over 20) and various quarter of residence. Each seed was given 3 non-reproducible coupons to be given to friends or acquaintance that the recruiters wanted to invite to participate in the survey. Recruits were proposed the same deal until completion of sample size. Recruiters were not requested to give the names of the friends they recruited.

Participation was voluntary. All participants provided informed consent, which was verbal and witnessed. The verbal consent was administered by the interviewer in a private setting and witnessed by the team leader. Each participant received 3 USD per recruited individual in addition to 6 USD for participation in the survey as well as to cover their transportation cost.

Data collection took place at the “Population Service International” drop-in center for MSM in Luang Prabang.

The recruitment of MSM in the sample continued until the required sample size was reached. Coupon holders who filled eligibility criteria and voluntarily decided to be interviewed were included in the sample.

8.6. Survey procedures:

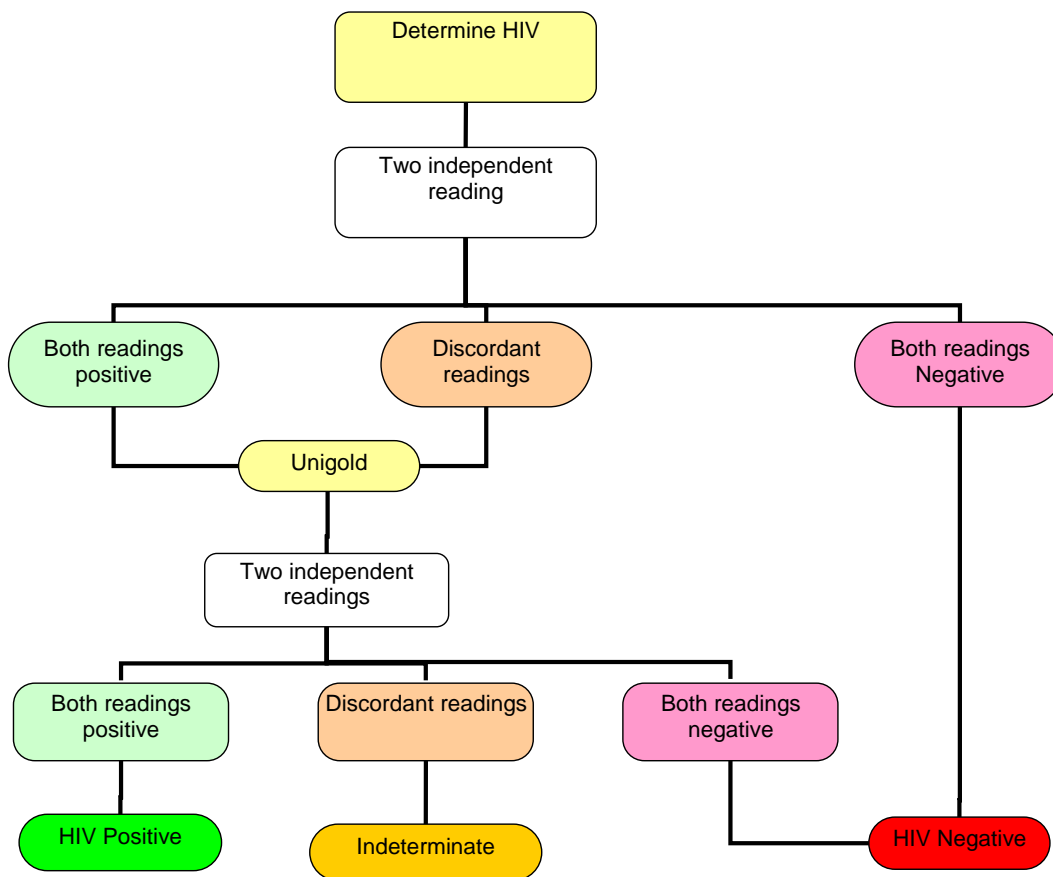
8.6.1. Collection of behavioral data

Behavioral data were self-collected using pre-programmed handheld pocket PC (Hewlett Packard) with standard questionnaires. Collection of behavioral data was supervised by staff from the Luang Prabang Provincial Committee for the Control of AIDS. Questionnaires were coded using Microsoft Visual Basic.Net. Data were synchronized to laptops using Microsoft Access.

8.6.2. Laboratory procedures

A trained nurse collected blood through venipuncture. The blood specimen were stored at 4°C and transported the same day to Luang Prabang provincial hospital for testing. Blood was centrifuged within 24 hours following reception. Sera were tested for HIV using Determine® HIV-1 (Abbott, Abbott Park, IL). and those with two concordant negative reading of the rapid test were considered negative. Those testing positive were re-tested using Unigold Recombigen HIV® (Trinity Biotech, Bray, Ireland). Blood was aliquoted and stored at -20 °C for quality control procedures.

Figure XX: HIV testing algorithm for sera



Syphilis was tested using RPR (PLEASE ADD THE NAME OF THE REAGENT USED and name of the factory producing it) and confirmed using ??? (PLEASE ADD THE NAME OF THE REAGENT USED)

Participants self collected rectal swabs. Rectal swabs were stored at -4 0C and sent to Merieux laboratory in Vientiane to be tested for Chlamydia and gonorrhoea.

Rectal swabs were tested by real time polymerase chain reaction (PCR) automated by Biorad CFX96. Chlamydia was tested using “Chlamydia trachomatis Real-TM” (Sacace biotechnologies, Caserta, Italy) and gonorrhea was tested using “Neisseria gonorrhoeae Real-TM” (Sacace biotechnologies, Caserta, Italy).

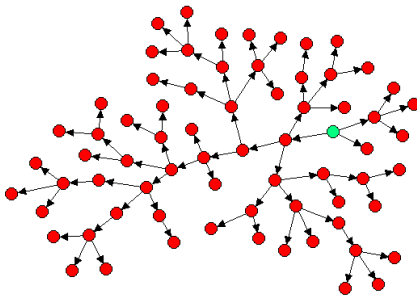
8.7. Ethical review:

Survey protocol and questionnaire was approved by the Lao PDR National Ethics Committee for Health and Research. No name or identifier of any kind was collected during the survey. All survey documents were kept by the provincial supervisor until they were sent to the CHAS and will be kept confidential from others than the survey team.

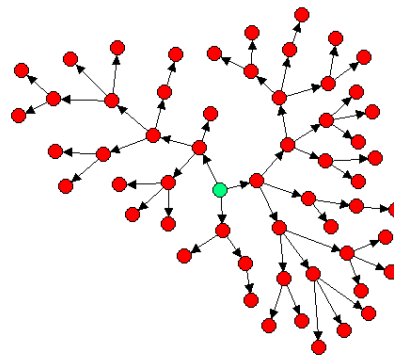
IX. Results

Data were collected in August 2009. Data was initiated with 4 seeds and a fifth seed was secondarily added to accelerate recruitment. Selected seed were MSM with extended network and various age groups. The first 4 seeds were aged 20, 21, 28, and 31 years old, respectively. They all defined themselves as gay except for one who did not know his sexual orientation. The seed ultimately added (seed number five) was led by a 46 years old MSM who did not know his sexual identity.

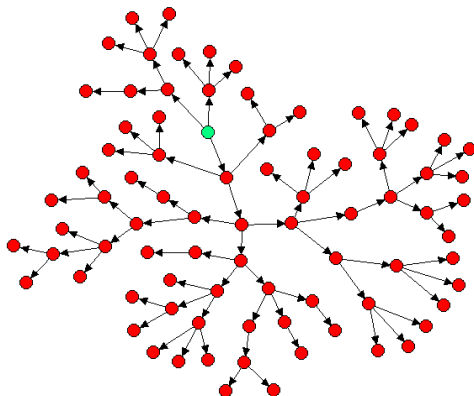
Seed 1 achieved 8 waves of recruitment



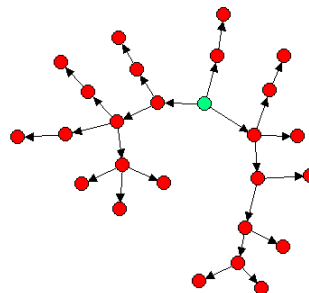
Seed 2 achieved 5 waves of recruitment



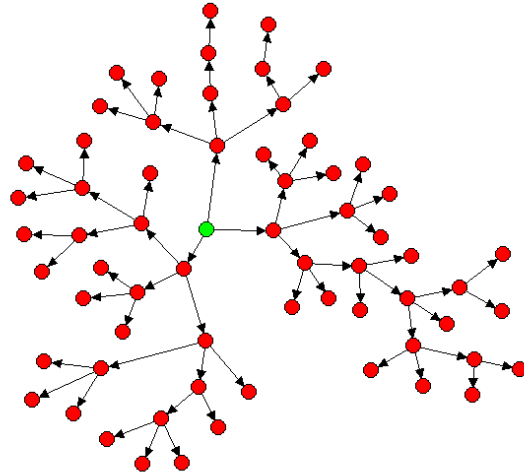
Seed 3 achieved 7 waves of recruitment



Seed 4 achieved 5 waves of recruitment



Seed 5 achieved 7 waves of recruitment



9.1. Demographics:

Demographics were analyzed using both RDS analysis tool as well as a standard statistical package. Demographic characteristics of the sample show little differences between the two analysis methods. Subsequent analysis was performed using a standard statistical package.

MSM were young with half of the sample aged 20 year old or below. The majority (93%) had never married and 5% were currently married. Comparatively with other high risk population, MSM had a high level of education as 79% had attended upper secondary school. Most MSM were native from Luang Prabang province (70%) and lived with parents of relatives (66%). They identified themselves as bisexual (38%) or heterosexual (25%). Only 16% reported being homosexual and another 5% reported being transgender.

Table 17: Demographic characteristics of MSM, by analysis methodology

		Analysis methodology	
		Standard statistics	RDSAT
Age			
	Mean	21.8	NA
	Median	20	NA
	<=20 years old	50%	41%
Marital status			
	Never married	93%	93%
	Currently married	5%	6%
	Separated / widow	2%	2%
Education			
	Primary school or less	6%	6%
	Lower secondary School	14%	13%
	Upper secondary School	57%	61%
	University	23%	20%
Current living arrangement			
	With parents	55%	53%
	With relative	11%	12%
	Alone	8%	4%
	With partner	4%	4%
	With friends	21%	26%
	Other	1%	1%
Born in Luang Prabang province		70%	66%
Self reported sexual identity			
	Heterosexual	25%	31%
	Bisexual	38%	39%
	Homosexual/gay	16%	9%
	Transgender'	5%	6%
	Don't know	16%	16%

9.2. First sex and partners' gender:

The mean age at first sex reported by MSM was 17.3 years of age and they had been sexually initiated for an average of 5 years. The majority had had first sex with a woman (64%) and initiated sex with men on average a year after first sex. The majority of MSM reported feeling attracted by women (69%).

Table 18: First sex and gender of preferred partner

		n=300
		%
Feel attracted by men		64
Feel attracted by women		69
Feel attracted by transgender		47
Neither attracted by men nor transgender		26
Age at first sex		
	Mean	17.3
	Median	17
Gender of first sexual partner		
	Man	32
	Woman	64
	Transgender	4
Number of years since first sex		
	Mean	5
	Median	3
Number of years since first sex with a man		
	Mean	4.2
	Median	2

The majority of bisexuals and heterosexuals reported feeling attracted to women (91% and 76%, respectively). Those most attracted by men were the homosexuals and the bisexuals. Those most attracted by transgender were bisexual or transgender.

Table 19: Preferred partners' gender by self identified gender

Self-reported sexual orientation	Attracted by women	Attracted by men	Attracted by transgender
	%	%	%
Heterosexual	76	33	33
Bisexual	91	81	77
Homosexual/gay	22	89	21
Transgender	47	73	60
Does not know	58	39	17

9.3. Sexual partners

In the past 3 months, 44% of MSM had a steady partner, including 28% a female, 14% with a male and 3% with a transgender regular partner. The most frequently reported type of partner was non-regular partners without payment (called casual partners in the present report). Of those 47% who reported having had casual partners in the past 3 months, 33% had sex with female casual partners and 28%

had sex with male casual partners. They were 23% to report having received money for sex in the past 3 months, including 15% who received money from males, another 15% who received money from transgenders, and 14% who received money from females. In addition 23% had purchased sexual services in the past 3 months: 16% from women, 12% from men, and 8% from transgenders. They were 12% to report foreign male partners in the past 3 months. The majority of the foreign partners were from other Asian countries.

Table 20: Type of sexual partners reported by MSM from Luang Prabang

	n=300 %
Sexual partner in the past 3 months	
Steady partner	44
Casual partner	47
Clients	23
Sex worker	23
Sexual partners in the past 3 months (type and gender)	
Steady male	14
Steady female	28
Steady transgender	3
Casual male	28
Casual female	33
Casual transgender	21
Male client	15
Female client	14
Transgender client	15
Paid male	12
Paid female	16
Paid transgender	8
Had non Lao male partner past 3 months	
Thai male partner past 3 months	4
Western male partner past 3 months	3
Japanese male partner past 3 months	3
Foreign Lao male partner past 3 months	3
Korean male partner past 3 months	2
Chinese male partner past 3 months	1
Other Asian male partner past 3 months	4

9.3. Use of condoms and lubricants

While 42% of MSM reported having used a condom at first sex, they were only 14% to carry a condom at the time of interview. The majority of MSM reported

using a condom at last sex with any type of partner except for transgender regular partners. Consistent use of condoms in the past 3 months ranged from 56% with foreign male partners to 30% with FSW, and remained insufficient to impact HIV transmission.

The majority of MSM (81%) reported using water based lubricant in most instance when having anal sex.

Table 21: Use of condoms and lubricants by type of partners

	n=300
	%
Used condom at first sex	42
Carries condom at time of interview	14
Condom use at last sex with	
MSW	78
Casual male partner	68
Regular male partner	67
Male client	66
Female client	64
FSW	59
Regular female partner	55
Casual female partner	52
Regular transgender partner	13
Consistent condom use past 3 months with:	
Foreign male partners	56
MSW	51
Male client	40
Casual male partner	37
FSW	30
Type of lubricant most often used	
Number1 / other gel	74
Saliva	7
KY	4
Soap / shampoo	4
Nivea or other cream	2
Other	10

9.4. Sexual behaviors with male partners

In the past 3 months, a third of the MSM had exclusively had sex as top, another third had sex exclusively as bottom, while the last third had switched between those two positions. Results were comparable when looking at the position taken at last sexual intercourse with a male.

Table 22: Sexual position with male partners in the past 3 months and at last sex

		n=300
		%
Sexual position taken in past 3 months		
Top		39
Bottom		30
Switch		32
Sexual position at last sex with MSW		
Top		34
Bottom		34
Switch		32

9.5. Sexual hygiene and co-factors for HIV transmission

Just 7% of MSM in Luang Prabang reported being circumcised. Less than half reported always washing their penis before sex and a similar proportion reported washing their penis after sex. They were 52% who reported always washing their anus before sex and 58% to always wash it after sex. The overall proportion of MSM washing their genitals or anus when engaging into sex was still too low and education messages could stress the importance of applying such basic hygiene precautions.

Table 23: Co-factors for transmission of HIV among MSM in Luang Prabang

	n=300
	%
Circumcised	7
Clean penis before insertive male to male sex	
Always	44
Sometimes	36
Never	20
Clean penis after insertive male to male sex	
Always	45
Sometimes	36
Never	19
Clean anus before receptive anal sex	
Always	52
Sometimes	28
Never	20
Clean penis after receptive anal sex	
Always	58
Sometimes	25
Never	17

9.6. History of forced sex

About a quarter of MSM had ever been forced into sex, with the majority having been forced for the first time in their teens. Most (63%) of those who had been forced into sex had experienced this trauma on multiple occasions.

Table 24: History of forced sex

	n=300
	%
Ever forced into sex	26
Age at first forced sex (of those ever forced into sex)	
<=10 years old	4
>10 & <=20 years old	78
>20 years old	18
Number of times ever forced into sex	
Once	37
Twice	31
Thrice or more	32

9.7. Drug use

Overall, 45% of MSM reported having smoking tobacco in the past 3 months. However, only 13% of the smokers reported having smoked more than 3 cigarettes a day in the past week. Reported by 67% of MSM, alcohol intake was more common than smoking. Methamphetamine was the drug most used by MSM in the past year. While a relatively large proportion (12%) of MSM reported having injected drugs in the past year, the majority of injectors had injected less than 4 times in the year.

Table 25: Use of intoxicants

	n=300
	%
Ever smoked tobacco	55
Used tobacco in the past 3 months	45
Number of cigarettes smoked past week	
Have not smoked past week	59
<= 20 cigarettes	28
>20 cigarettes	13
Drunk alcohol past year	67
Used ecstasy past year	3
Used opium past year	3
Used heroin past year	2
Used methamphetamine past year	11
Used cannabis past year	8
Injected drug past year	12
Number of injections past year (among injectors n=12)	
<= 4 injections	75
>4 injections	25
Drug used together with sex past year	
Alcohol	13
Methamphetamine	6
Cannabis	2
Ecstasy	1
Opium	1
Heroin	0.3
Ever used Viagra type drugs	7

9.8. Knowledge of HIV

MSM knowledge of HIV transmission was moderate: 83% knew that HIV is transmitted through vaginal sex, 70% knew that HIV is transmitted through anal sex, 84% knew that HIV is transmitted from mother to child, and 85% knew about blood transmission. However, about a quarter did not know that faithfulness was a strategy to prevent HIV. Misconceptions about HIV transmission remained frequent as about half believed they could identify people living with HIV, a third believed that mosquitoes bites was a route of HIV transmission, and one out of five believed that sharing food utensils with people living with HIV was a risk behavior. Such misconceptions need to be corrected as they pave the way to discrimination against people living with HIV.

Overall, 25% of MSM had answered correctly to the five questions composing the UNGASS indicator (including: condom use, faithfulness, recognizing infected people, sharing food, and transmission from mosquitoes).

Table 26: Knowledge of HIV transmission

	n=300 %
Know that HIV is transmitted through unprotected vaginal sex	83
Know that HIV is transmitted through unprotected anal sex	70
Know that HIV is transmitted from pregnant mother to child	84
Know that HIV is transmitted through stained needles	85
Know that HIV can be avoided by mutual faithfulness in non-infected couple	76
Know that HIV infected people cannot be recognized from their appearance	53
Know that HIV is NOT transmitted through mosquito bites	68
Know that HIV is NOT transmitted by sharing food utensils	80
UNGASS indicator of knowledge	25

9.9. HIV testing services

MSM uptake of VCT services was high as 16% had been tested in the past year and 14% had received their test results in the past year. In most instances, HIV testing was provided by the hospital of the STD clinic. Overall, 65% had received information on HIV from a outreach worker.

Table 27: Uptake of prevention services

	n=300
	%
Tested past year	16
Obtained HIV test results past year	14
Where got tested last	
STD clinic	32
Hospital	44
Lao Red Cross	6
Private clinic	3
Other	15
Received information on HIV from outreach worker past year	65

9.10. STI symptoms

Overall, 21% of MSM reported having had symptoms of STI in the past 3 months. Dysuria and genital ulcers were the most commonly reported symptoms, which occurred in the past 3 months. At the time of interview, 3% of the respondents reported currently suffering from STI symptoms.

Table 28: Reported symptoms of STI

	n=300
	%
STI symptoms reported in the past 3 months	
Any symptom	21
Dysuria	15
Genital ulcer	9
Urethral discharge	7
Genital wart	4
Rectal discharge	4
Anal wart	2
Currently reporting STI symptoms	
Any symptom	3
Urethral discharge	1
Dysuria	1
Genital ulcer	1
Genital wart	1
Anal wart	0
Rectal discharge	0

9.10. Prevalence of HIV and rectal STI

None of the participants were infected with HIV.

The rectal mucosa of 9% of MSM was infected with either chlamydia or gonorrhea, or both. Rectal chlamydia was more common than gonorrhea (8.3% versus 1.7%). The prevalences of rectal STIs were substantially lower when analyzing data with the RDS methodology.

Table 29: Results of biological testing

	Stata		RDS
	n/N	%	
HIV	0/300	0	0
Rectal gonorrhea	5/300	1.7	2
Rectal chlamydia	25/300	8.3	5.7
Rectal gonorrhea and/or chlamydia	27/300	9	4.5

X. Conclusions and recommendations

10.1. Recommendations

- ◆ RDS has proved an easy methodology to gain access to MSM independently of their links with existing programs. Further rounds of surveillance will utilize this sampling methodology.
- ◆ The use of PDA for data collection is promoted as a data collection method that leads to more truthful reporting of risk-behavior. The absence of data entry saved time and errors. However, substantial amount of inconsistencies remained that may have been caused by misunderstandings could have been spotted and clarified in face-to-face interviews. The methods may be utilized in the future to survey MSM as they are the most educated surveillance population. However, it is not recommended to use such data collection methodology with FSW, for example.
- ◆ Outreach is needed with emphasis on condom use and condom distribution.
- ◆ Information on drug use and safe injections should be provided to MSM.
- ◆ STI services MSM friendly are needed.

10.2. Conclusions

MSM participants to this survey were young men with various sexual behaviors, including buying and selling sex to men and/or women, as well as injecting drugs. Condom use is still insufficient to prevent HIV transmission and is particularly low with female partners. As a result of their frequent interactions with various groups and their wide array of risky behaviors, MSM from Luang Prabang may acquire and spread HIV within the MSM population and to other most-at-risk group. Their level of knowledge of HIV despite their high level of education calls for repeated information interventions. STI services including rectal examination would be an asset.