

Surveillance Report:

Sexual risk behaviors

and

HIV prevalence

Among Men who have Sex with Men

In 2014

The 2014 Surveillance Results of Associated Risk Behaviors and HIV Prevalence among MSM

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Introduction

The surveillances on associated risk behaviors and HIV prevalence among MSM that are currently being implemented by the Bureau of Epidemiology (BOE), Ministry of Public Health had been extended from a study through collaboration between Thailand – U.S. CDC Collaboration (TUC), The Thai Red Cross AIDS Research Centre, and Rainbow Sky Association of Thailand. The surveillance was initiated in 2003 and Bangkok was chosen to be a pilot area due to the presence of the highest rate of HIV infection among Men who have Sex with Men (MSM). In 2005 the surveillance was expanded to cover Chiang Mai and Phuket provinces. Besides extension of study area, Male Sex Worker (MSW) and Transgender (TG) were also included in the surveillance as sub-target groups. The results of HIV prevalence among MSM was 17.3% in Chiang Mai and 28.3% in Phuket. Based on the results, the high HIV prevalence among MSM was considered to be a public health related issue. In 2007 the BOE had therefore classified MSM group as one of the key populations to be monitored in the surveillance system for associated risk behavior and HIV prevalence. The surveillance was aimed at monitoring epidemic trends of HIV prevalence and HIV associated risk behaviors.

However, the results from the above three provinces were not sufficient to response to questions at the national level. This was because the three provinces were regarded to be tourist areas where there are significant numbers of both Thai and foreigner tourists visiting to. In addition, to implement the surveillance in smaller areas or smaller tourist areas, the tool and system previously used may not considered to be appropriate. To response to the epidemic questions at the national level and the availability of resource, therefore; the surveillance model and the tool were adjusted to cover more surveillance areas and to integrate into regular surveillance system. Two provinces, Phatthalung and Udon Thani, were chosen to test the adjusted model and tool. From the surveillance, the HIV prevalence among MSM was 5.5% in Phatthalung and 4.7% in Udon Thani. From the results, it was possible to conclude that provinces with lower number of tourists had lower HIV prevalence rate. Thus, this was likely to understand that tourism was associated with behaviors of drinking alcohol and having sexual relationships. However, one difficulty in obtaining adequate numbers of sample size for the surveillance was due to a smaller number of target samples in these two provinces.

In 2009, the surveillances were re-carried out in three provinces, which were Chiang Mai, Phuket and Bangkok. The target samples were divided into three sub-groups comprised of Men who have Sex with Men (MSM), Male Sex Worker (MSW), and Transgender (TG). For the following years of 2010 and 2012, the BOE had expanded the surveillance areas to cover additional seven provinces and then 12 provinces had been eventually covered. The 12 provinces were Bangkok, Phuket, Chiang Mai, Udon Thani, and Phatthalung, as original areas; and Chon Buri, Ratchaburi, Pathum Thani, Nakorn Ratchasima, Khon Kaen, Ubon Ratchathani, and Songkla were new provinces.

In 2014 the surveillances were re-conducted in five provinces including Chiang Mai, Phuket, Ratchaburi, Chon Buri, and Bangkok. The surveillance was aimed at obtaining quality data to inform the current HIV prevalence and HIV associated risk behaviors among MSM.

Objectives

- 1) To study HIV prevalence and HIV associated risk behaviors among MSM; and
- 2) To promote access to HIV testing service among MSM.

Qualifications of the Participants in the Surveillance

The followings criteria were used to select the participants for the surveillance:

1. Identified as male at birth;
2. Aged 15 years old and over;
3. Be Thai national; and
4. Resided or worked in the study sites for at least one month

Those who were selected to participate in the surveillance must be qualified under all above criteria. If either one of all qualifications was not met, Pocket PC would be automatically disconnected after the screening process was ended.

Surveillance Methodologies

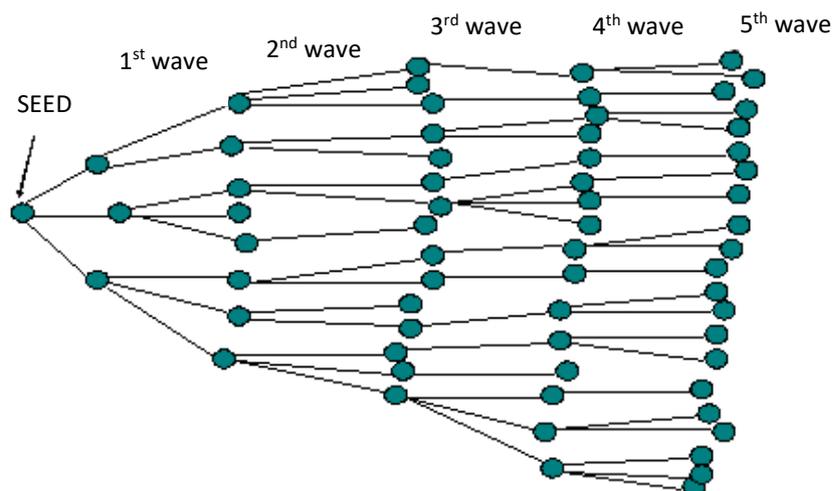
The surveillance in Ratchaburi and Chon Buri

Through the surveillance of HIV infection, HIV and STI associated risk behaviors among MSM using Respondent Driven Sampling (RDS), the participants were asked to answer the questionnaire on the Pocket PC by themselves. The surveillance aimed at obtaining demography data and HIV and STI associated risk behaviors. Blood and urine sample for HIV and STI screening were also collected.

Sampling

By applying the RDS technique, research staff would recruit SEED and identified them as the beginners of the sample from each study area. After that the appointment date, time and place for interviewing and for collecting blood and urine sample would be made. After the interview and sample collection were completed, each SEED was given the maximum of three coupons. Each SEED would pass on the coupons to their three selected friends, which were considered as the first wave (peers). To hand out the coupons, the SEED was required to follow a specific condition, which was: *"please give coupons to your friends who have similar qualifications as you. You must know the names of your friends and your friends must know who you are"*. Once the friends were interviewed and their blood and urine sample were collected, the responsibilities in recruiting the first wave by the SEED was considered completed. Likewise, the first wave would then be given the three coupons to recruit the next waves under the project (Figure 1)

Figure 1: Respondent Driven Sampling Method (From SEED to the 5th wave)



For the survey using the RDS technique, the first SEED was not considered as recruiting sample for the surveillance. However, the next waves were independent from the previous waves and were regarded as the recruiting samples. The recruitment of samples would end when the appropriate sample size had been reached and the proportion was constant to represent the target

group. Generally, the data from at least four to six waves were required in order for the proportion to be constant. This was called a balancing point, which could be assessed by monitoring the fluctuation of each wave of recruitment. If the fluctuation was less than 2% of the set value, the balancing point was then reached.

Criteria for Recruitment and Determining Numbers of SEED

- SEEDs as the beginners of the samples must be MSM with aged 15 years old and over; and had anal sexual intercourse in the past six months without receiving or giving money or subjects for sex exchange;
- SEEDs must be resided in the urban or municipal areas: Three persons for one province; and
- SEEDs must be resided in the sub-burb or non-municipal areas; Three persons for one province.

The Surveillance in Bangkok, Chiang Mai and Phuket

Under these three provinces and based on the venue list, Venue Day Time sampling (VDTS) technique was used. The followings were data collection steps:

- 1) A survey and mapping of places where target group gathering were conducted;
- 2) Based on the mapping, the research team counted the numbers of target group from each place to record numbers of them coming to the study areas. Each counting must clearly specify period of time and day in a week that target group had gathered, especially the time and day that was most crowded with target group. For instance, for the 1st counting at Lumpini Park on Monday during 18.00-20.00., the numbers of target group recorded were 35 people while the 2nd count on Saturday during 22.00-24.00 had shown 50 people. Under these results, the 2nd count on Saturday during 22.00-24.00 was chosen to be the surveillance time due to the greatest numbers of target group was recorded. To ensure accuracy in counting, MSM volunteers were assigned to record the data;
- 3) The data obtained from the busiest time and day was entered into the venue list with period of time and day clearly specified. The venue was then sampled to determine the place for interviewing the target group. By sampling, the simple random technique was used with one venue being selected at each time until the required sample size had been reached. For instance, for the required sample size of 360 cases, if the first sampling from the first venue list identified as 50 people as the sample number, the surveillance would collect data from this 50 cases from the identified venue. After the sample of 50 cases had been reached of the first venue, the research team would identify another venue and another sample cases at the busiest time and follow the same procedures until 360 cases had been reached;
- 4) During data collection at the study areas, the research staff would start by informing the project details to the target groups, and also seek for their willingness to participate in the screening questionnaire process. It is important to note that only the target group who were qualified would be explained about the project details. The target group who gave their consent to participate in the project would be asked to provide additional details for the project; and

- 5) Palmtop Assisted Self –Interview (PASI) was used to facilitate the participants to give data on demographic and HIV associated risk behaviors. Then OraQuick[®] Rapid HIV Testing was conducted in order to detect for HIV Antibody from oral fluid. The appointment date for receiving the testing result was then made on the same day of the test. The result would be informed to the participants at counseling center of provincial hospital in each study site, and by the staff who received counseling training. If the result was positive, the counselor would encourage the participants to get an HIV re-test.

Data Analysis

Data had been analyzed in order to identify percentage of prevalence rate of HIV, Chlamydia trichomatis and Neisseria gonorrhoea, condom use rate, experience of HIV test and receiving testing result, access to prevention program, and level of HIV knowledge at each study site.

For Ratchaburi and Chonburi, the RDS was used to collect the data and RDS Analysis Tool (RDSAT) was preceded for analyzing the data by representing the percentage of RDS.

For Phuket, Chiang Mai and Bangkok the VDS technique was used for obtaining sampling number. The data was analyzed by patterns of HIV associated risk behaviors.

The Surveillance Results

The 2014 results of the five provinces where total number of samples were 1,680 MSM had revealed that the average age of the sample was 26.1 years old (Median 24 SD 8.8). Over ninety percent (93.63%) of them were Buddhists. About 35.5% were studying their Bachelor degree. Over sixty percent (63.7%) were single and 28% of them were students. The majority (35.07%) of them were currently staying with their fathers/mothers. Most of them (34.83%) had income of THB10,000 - 20,000 per month. For the HIV prevalence among MSM, the highest rate of HIV infection (19.80%) was found in Bangkok while the lowest rate (1.9% as RDS percentage) was shown in Chon Buri province (Table 1).

Table 1 HIV prevalence among MSM by province in 2014

Province	Number	HIV infected cases	Percentage	RDS Percentage (95%CI)
Bangkok	505	100	19.80	-
Chiang Mai	300	42	14.00	-
Phuket	295	27	9.15	-
Chon Buri	299	8	2.68	1.9(0.06-6.8)
Ratchaburi	282	7	2.48	3.4(0.04-4.6)

From the data, Chon Buri province was recorded as the province where condom use rate among MSM during the last anal sex was the highest at 86.2% (RDS percentage) while the lowest rate was at Ratchaburi province at 77.9% (RDS percentage) (Table 2).

Table 2 Percentage of condom use among MSM during last anal sex in the past 12 months by province in 2014

Province	Number	Cases of condom used at last anal sex in the past 12 months	Percentage	RDS Percentage (95%CI)
Bangkok	212	174	82.08	-
Chiang Mai	238	203	85.29	-
Phuket	130	105	80.77	-
Chon Buri	219	179	81.74	86.2(78.7-92.9)
Ratchaburi	148	129	87.16	77.9(60.6-94.6)

From the data, it was indicated that the highest rate (68.7% as RDS percentage) of condom use among MSM at every anal sex in the past three months was reported in Ratchaburi province. On the other hand, Bangkok was the province with lowest rate (62.13%) of condom use (Table 3).

Table 3 Percentage of condom use among MSM at every anal sex in the past 3 months by province in 2014

Province	Number	Cases of condom used at every anal sex in the past 3 months	Percentage	RDS Percentage (95%CI)
Bangkok	169	105	62.13	-
Chiang Mai	203	127	62.56	-
Phuket	101	67	66.34	-
Chon Buri	190	76	40.00	43.6(30.5-53.5)
Ratchaburi	122	82	67.21	68.7(49.6-83.8)

From the data, the highest rate (46.33%) of MSM who had ever received HIV test and the testing results in the past 12 months was reported in Chiang Mai province while the lowest rate (16.83%) was reported in Bangkok (Table 4).

Table 4 Percentage of HIV test and receiving HIV testing results among MSM by province in 2014

Province	Number	Ever tested and received HIV testing result	Percentage	RDS Percentage (95%CI)
Bangkok	505	85	16.83	-
Chiang Mai	300	139	46.33	-
Phuket	294	95	32.31	-
Chon Buri	299	80	26.76	28.7(21.9-35.9)
Ratchaburi	282	87	30.85	28.1(21.3-34.5)

For detecting *Chlamydia trichomatis* (CT) from urine testing among MSM, Ratchaburi province was reported the highest infection rate (8.4% as RDS percentage) while Chonburi province was indicated the lowest rate of 3.7% (RDS percentage) (Table 5).

Table 5 Percentage of *Chlamydia trichomatis* infection among MSM by province in 2014

Province	Number	CT infected cases	Percentage	RDS Percentage (95%CI)
Bangkok*	-	-	-	-
Chiang Mai	300	18	6.00	-
Phuket	294	17	5.78	-
Chon Buri	299	17	5.69	3.7(1.7-6.0)
Ratchaburi	282	24	8.51	8.4(4.3-12.7)

Remark: Urine testing for detecting CT was not conducted in Bangkok.

For detecting *Neisseria gonorrhoea* (NG) from urine testing among MSM, Ratchaburi province was reported the highest infection rate (2.8% as RDS percentage). Meanwhile, there was no NG infected cases found in Phuket province (Table 6).

Table 6 Percentage of *Neisseria gonorrhoea* infection among MSM by province in 2014

Province	Number	NG infected cases	Percentage	RDS Percentage (95%CI)
Bangkok*	-	-	-	-
Chiang Mai	300	4	1.33	-
Phuket	294	0	0.00	-
Chon Buri	299	4	1.34	null
Ratchaburi	282	9	3.19	2.8(0.6-5.6)

Remark: Urine testing for detecting NG was not conducted in Bangkok.

In regard to access to prevention program among MSM (becoming aware of places where HIV test service can be provided and by receiving free condom), 63.33% was reported as the highest rate among MSM in Chiang Mai province while the lowest rate of 26.73% was found in Bangkok (Table 7).

Table 7 Percentage of access to prevention program among MSM by province in 2014

Province	Number	Access to Prevention Program	Percentage	RDS Percentage (95%CI)
Bangkok	505	135	26.73	-
Chiang Mai	300	190	63.33	-
Phuket	294	135	45.92	-
Chon Buri	299	132	44.15	43.6(36.1-51.5)
Ratchaburi	282	131	46.45	39.3(32.7-47.5)

In relation to HIV knowledge among MSM based on Global AIDS Responses Progress Report (GARP) indicators, it was revealed that the majority of all five provinces provided the correct answer to question #1: 'Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?'. The highest rate of 72.45% was in Phuket province while the lowest rate of 36.44% was in Bangkok. For question #2: 'Can a person reduce the risk of getting HIV by using a condom every time they have sex?', Chiang Mai province ranked the highest score at 94.33% while the lowest score (49.50%) was reported in Bangkok. For question #3: 'Can a healthy-looking person have HIV?', the highest rate in providing the correct answers was from Chonburi province (75.1% as RDS percentage) while the lowest rate (47.52%) was indicated in Bangkok. For

question #4: 'Can a person get HIV from mosquito bites?', the province with the highest rate (80.33%) of correct answer was Chiang Mai province while Ratchaburi province showed the lowest RDS percentage at 70.5%. For question #5: 'Can a person get HIV by sharing food with someone who is infected?', it showed that 83.67% was the highest percentage of MSM from Chiang Mai providing the correct answer to this question and 62.9% of MSM in Ratchaburi province was reported as the lowest RDS percentage. For providing correct answers to all five questions, Bangkok was reported as the province with the lowest percentage (14.46%) while the highest percentage (38%) was in Chiang Mai (Table 8).

Table 8 Percentage of MSM who provided correct HIV knowledge by each question and province in 2014

Province	Number	Cases who provided correct answers	Percentage	RDS Percentage (95%CI)
Q1				
Bangkok	505	184	36.44	-
Chiang Mai	300	213	71.00	-
Phuket	294	213	72.45	-
Chon Buri	299	178	59.53	59.7(52.2-68.2)
Ratchaburi	282	174	61.70	57.1(48.8-64.1)
Q2				
Bangkok	505	250	49.50	-
Chiang Mai	300	283	94.33	-
Phuket	294	218	74.15	-
Chon Buri	299	221	73.91	78.6(71.1-84.4)
Ratchaburi	282	241	85.46	84.2(78.0-89.7)
Q3				
Bangkok	505	240	47.52	-
Chiang Mai	300	220	73.33	-
Phuket	294	204	69.39	-
Chon Buri	299	199	66.56	75.1(69.3-81.2)
Ratchaburi	282	190	67.38	59.5(52.1-67.7)
Q4				
Bangkok	505	399	79.01	-
Chiang Mai	300	241	80.33	-
Phuket	294	227	77.21	-
Chon Buri	299	216	72.24	70.6(63.8-77.2)
Ratchaburi	282	205	72.70	70.5(63.0-77.5)

Table 8 Percentage of MSM who showed correct HIV knowledge by each question and province in 2014 (continued)

Province	Number	Cases provided correct answers	who with Percentage	RDS Percentage (95%CI)
Q5				
Bangkok	505	393	77.82	-
Chiang Mai	300	251	83.67	-
Phuket	294	218	74.15	-
Chon Buri	299	190	63.55	63.6(56.1-71.2)
Ratchaburi	282	193	68.44	62.9(55.8-70.9)
Q1-Q5				
Bangkok	505	73	14.46	-
Chiang Mai	300	114	38.00	-
Phuket	294	105	35.71	-
Chon Buri	299	54	18.06	16.1(10.0-22.0)
Ratchaburi	282	74	26.24	20.5(14.4-26.1)

Remark

Q1: Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?

Q2: Can a person reduce the risk of getting HIV by using a condom every time they have sex?

Q3: Can a healthy-looking person have HIV?

Q4: Can a person get HIV from mosquito bites?

Q5: Can a person get HIV by sharing food with someone who is infected?

Conclusion and Discussion

Through the use of RDS and VDT technique and based on the increased number of sample size to answer questions of each study site in the 2014 surveillance on associated risk behaviors and HIV prevalence among MSM, the data reported that Bangkok ranked the highest rate of HIV infection and the rate had been constant since the beginning of the implementation of surveillance system. For HIV prevalence in Ratchaburi and Chonburi, a higher rate was reported when analyzing data for determining a simple percentage to RDS percentage. From this finding, it showed that the using different methodologies of analysis had affected data presentation. Therefore, the attained data from the study sites using the RDS technique should be analyzed with the RDSAT

In relation to condom use during anal sex among MSM, the data revealed a high rate (approximately 80%) of condom use. This might have been the result of having good knowledge and understanding on HIV prevention, especially condom use while having sex.

For knowledge on HIV infection, majority of the samples had shown good understanding on using condom correctly could prevent HIV transmission. The question on 'Can a person get HIV from mosquito bites?' was provided with the lowest scores of correct answer. When calculating for number of samples who provided all answers, the results was less than expected in aspect of HIV prevention, for example; lack of preventive knowledge might cause risks in having unsafe sex. Besides HIV knowledge, self-awareness on health care was also recognized as a factor contributing

to HIV prevalence. This was clearly perceived from the surveillance that the samples had less attention in receiving HIV test as considered as one kind of health care.

The HIV test and receiving HIV testing result was reported low among MSM due to lack of awareness. Consequently, awareness on health care by accessing to health examination services should be promoted among MSM. Moreover, as the result was found on the infection rates of *Chlamydia trichomatis* and *Neisseria gonorrhoea*, it was also referred to unsafe sex. From the data obtained, HIV prevalence among MSM is considered a public health issue that all efforts from the government, private and civil sectors are required to advocate for preventing HIV new cases. Through the efforts from every sector, the HIV intervention can be implemented to cover all dimensions as a holistic approach.