

National Center for HIV/AIDS, Dermatology and STD (NCHADS)

INTEGRATED HIV BIO-BEHAVIORAL SURVEILLANCE SURVEY (IBBS) AMONG MEM WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (TGW) IN CAMBODIA, 2023

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MSM-TGW IBBS Survey

Dr. MUN Phalkun



Content

- **1**. Study background (history)
- 2. Objectives
- 3. Survey timeline
- 4. Methodology
- **5**. Findings of IBBS
- 6. Discussion
- 7. GAM Indicators
- 8. Conclusions and Recommendations



1. Study Background: The journey of HIV surveillance activities





1. Study Background: The HIV prevalence among KPs





1. Study Background: The STI prevalence among KPs



2. Objectives

To gather in-depth information on HIV and STI prevalence, HIV risk behaviors and practices, access to HIV prevention services and estimate the population size of MSM and TGW

Eligibility criteria

- 15 years of age or older
 - MSM: assigned male biological sex at birth and **not** self-identified as woman or third gender
 - TGW: assigned male biological sex at birth and selfidentified as woman or third gender
- Having had anal sex with at least one male (including TGW) partner in the past 12 months
- Able to communicate in Khmer, and
- Able and willing to provide written informed consent



3. Survey timeline

- Prepared the protocol and questionnaires in January 2023 and received the approval letter from NECHR on 27th February 2023.
- Data collection period April to August 2023
- Data analysis and report writing September to November 2023

*	ព្រះរាទារឈាចអ្រងខ្លុំទា
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Nº 069 NECHR	Phnom Penh teltrany 27, 202
Dr. Mun Phalkun	
Project:Integration Bio-Behavioral Surve, Transgender women (MSM/TGW 2023.	y (IBBS) Among Men who have sex with men/), Cambodia 2023. Version $N^{\rm o}$ 1, dated $13^{\rm th}$ February
Reference: 24 th February 2023 NECHR me	peting minutes
Dear Dr. Mun Phalkun,	
I am pleased to notify you that your study (IBBS) Among Men who have sex with me Version N° I, dated 13° February 2023' Health Research (NECHR) in the meeting of months after the approval date.	y protocol entitled "Integration Bio-Behavioral Survey en/Transgender women (MSM/TGW), Cambodia 2023, has been approved by National Ethics Committee for on 24" February 2023. This approval is valid for twelve
NECHR also wish to remind the Principal during the COVID-19 pandemic must strictl and the relevant local authorities.	Investigator that all research activities to be conducted y follow the latest prevention measures set by the MOH
The Principal Investigator of the project secretariat at the National Institute of Put Sangkat Boeungkok 2, Khan Tuol Kork 012 203 382. Email: nouthsarida@gmail.cor • Annual progress report • Final scientific report • Patient/participant feedback (if any) • Analyzing serious adverse events rej	shall submit following document to the committee's pic Health at #80, Samdach Penn Nouth Blvd (289), c, Phnom Penh. (Tel: 012 528 789, 086 762 113, m, cheatasoft27@gmail.com): port (if applicable)
The Principal Investigator should be aware from NECHR team during the project imp teams	e that there might be site monitoring visits at any time lementation and should provide full cooperation to the
Chairman	
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	National Ethics Committee
Prof. ENG HUOT	for Health Research
	(NECHR)

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4. Methodology: Sample Size & Population size estimation

The sample size was calculated for each province separately resulting in a total countrywide sample size of 2,440 (MSM=1,440 and TGW=960)

• The sample size calculation formula for all survey locations was:

Survey Sample Size n=(Z/M)2 p(1-p) D

Where:

- n=sample size
- Z=area under the normal distribution (1.96)
- M=margin of error (0.02%)
- p=highest expected HIV proportion infected (0.08 in MSM and 0.18 in TGW)
- D=design effect (2)
- 95% confidence interval

4. Methodology: Participant Recruitment

- Respondent driven sampling will be used, 2 seeds in MSM and TGW each and 3 recruits per participant
- In Siem Reap, Sihanoukville and Phnom Penh, seeds are asked to recruit at least one Chemsex user to assure presence of this group in the sample population





4. Methodology: Recruitment Procedure



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4. Methodology: Biological component (HIV and STI testing)

HIV & SYPHILIS TEST:

- $\circ~$ SD Bioline HIV/Syphilis Duo test was used in this study.
- HIV reactive result was followed up by confirmatory test on site using HIV 1/2 STAT-PAK[®] Assay.

HN 12 STATRAN HN 12 STATRAN H C

NEISSERIA GONORRHOEAE (NG) AND CHLAMYDIA TRACHOMATIS (CT) TESTING:

Anus and penis specimens for CT and NG were collected by study participants themselves, according to standard procedures explained in the instructions provided with the test kits. Nucleic acid amplification tests for the detection of CT/NG used Abbott m2000 system Real-Time polymerase chain reaction (PCR). Abbott RealTime CT/NG assay[®] is an in vitro PCR assay for the direct, qualitative detection of the plasmid DNA for CT and the genomic DNA of NG in male anus or penis swab specimens. Participants received presumptive treatment for CT and NG during the provision of HIV and syphilis test results.



HIV/Syphilis

TIT

C SYP HI

4. Methodology: Data management and data analysis

Data Management:

 Three separate databases were used to support data collection: 1) behavioral data; 2) biological data; and 3) coupon management and recruitment progress. These databases were linked with a unique random code and a unique coupon number. The QR code was print on each forms to prevent human errors during recording unique code.

Data Analysis:

- All data in tables are presented in the appendices and include category sizes (n), adjusted percentages and 95% confidence intervals.
- Aggregated data were analyzed in STATA using a composite based on sampling estimator and population (differences in population sizes).











5. Findings



6. Findings: Summary Result of <u>MSM</u> IBBS 2023

Demographic Age group 58.6% <25Ys Age 34.9% 25-39Ys 6.5% 40+Ys Any education 2.1% No 97.9% Yes Partner status **13.5%** Not Living with partner 86.5% Living with partner



Prevalence

- 🗼 HIV = **5.5%**
- **1** Syphilis = **9.4%**
- 💥 CT = **26.9%**
- NG = 24.7%
- ﷺ 🛞 CT or NG = **40.2%**





6. Findings: Summary Result of <u>TGW</u> IBBS 2023

Demographic Age group 42.5% <25Ys Age 48.1% 25-39Ys 9.4% 40+Ys Any education 1.5% No 98.5% Yes **Partner status 13.2%** Not Living with partner 86.8% Living with partner



Prevalence

HIV = **13.5%** Syphilis = **22.2% EXAMPLE** CT = **23.4%** NG = **19.4%** CT or NG = **33.5%** STI= **45.3%** Sample size = 938



5. Findings: Respondent Driven Sampling (RDS) recruitment chain

Province	Number of seeds	Maximum number of waves	Provincial total	Grand Total
Banteay Meanchey	5	9	300	
Battambang	4	7	300	
Kampong Cham	4	10	296	
Kandal	4	8	299	2 270
Phnom Penh	4	7	299	2,370
Preah Sihanouk	4	9	288	
Siem Reap	4	8	296	
Takeo	4	9	300	

Banteay Meanchey
Battambang
Kampong Cham

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5.1. Demographic Information





TGW: Age groups (N=938)



5.1. Demographic Information











5.1. Demographic Information: Perform Female Behavior



The participant ever perform female behavior



5.2. Risk behaviors : Experience with hormone therapy









5.2. Risk behaviors: Substance Use







Experience of CHEMSEX

5.2. Risk behaviors: Alcohol use



5.2. Risk behaviors: Dating App & Website





Looking for sexual partners online, by risk group





5.3. STI knowledge: Condom use with Main partners



5.3. STI knowledge: Condom use with Casual partners



5.3. STI knowledge: Condom use with Paid (Buy-sex) partners



5.3. STI knowledge: Condom use with Paying (Sell-sex) partners



5.3. STI knowledge: Condom use with Main partners



5.3. STI knowledge: Condom use with Casual partners



5.3. STI knowledge: Condom use with Paid (Buy-sex) partners



5.3. STI knowledge: Condom use with Paying (Sell-sex) partners





In the past 12 months, ever had an abnormal discharge from your penis





STI



In the past 12 months, ever had an ulcer or sore on or near your penis







In the past 12 months, ever had pain during urination





STI



In the past 12 months, ever had an ulcer or sore on or near your anus



5.4. Prevention: Pre-exposure prophylaxis (PrEP)

Ever Heard about PrEP



PrEP



Know about PrEP: Ever heard about PrEP



5.4. Prevention: HIV-Self Testing (HIV-ST)

Ever heard about HIV-ST



5.5. Biological test: HIV Prevalence





The prevalence of HIV



5.5. Biological test: Syphilis



5.5. Biological test: Chlamydia (CT)



Chlamydia (CT) prevalence



* Rectal and penile samples were collected in MSM & TGW

5.5. Biological test: Gonorrhea (NG)





Gonorrhoea (NG) prevalence



5.5. Biological test: Either Chlamydia or Gonorrhea



^{*} Rectal and penile samples were collected in MSM & TGW

5.5. Biological test: STI (Syphilis or CT or NG Positive)



5.5. Biological Result Vs. Age Groups



5.5. Biological Result Vs. Age Groups





6. Discussion



6.1. Biological test: HIV Prevalence

• Association between HIV test self-report and HIV prevalence, by risk group*

MSM	HIV prevalence (Determine)					
HIV self-report	Negative n (%)	Positive n (%)	Total n (%)			
Negative or not tested	1358 (96.0)	57 (4.0)	1415 (100)			
Positive	2 (8.3)	22 (91.7)	24 (100)			
Total	1360 (94.5)	79 (5.5)	1439 (100)			
Chi-Square = 349.34, P <.001						
TGW						
HIV self-report						
Negative or not tested	805 (91.2)	78 (8.8)	883 (100)			
Positive	6 (11.3)	47 (88.7)	53 (100)			

125 (13.4)

811 (86.6)

Chi-Square = 275.48, P <.001

Total

936 (100

6.2. Biological Result Vs. Occupation



The HIV Prevalence by respondent income

HIV Prevalence by barber/beautician occupation or Entertainment











6.3. Association between Chemsex and PrEP, STI, Condom Use





6.5. Trends in national HIV prevalence, 2010 – 2023, by risk group



<u>Note:</u> Methodology and representativeness varies between different rounds of IBBS and trend should be interpreted with caution PAGE | 51



6.6. The STI-Related prevalence among MSM and TGW 2019 vs 2023





<u>Note:</u> Methodology and representativeness varies between different rounds of IBBS and trend should be interpreted with caution PAGE | 52



7. Global AIDS Monitoring (GAM) Indicators



GAM1-4: HIV testing (known status)







GAM1-5: Condom use with casual male partners







GAM2-6: Antiretroviral therapy coverage who living with HIV



Note: for BTB, KCM, KDL, and SRP, there is no self-reported HIV positive.

GAM4-1: Experience of sexual and/or physical violence







GAM7-1: Viral hepatitis (Hep C)





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8. Conclusion and Recommendation

6. Conclusion & Recommendation

- HIV prevalence continues to increase, especially among TGW
 - More targeted and inclusive HIV prevention services for TGW are urgently necessary
 - A case control study among TGW in high HIV prevalence provinces is recommended to better understand and describe underlying factors driving the sharp increase
 - PrEP delivery should be prioritized and include STI services, both among MSM and TGW
- History of syphilis and prevalence of bacterial STI sharply increased
 - STI testing and treatment (possibly presumptively) should be an intrinsic part of all clinic-based HIV services. More needs to be done to increase awareness of risks of STI transmission in the context of low condom use associated with PrEP and undetectable = untransmissible (U=U)
 - HCV infection has been introduced among MSM and TGW and will likely continue to spread in the future. Standard screening for HCV infection is recommended
 - Promotion of condom use needs to be intensified as part of all HIV and STI related services



6. Conclusion & Recommendation

- Uptake of HIV regular and HIV self-testing, as well as improved knowledge and uptake of HIV PrEP are encouraging. Another positive result is the high levels of ARV treatment in HIV positives
 - HIV testing, PrEP and ARV treatment services need to be strengthened and expanded to increase and sustain correct knowledge of current HIV infection status and prevent further transmission and HIV related morbidity and mortality
- Substance use, including Chemsex were rarely reported
 - Substance use, especially Chemsex among MSM and TGW have been found strongly associated with HIV infection elsewhere. Effort should be undertaken to deliver PrEP to Chemsex users. Monitoring of Chemsex and options for substance use prevention and treatment should be considered
- Measures of mental health and sexual and childhood abuse among MSM and TGW show a more favorable picture than previously believed
 - Additional measures, particularly in stigma and discrimination, should be deliberated for inclusion in future IBBS or in stand-alone studies



MSM & TG SIZE ESTIMATION

Mr. Nhim Dalen



Content

Expectation
Methods
Results of PSE
Acknowledgement

1. Expectation from PSE





2. Methodologies and processes (1)

Capture-Recapture

Statistical measurement that estimate population based on mark and recapture



Unique Object Multiplier



Service Multiplier

N = number of MSM or TG reached with HIV services (specific period)

P = RDS proportion of MSM or TG in the survey reported reached with HIV services (specific period)

S = size of population

S = N / P



Respondent-Driven-Sampling (RDS)



2. Methodologies and processes (1)

Service Multiplier

- N = number of MSM or TG reached with HIV services (specific period)
- **P** = RDS proportion of MSM or TG in the survey reported reached with HIV services (specific period)
- **S** = size of population

S = N / P

Number of clients reached with HIV prevention (NPD)

Specific time frame (Apr-Jun 23)



Number of survey participants



Number of survey participants reported reached with HIV prevention Specific time frame (Apr-Jun 23)



2. Methodologies and processes (1)

Here is the step taken to calculate the PSE 2023:

- 1.Extract the number of reached by the prevention program in the past 3 months (N)
- 2.Extract NPD data of individuals reached in Q2 2023 (P)
- 3.N/P= PSE in sample provinces
- 4.Extract the number of male populations aged 15-49 years (from Spectrum 2022). as the denominator for proportion by provinces
- 5. For the main four provinces, keep the proportion the same for high HIV prevalence province, except for those with a lower rate than the average non-high prevalence provinces.
- 6. The rest of the provinces: use the average proportion of remaining provinces.
- 7.Calculate size based on the total number of pops by province (from Spectrum) and proportion calculated. *the main province, whose data is lower than average, uses average.*
- 8.<u>For MSM</u>: It is assumed that 25% of MSM are hard to reach (MSM2) for both NPD and IBBS, so the total size found from the service multiplier (based on NPD) is only 75% of the total MSM size ((MSM1/75)*100). So, this means MSM1 is 75% and MSM2 is 25%)

9.Generate a nationwide PSE of MSM and TG 2023



3. Results (1)

IBBS Data 2023	Proportion of MSM/TG reached with HIV Prevention in the past 3 months		
Province	MSM	TGW	
Banteay Meanchey	0.85	0.67	
Battambang	0.89	0.96	
Kampong Cham	0.51	0.34	
Kandal	0.61	0.51	
Phnom Penh	0.74	0.85	
Preah Sihanouk	0.73	0.90	
Siem Reap	0.89	0.82	
Takeo	0.95	0.91	
Total	0.79	0.77	



3. Results (2)

MSM					
	NPD				
	Reached			Male Pop	Percentage
Province	Q2 2023	IBBS	PSE	15-49	of MSM1
Banteay Meanchey	4,523	0.85	5,321	248,707	2.14%
Battambang	4,022	0.89	4,529	285,017	1.59%
Kampong Cham	2,001	0.51	3,908	250,672	1.56%
Kandal	2,545	0.61	4,179	337,984	1.24%
Phnom Penh	13,262	0.74	17,922	642,578	2.79%
Preah Sihanouk	1,105	0.73	1,522	93,836	1.62%
Siem Reap	2,232	0.89	2,502	289,100	0.87%
Takeo	2,627	0.95	2,754	250,637	1.10%
Total	32,317	0.79	42,637	2,398,531	1.78%

MSM

MOM					
Kampong Cham	2,001	0.51	3,908	250,672	1.56%
Kandal	2,545	0.61	4,179	337,984	1.24%
Preah Sihanouk	1,105	0.73	1,522	93,836	1.62%
Takeo	2,627	0.95	2,754	250,637	1.10%
			12,363	933,129	1.32%

TGW					
	NPD				
	Reached			Male Pop	Percentage
Province	Q2 2023	IBBS	PSE	15-49	of TGW
Banteay Meanchey	796	0.67	1,197	248,707	0.48%
Battambang	626	0.96	651	285,017	0.23%
Kampong Cham	259	0.34	764	250,672	0.30%
Kandal	737	0.51	1,439	337,984	0.43%
Phnom Penh	3763	0.85	4,448	642,578	0.69%
Preah Sihanouk	366	0.90	405	93,836	0.43%
Siem Reap	594	0.82	724	289,100	0.25%
Takeo	50	0.91	55	250,637	0.02%
Total	7,191	0.77	9,683	2,398,531	0.40%

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1011					
Kampong Cham	259	0.34	764	250,672	0.30%
Kandal	737	0.51	1,439	337,984	0.43%
Preah Sihanouk	366	0.90	405	93,836	0.43%
Takeo	50	0.91	55	250,637	0.02%
			2,663	933,129	0.29%



3. Results (3)

MSM PSE 2023				
	Male Pop			MSM_Total
Province	15-49	% of MSM1	PSE_MSM1	(MSM2 25%)
Banteay Meanchey	248,707	2.14%	5,321	7,095
Battambang	285,017	1.59%	4,529	6,039
Kampong Cham	250,672	1.32%	3,321	4,428
Kampong Chhnang	146,561	1.32%	1,942	2,589
Kampong Speu	247,054	1.32%	3,273	4,364
Kampong Thom	192,134	1.32%	2,546	3,394
Kampot	167,137	1.32%	2,214	2,953
Kandal	337,984	1.32%	4,478	5,971
Кер	12,242	1.32%	162	216
Koh Kong	36,871	1.32%	489	651
Kratie	108,479	1.32%	1,437	1,916
Mondulkiri	27,455	1.32%	364	485
Oddor Meanchey	81,002	1.32%	1,073	1,431
Pailin	22,142	1.32%	293	391
Phnom Penh	642,578	2.79%	17,922	23,895
Preah Sihanouk	93,836	1.32%	1,243	1,658
Preah Vihear	74,642	1.32%	989	1,319
Prey Veng	289,833	1.32%	3,840	5,120
Pursat	118,658	1.32%	1,572	2,096
Rattanakiri	63,915	1.32%	847	1,129
Siem Reap	289,100	1.32%	3,830	5,107
Stung Treng	49,047	1.32%	650	866
Svay Rieng	145,048	1.32%	1,922	2,562
Takeo	250,637	1.32%	3,321	4,428
Tbong Khum	219,733	1.32%	2,911	3,882
Total	4,400,485	2.14%	70,489	93,985

TGW PSE 2023			
	Male Pop		
Province	15-49	% of TGW	PSE_TGW
Banteay Meanchey	248,707	0.48%	1,197
Battambang	285,017	0.29%	813
Kampong Cham	250,672	0.29%	715
Kampong Chhnang	146,561	0.29%	418
Kampong Speu	247,054	0.29%	705
Kampong Thom	192,134	0.29%	548
Kampot	167,137	0.29%	477
Kandal	337,984	0.29%	965
Кер	12,242	0.29%	35
Koh Kong	36,871	0.29%	105
Kratie	108,479	0.29%	310
Mondulkiri	27,455	0.29%	78
Oddor Meanchey	81,002	0.29%	231
Pailin	22,142	0.29%	63
Phnom Penh	642,578	0.69%	4,448
Preah Sihanouk	93,836	0.29%	268
Preah Vihear	74,642	0.29%	213
Prey Veng	289,833	0.29%	827
Pursat	118,658	0.29%	339
Rattanakiri	63,915	0.29%	182
Siem Reap	289,100	0.29%	825
Stung Treng	49,047	0.29%	140
Svay Rieng	145,048	0.29%	414
Takeo	250,637	0.29%	715
Tbong Khum	219,733	0.29%	627
Total	4,400,485	0.36%	15,660



3. Results (3)

MSM PSE 2023			
Province	PSE_MSM1	PSE_MSM2	MSM_Total
Banteay Meanchey	5,321	1,774	7,095
Battambang	4,529	1,510	6,039
Kampong Cham	3,321	1,107	4,428
Kampong Chhnang	1,942	647	2,589
Kampong Speu	3,273	1,091	4,364
Kampong Thom	2,546	849	3,394
Kampot	2,214	738	2,953
Kandal	4,478	1,493	5,971
Кер	162	54	216
Koh Kong	489	163	651
Kratie	1,437	479	1,916
Mondulkiri	364	121	485
Oddor Meanchey	1,073	358	1,431
Pailin	293	98	391
Phnom Penh	17,922	5,974	23,895
Preah Sihanouk	1,243	414	1,658
Preah Vihear	989	330	1,319
Prey Veng	3,840	1,280	5,120
Pursat	1,572	524	2,096
Rattanakiri	847	282	1,129
Siem Reap	3,830	1,277	5,107
Stung Treng	650	217	866
Svay Rieng	1,922	641	2,562
Takeo	3,321	1,107	4,428
Tbong Khum	2,911	970	3,882
Total	70,489	23,496	93,985

TGW PSE 2023	
Province	PSE_TGW
Banteay Meanchey	1,197
Battambang	813
Kampong Cham	715
Kampong Chhnang	418
Kampong Speu	705
Kampong Thom	548
Kampot	477
Kandal	965
Кер	35
Koh Kong	105
Kratie	310
Mondulkiri	78
Oddor Meanchey	231
Pailin	63
Phnom Penh	4,448
Preah Sihanouk	268
Preah Vihear	213
Prey Veng	827
Pursat	339
Rattanakiri	182
Siem Reap	825
Stung Treng	140
Svay Rieng	414
Takeo	715
Tbong Khum	627
Total	15,660



4. Acknowledgement

- Ministry of Health (MoH)
- Great leadership and support from Dr. Ouk Vichea, NCHADS Director and NCHADS Management Team,
- Strong and active collaboration of the Surveillance, BCC and Lab Unit of NCHADS
- Global Fund for financial support
- Technical support from UNAIDS, and special thanks to Dr. Khin Cho Win Htin
- Thank Dr. Frits van Griensven, IBBS expert
- Excellent technical assistance from FHI 360 (EpiC)
- Strong collaboration from NGO Partners (KHANA, RHAC, AHF, MHC, MHSS)
- Strong collaboration from PHD, PASPs, ODs, local authority and other stakeholders
- Special thanks to all MSM/TG who participated in this survey



Thank You