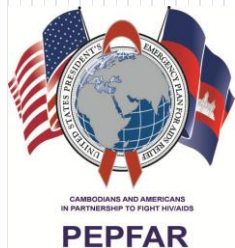


Integrated HIV Bio-Behavioral Surveillance (IBBS 2016) among Female Entertainment Workers

Presentation by: Dr. Mun Phalkun,
Surveillance unit, NCHADS



Outline

- Background
- Objectives
- Methods
- Findings
- Conclusions

Background (1)

- Cambodia has a strong active surveillance system:
 - HIV Sentinel Surveillance (HSS) since 1994
 - STI Surveillance Survey (SSS) since 1996
 - Behavioral Surveillance Survey (BSS) since 1997
- The purposes are to monitor and document trends of HIV, STI and behavior changes over time among sentinel groups (i.e. ANC) and key population (KP): MSM, PWUD, and EW.
- Despite the declining HIV prevalence to 0.6% among general population, high HIV prevalence remains concentrated in KPs.

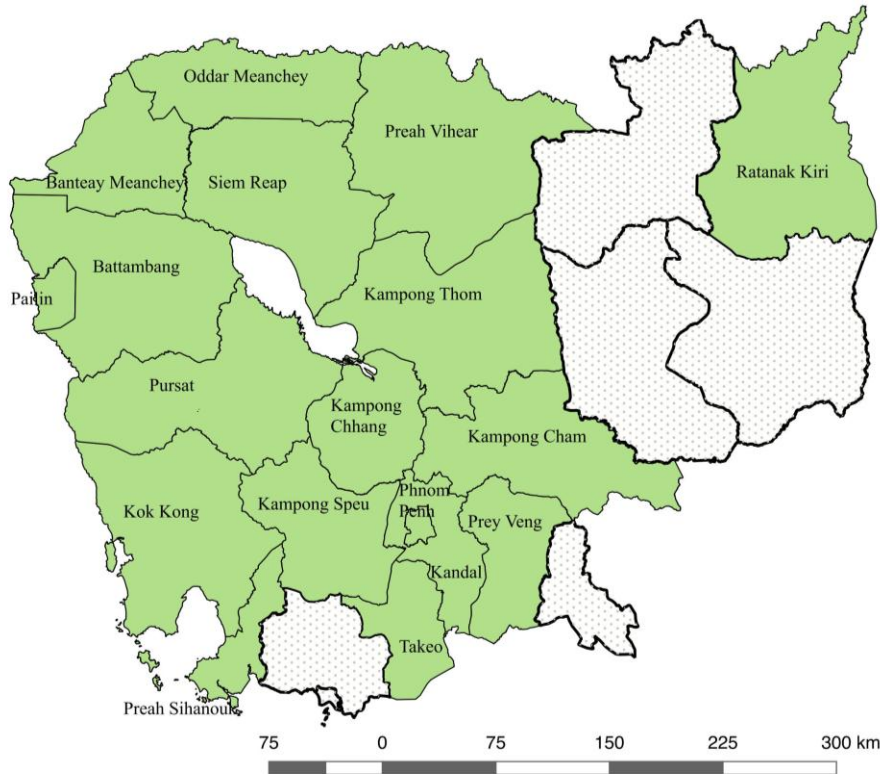
Background (2)

- The current concentrated HIV epidemic and limitations of integration of biological and behavioral surveys, NCHADS's current strategy for HIV surveillance is to perform IBBS among KPs:
 - EW (**HSS EW 2010**), **EW (2016)**
 - TG (2012), TG (2016)
 - MSM (2013), MSM (2015)
 - PWUD (2012), **PWUD (2017)**
- Non-venue based EW such as street-based and freelance EW have been recognized as a potentially higher risk group, but little data exist for the size or HIV prevalence of this population.

Objectives

- To determine national prevalence estimates and related risk behaviors for HIV and syphilis among EW
- To provide data for program planning and management of STI and HIV prevention programs for EW and their clients
- To evaluate HIV/syphilis prevalence and behaviors among EW

Site for EW IBBS 2016



- **IBBS sites:** 18 provinces were included except Kampot, Svay Rieng, Kratie, Stung Treng, Mondul Kiri and Keb.
- Actual sample size collection: **3,151**

Methods (1)

- Venue-based EW (karaoke establishments, massage parlors, and beer gardens) were recruited from all selected provinces.
- Non-venue-based EW (freelance, street-based and park-based FSW) were recruited from **hotspots in the 13 high-risk ODs** in **6** provinces/cities.
- A hotspot is a park or street where FSW are known to gather. These hotspot areas were based on 2013 EW census and mapping among freelance and street-based FSW in these 13 ODs

Methods (2)

Sampling for venue-based EWs

- Use a single-stage cluster sampling design
- The venue sampling frame included all EEs such as beer companies/ outlets and karaoke bars.
- For large EEs, the whole company/establishment were grouped into smaller groups based on work shift
- EE clusters were randomly selected from the venue-based EW sampling frame.
- **A take-all** method were used to invite all FEW at the selected EE clusters to participate in the survey.

Methods (3)

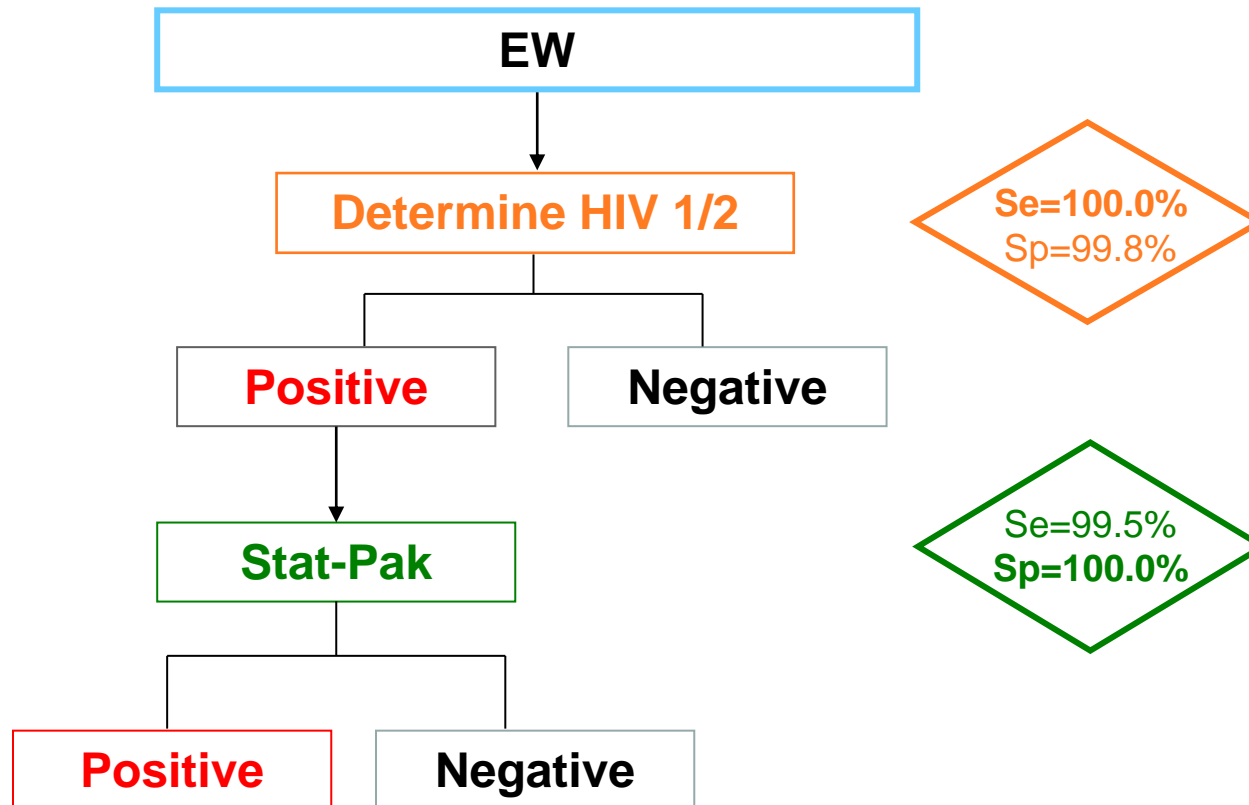
- **Sampling for non-venue-based EW**
 - Use a time-location sampling (TLS) method.
 - All known hotspots (street corners, parks) where non-venue EW are congregated were listed.
 - TLS needs locations and specific dates/times (4 hours time periods). Then, they were randomly selected by the survey team

Data Collection:

Blood Sample and Questionnaire

- 5 ml of venous blood samples were collected, tested and stored on DBS cards
- HIV 1/2 Determine, Stat-Pak and syphilis Determine test were performed **at the field**
- Questionnaire contained 80 questions divided into 6 sections:
 - Demographic characteristics
 - Sexual behaviors and reproductive health
 - Drug abuse and alcohol
 - Violence against EW
 - STI self reported and access to services
 - HIV knowledge and testing

HIV testing algorithm

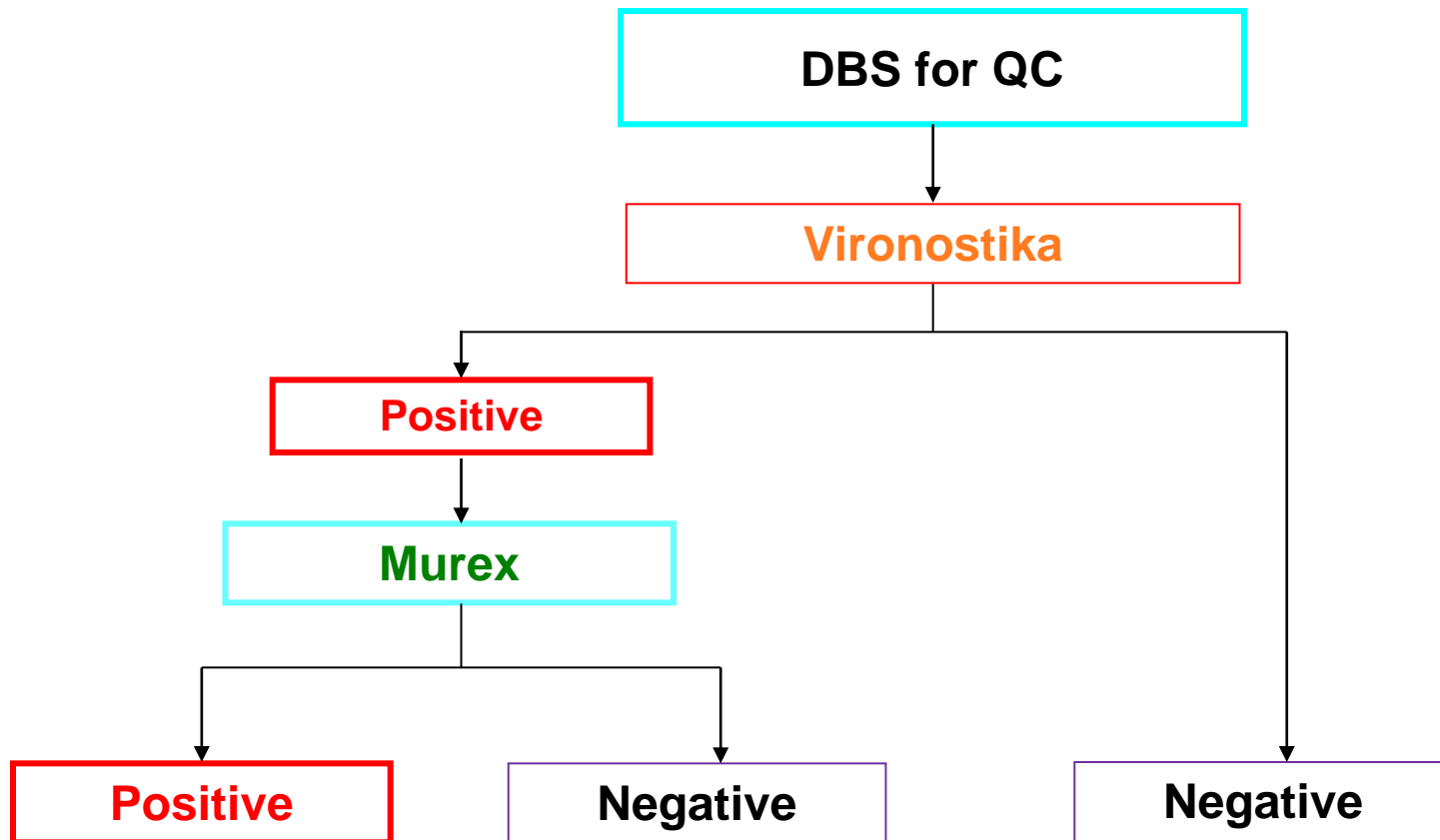


Sensitivity (Se) and specificity (Sp) data from phase 1 validation of 5 rapid HIV tests conducted in Cambodia in 2004. The combined algorithm was found to be 99.5% sensitive and 100% specific.

HIV Quality control testing

- QC was performed at NCHADS central laboratory
- All positive samples were tested
- Randomly 10% of all non-reactive specimens were tested
- Two enzyme Immunoassays (EIA) were used for QC (Vironostika HIV Uniform and Murex HIV- 1.2 .0) according to the protocol

Quality control testing algorithm



* DBS: Dried blood spot (DBS) card; QC: Quality Control

Data management and analysis

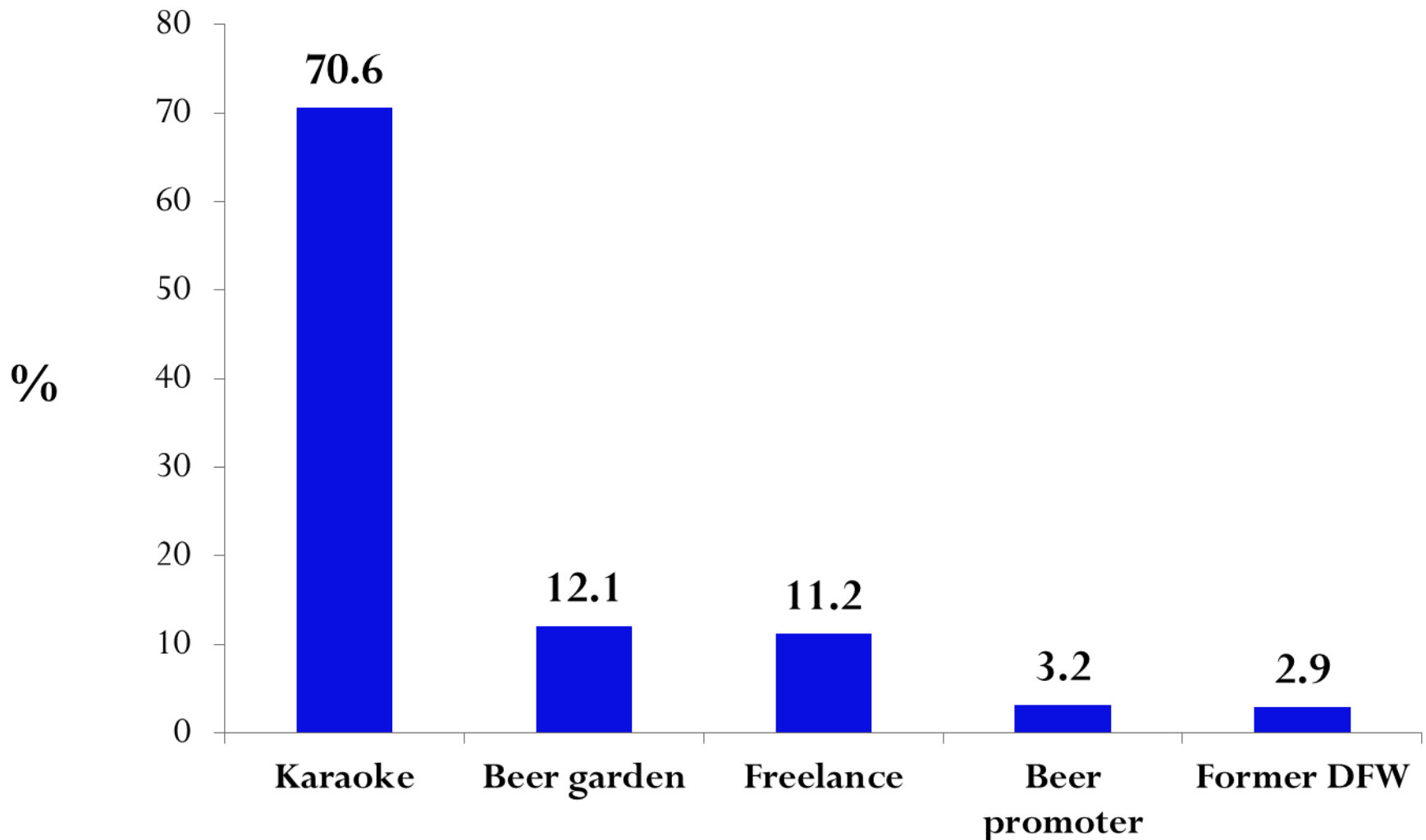
- Data were entered into Epi-Data V3 Database
- Sampling weight was calculated to account for the difference between provincial EW population size
- Weighted data analysis was conducted in STATA V14
- Descriptive statistics were calculated including mean, median, frequency, proportion, 95% CI
- Bivariate analysis was also conducted to determine the association between HIV prevalence and certain EW characteristics

Findings

Demographic Characteristics

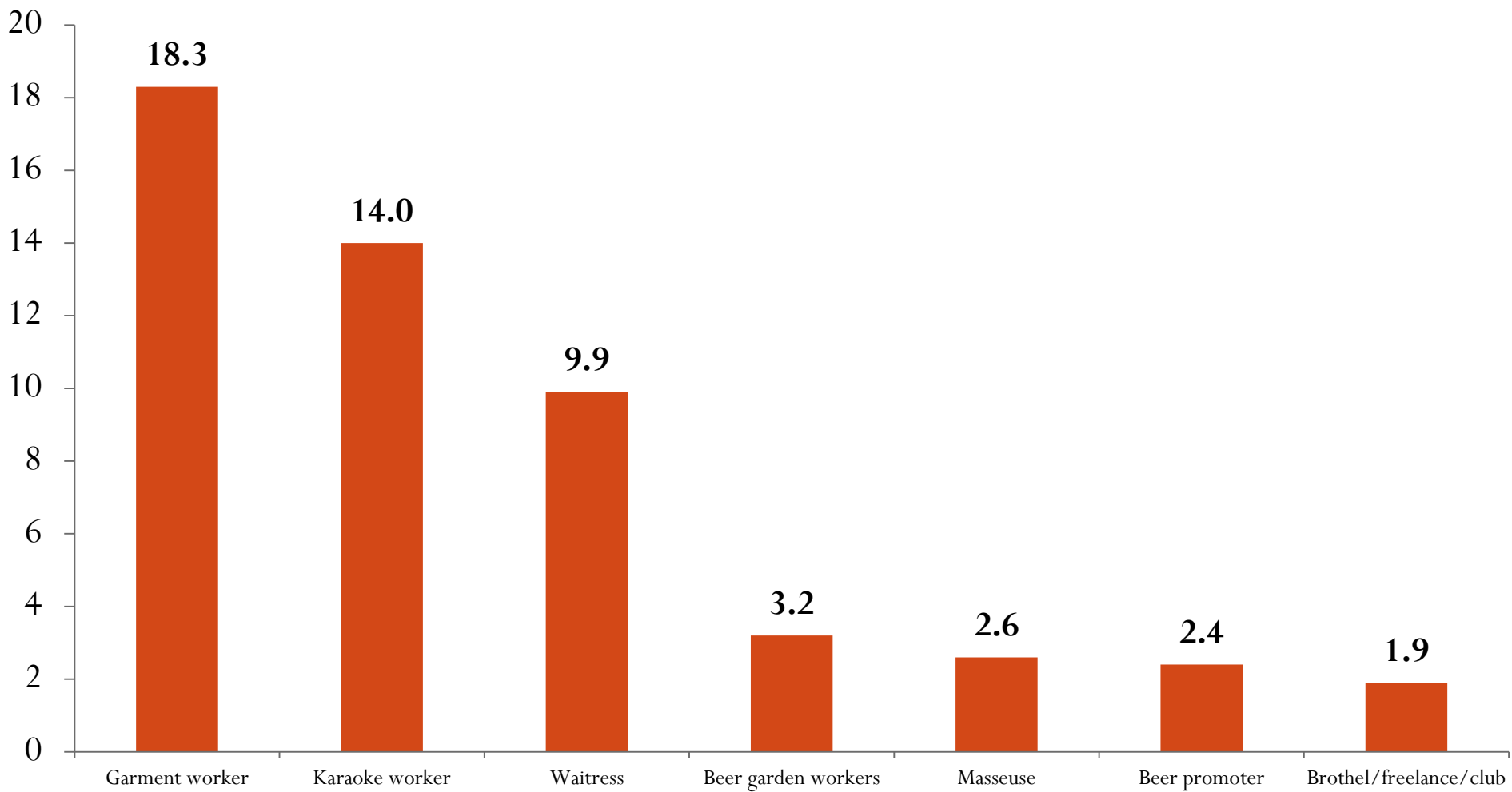
Variables	N = 3151
Mean age in year (median)	26.1 (25.0)
Mean years of education, (median)	5.6 (6.0)
Report no schooling	14.4%
EW who were married/in union	33.4%
Living in the current city for less than 1 year	30.1%
Mean duration in current job in months (median)	19.5 (7.0)

Sample Distribution among Different Types of EW, N = 3150



Note: *Beer garden women were recruited at restaurants. They are service women, while beer promoters were recruited at beer company outlets*

Previous jobs (in percent, N = 3103)



Sexual Behaviors (1)

Variables	Freq.
Mean age at first sexual activity in years (median) n = 3144	17.5 (18.0)
EW reported not sexually active, n = 3144	10.0%
Partners of the first sex among EW who were sexually active, n = 2823	
Husband	57.0%
Boyfriend	34.3%
Client	6.4%
Rape	1.7%
Others	0.5%

Sexual Behaviors (2)

Variables	Freq.
Report sex in exchange for gift or money in past 12 months, n = 2594	60.7%
Average number of clients in the past week among those reported paid sex, n = 1360	3.3 (2.0)
Report > 2 clients in the last working day, n = 1397	22.2%
Had sweetheart at least one in the past year, n = 3104	52.3%
Had sex with sweetheart in the past year among those reported having sweethearts, n = 1714	86.9%

Sweetheart (boyfriends) those who have romantic relationship, non married and non paid sex partners

Patterns of Condom Use

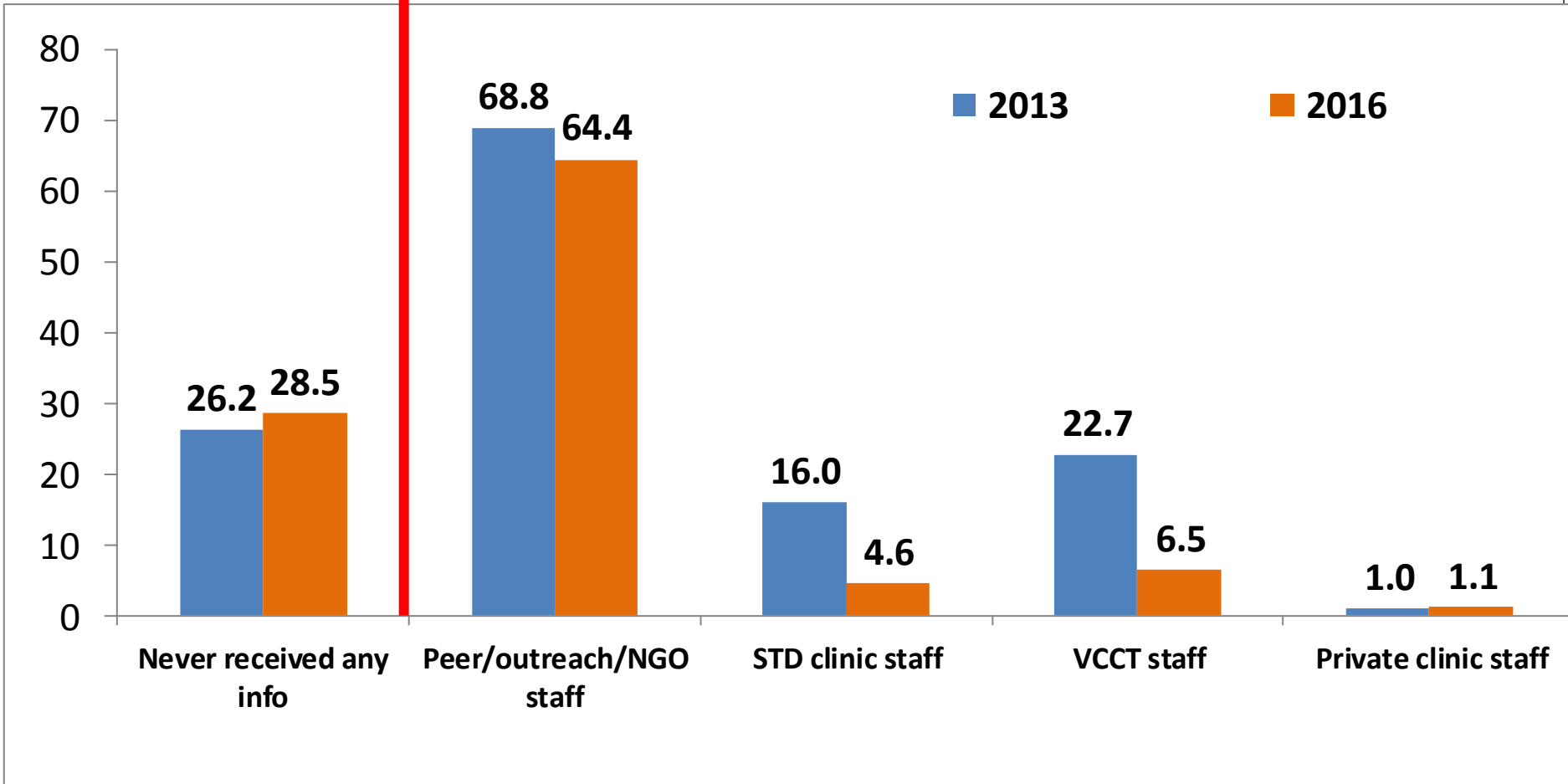
Variables	Freq.
Always condom use with sweetheart in the past 3 months, n = 1446	27.2%
Always condom use with husband in the past 3 months, n = 1053	15.2%
Always condom use in the past 3 months with clients n= 1252	86.2%
Always condom use in the past week with clients n = 1107	87.1%
Condom use with the most recent clients, n = 1348	91.8%

Note: This is among EWs reporting sexually active and reported paid sex. Therefore, the denominators vary from question to question

Consistent condom use over time among EWs



People who provides HIV information to EW (2016, n = 3150)



Sexual violence against EW

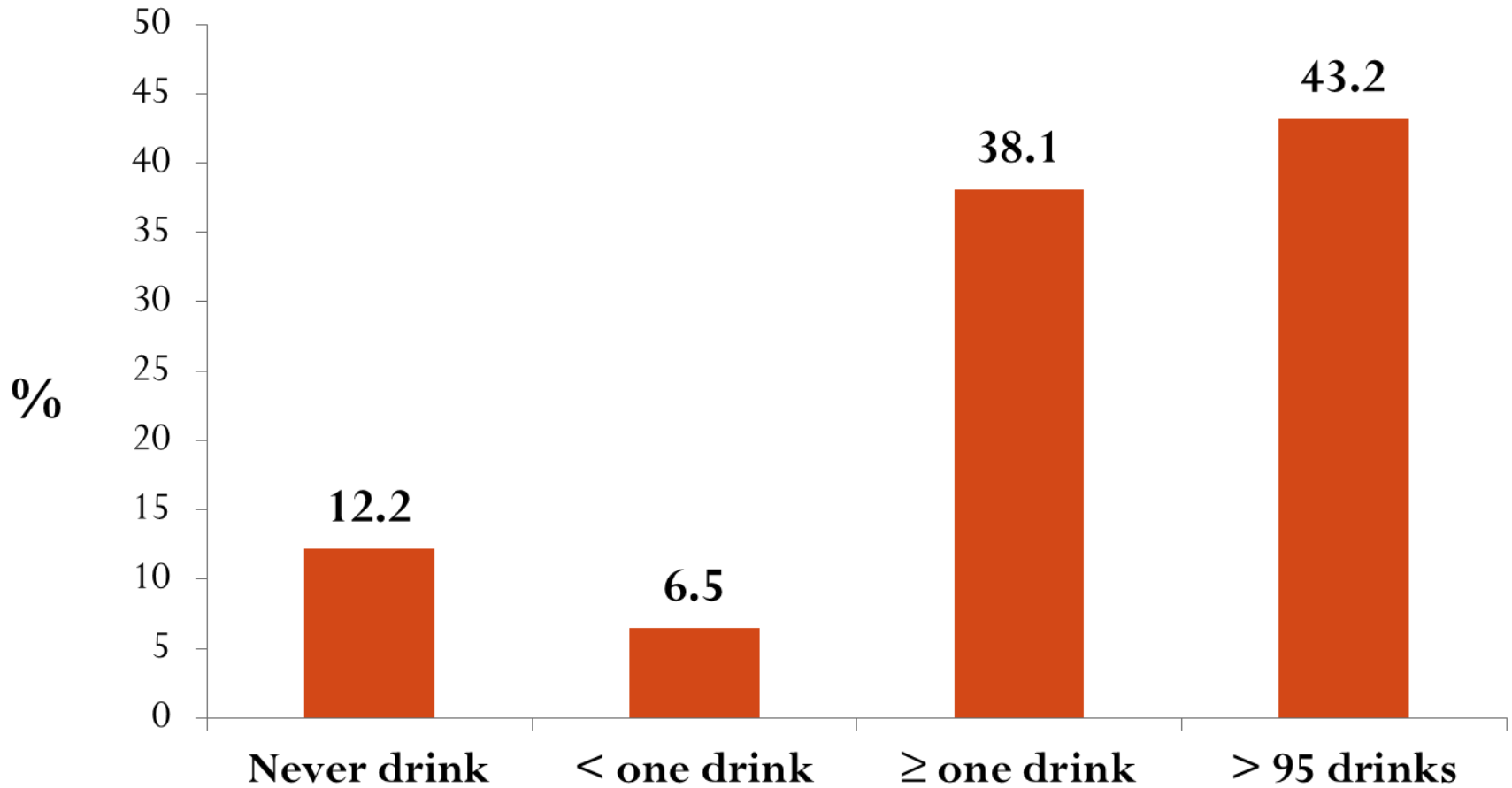
Variables	Freq.
Frequency of the physical violence (got slap, kick, hit) in the past 12 months, n = 3096	
Frequently	1.7%
Sometimes	2.5%
Never	95.8%
Physical violence by others rather than husband/sex partner, n = 2828	2.8%
Sexual violence against her will by husband/sex partner, n = 2823	3.0%
Forced into group sex with men , n = 2824	2.3%

Drug abuse and alcohol drinking

Variables	Freq.
Report ever used any drug, n = 3104	10.8%
Reported using ATS*, Yama and ice in past 12 months n = 3108	9.6%
Reported injecting drug in past 12 months, n = 3108	1.3%
Reported alcohol frequency past week while working n = 3099	
Never	12.4%
1- 6 times	2.8%
Every day	58.8%
Average amount of alcohol drink * in past week while working, n = 3098	17.0 (14.0)

* **ATS: Amphetamine type stimulant, one drink = one can of beer, or a bottle of beer, a glass of wine**

Amount of alcohol drinks in past week, n = 3098



Sexual and Reproductive Health (1)

Variables	Freq.
EW reported at least one pregnancy while working as EW n =2822	40.2%
EW reported at least one abortion while working as EW n =2779	33.3%
Abortion EW have had in the past ≤ 6 months among those reported abortion while being EW, n= 916	54.2%
Place for last abortion among those reported abortion, n = 920	
Private clinics	40.6%
Pharmacies	31.8%
Public health hospital, health center	16.4%
NGO clinics	9.2%
Traditional healer/Others	2.1%

Sexual and Reproductive Health (2)

Variables	Freq.
Currently reported using any methods of FP, n = 2828	72.9%
Different FP methods EW have used, n = 2828	
- Male condoms	37.2%
- Daily or monthly pills	14.0%
- Withdrawal	12.4%
- Injecting contraceptive	5.6%
- Period-based	2.6%
- Implant (under the skin)	2.1%
- IUD	1.8%
- Female sterilization	0.5%
- Emergency contraceptive	0.5%
- Female condoms	0.3%

STI Self Report and Usage of Services

Variables	Freq.
Reported any STI symptoms in the past year, n = 2829	18.8%
Abnormal vaginal discharge (with bad smell), n = 2829	40.7%
Genital ulcer/sore, n = 2828	1.8%
Genital warts, n = 2828	1.1%
Reported abdominal pain in past year (pelvic area), n = 2830	31.4%
First place for their last STI treatment among those reported symptoms in the past 12 months, n = 1071	
- NGO STD clinic	39.9%
- Health Center/Hospital	15.4%
- Pharmacy	15.1%
- Public STD clinic	13.8%
- No treatment	8.7%
- Private clinic	5.7%
- Tradi- practitioner	1.3%
Reported using public STI clinics in the past 3 months	
- One time	18.2%
- ≥ 2- 3 times	81.8%

HIV testing awareness places for testing

Variables	Freq.
Reported HIV test in the past 12 months, n = 3104	72.3%
Know places to have HIV testing, n = 3106	80.5%
Place for the last HIV testing among EW who tested, n = 2242	
- NGO VCT	43.5%
-Mobile testing	27.2%
-Public hospital/HC	12.0%
-VCCT	11.5%
- Private Clinic/ Lab	5.6%
- Others	0.2%

HIV testing awareness and access to ART

Variables	Freq.
Received HIV test result last time they had test n = 2245	97.2%
HIV test result was positive for those reported testing past 12 months and comfortable to tell the results, n = 1789	2.0%
Registration at AIDS care and treatment clinic for EW who were HIV (+), n = 32	81.3%
Currently on ART those who reported HIV positive	87.1%
Awareness of the availability of ARV drug , n = 3096	83.9%

Medical injection behaviors

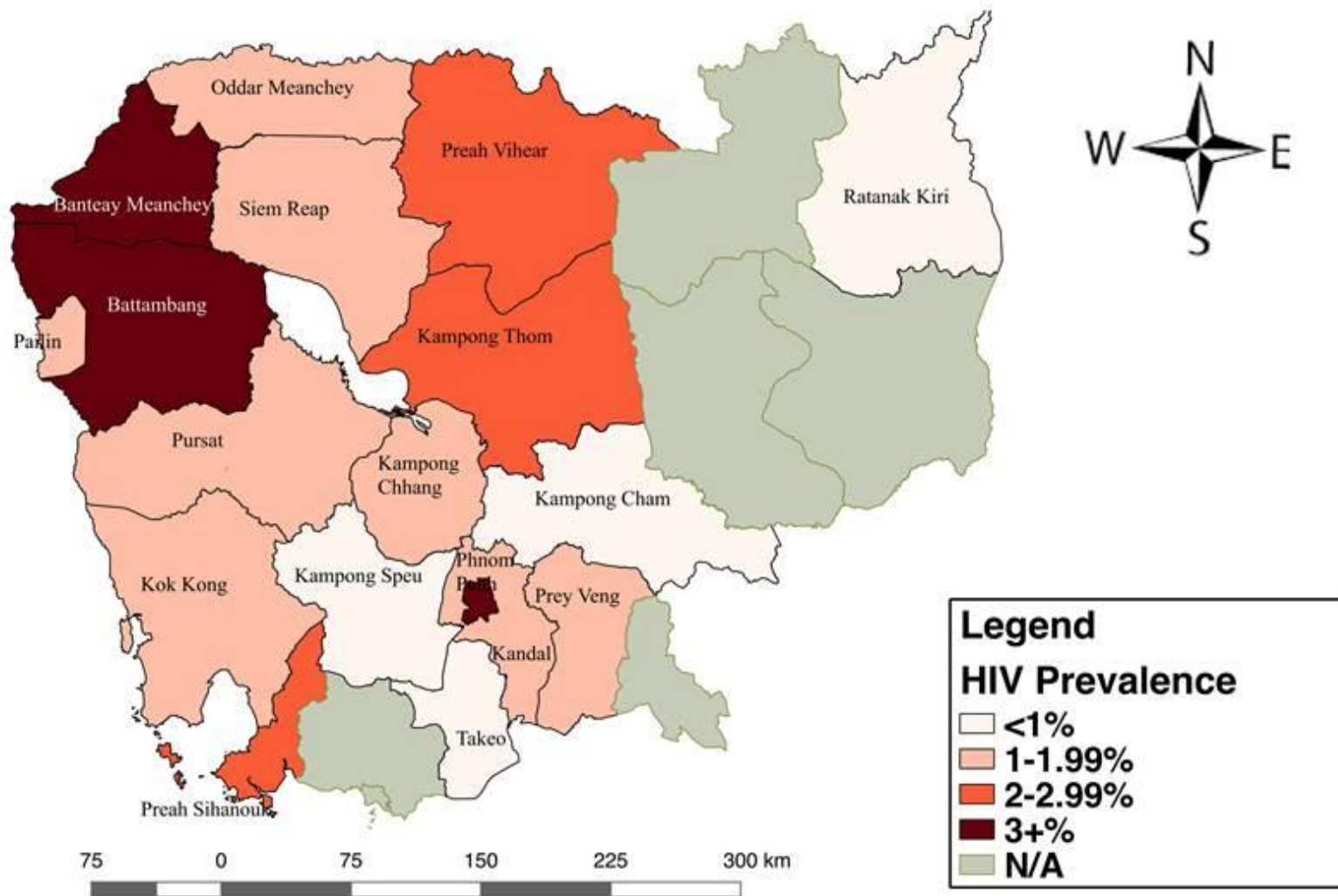
Variables	EW 2015
Got injections in the past 12 months, n =3103	25.2%
Used new syringe and needle, n=834	91.5%
Reported Don't Know, n = 834	6.7%
Got injections from Public Health Facilities, n = 844	
-Health center/health post	14.7%
-Provincial hospital	6.3%
-District hospital	3.2%
-National hospital	1.7%
Injection from Private Health Facilities, n = 844	
-Clinic	36.2%
-Private hospital	23.1%
-Home of nurse	5.4%
-Pharmacy/others	2.2%
Got injection(s) from Other Facilities	
-At home	7.7%
-Drug store/others	2.3%

HIV prevalence and distribution by certain characteristics

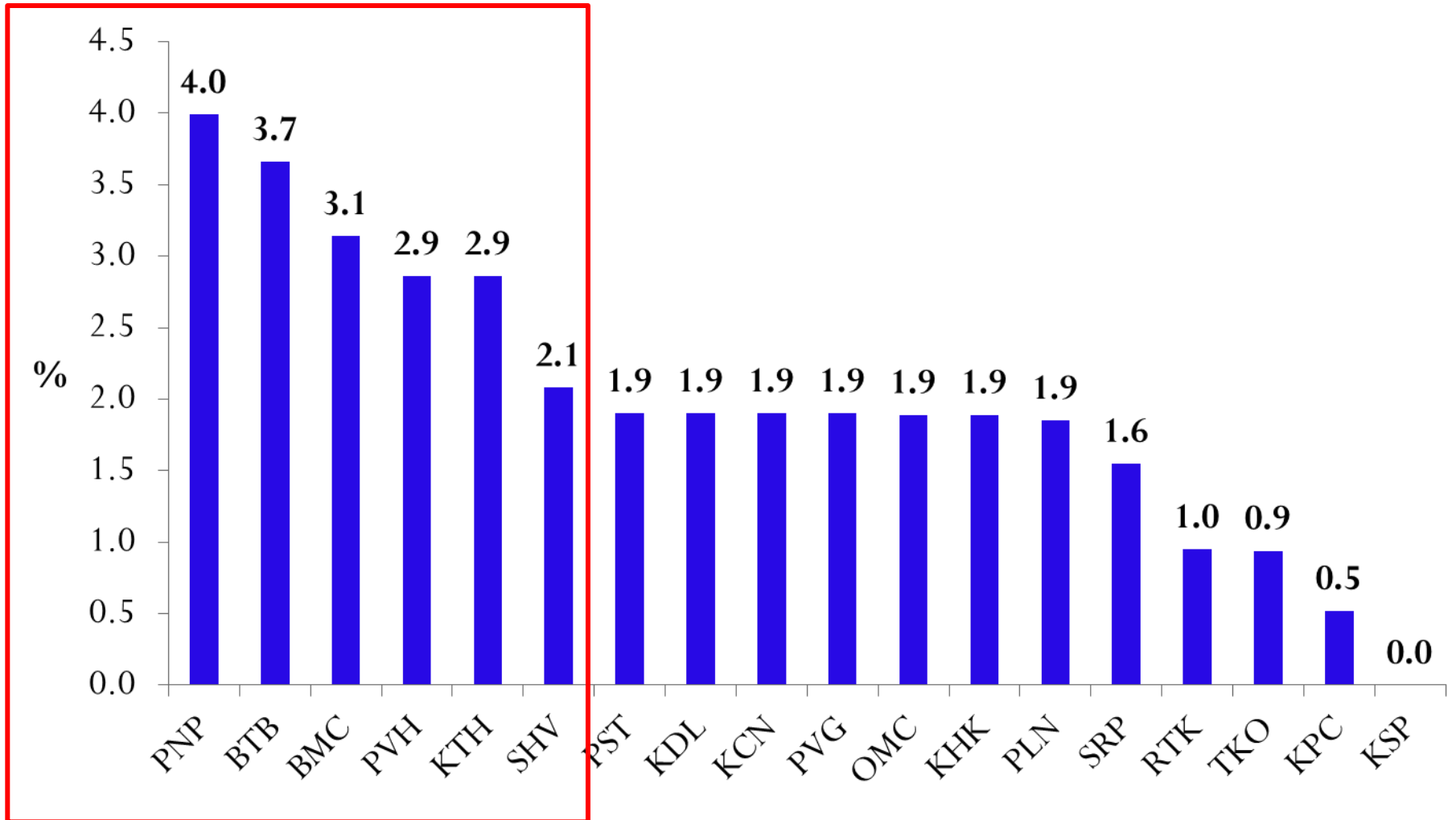
HIV and syphilis prevalence, HIV by numbers of partner

Variable	n	HIV (+)	%	95% CI
Overall HIV prevalence	3149	72	3.20	1.76- 5.75
Syphilis prevalence	3106	21	0.79	0.36- 1.70
HIV by number of paid sex partner (among those reported sexually active and reported paid sex), n = 1377				
≤ 2 partners	1255	61	5.9	3.4 - 10.0
> 2 partners	122	11	8.3	4.1 - 11.4

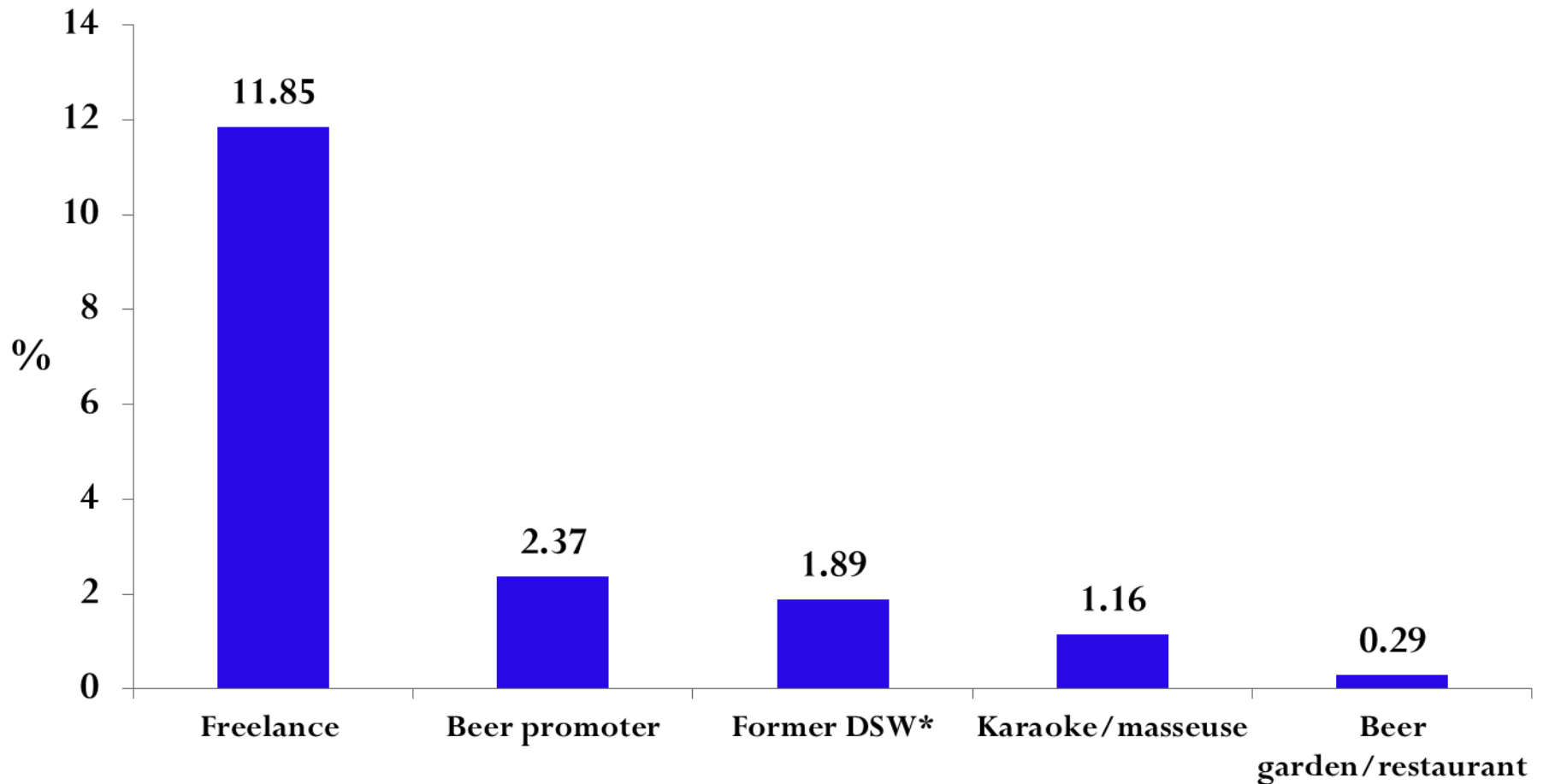
Geographical distribution of HIV prevalence among EW, IBBS 2016



HIV distribution by provinces (N = 3149)

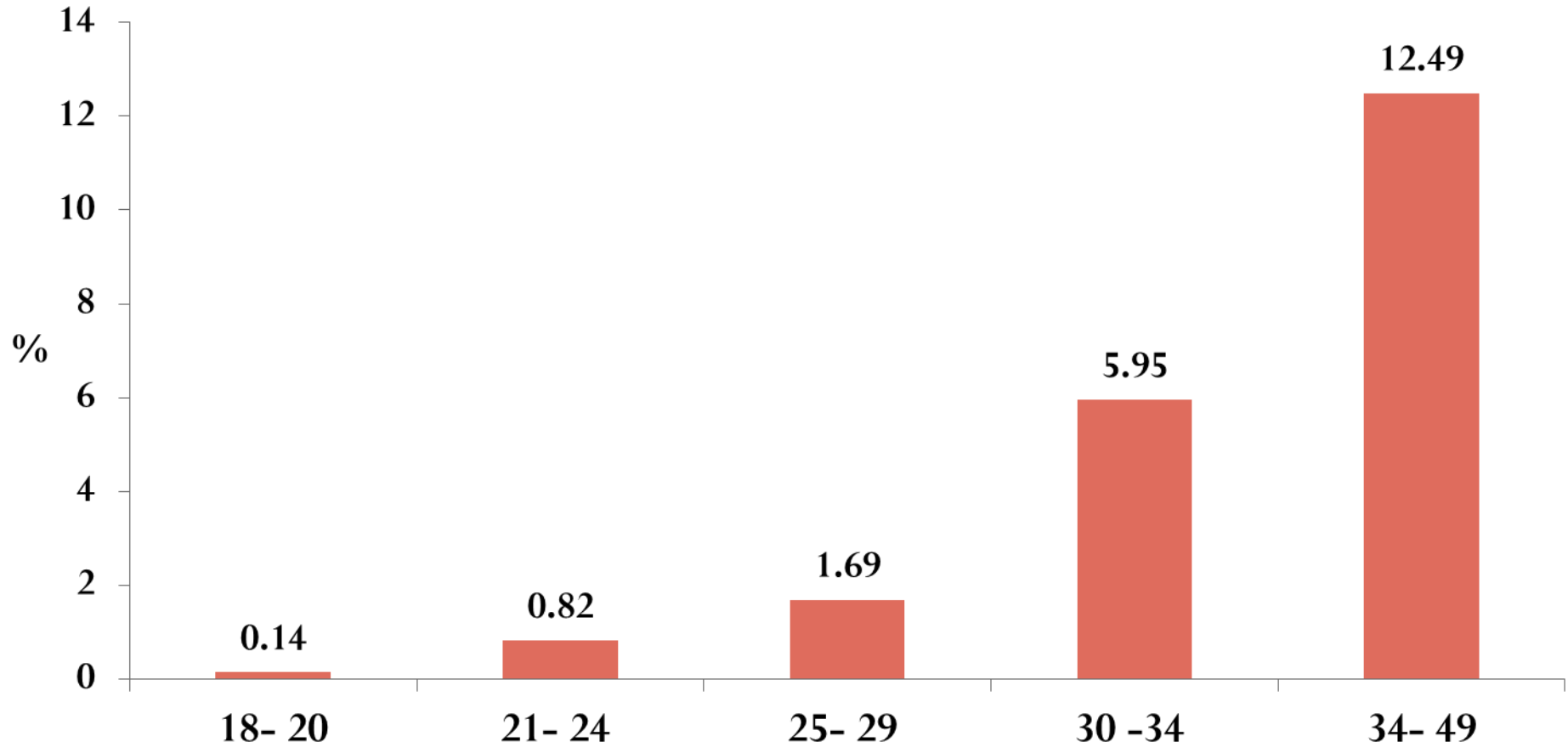


HIV prevalence by types of EW (N = 3105)



- Freelance = 351; DSW*: Brothel based sex workers = 92; Beer promoter = 101
- Karaoke = 2181; Beer garden = 380

HIV prevalence by age groups of EW (N = 3103)



Conclusions (1)

- 90% of EW are sexually active. Of those, they had the average 2 paid sex partners/ week.
- 22% of EW reported > 2 partners /day.
- About 60% of EW reported paid sex or exchange gifts for sex
- The consistent condom use with clients among EW remains high at 86-87%. But with sweethearts as always remains low and continue to decline (< 30%)

Conclusions (2)

- Outreach/peer education/NGO remain the key players in providing HIV related information and support to EWs
- About 18% of EW self reported STI related symptoms. Of those the most common symptom reported was abnormal discharge.
- Of those reported symptoms, the most places they visited are NGO STD clinics (40%) and public STI clinics (14%)
- Report of access to HIV testing, receiving test result and awareness about ART are remarkably high
- Also, high access to ART up to 87% for EW who were aware about the HIV status

Conclusions (3)

- **More than one third EW** reported induced abortion while working in current jobs, especially high abortion in the past 6 months (54%)
- Private clinics (40%) and buying drug from pharmacies (31%) were reported as main places to induced abortion.
- Up to 73% of EW reported using any FP. Male condoms (37%) and contraceptive pills are commonly reported.
- Around 70% of the women access to sexual and reproductive health services

Conclusions (4)

- **One in ten** of EW ever reported using drug.
- **Less than 10% of EW** commonly reported use ATS and Yama, Ice in the past 12 months.
- **1.3% of** the EW reported injecting drugs in the past 12 months.
- **One in four of EW** got medical injection at least one in the past year, in which > 90% reported using new syringes and needles
- The common places for their injections were mainly private health facilities such as clinic and private hospitals

Conclusion (5)

- One average, EW had 17 alcohol drinks (either a bottle, a can of beer, or a glass of wine); while at least 50% of the women had 14 drinks in the past week
- About 60% of EW drink alcohol everyday. And many are heavy drinkers with more than 95 drinks in past week (43.2%)
- Physical and sexual violence against EW from husband and sex partner reported < 5%

Conclusion (6)

- HIV prevalence among EW remains stable if comparing to HSS 2010, but there was a low prevalence of syphilis (<1%) among EW
- There are provincial variation; higher HIV prevalence were observed in PNP, BTB, BMC, KTH, PVH and SHV
- Prevalence among freelance/street based SW is the highest comparing other groups, followed by beer promoter group.
- When EW get older $EW \geq 30$ years, the higher prevalence was observed but the HIV prevalence among age ≤ 24 years old was low (<1%) especially the $EW \leq 20$ years (< 0.5%)

Acknowledgement

- This study would not be completed without the contribution from:
 - Provincial Health Department and Provincial AIDS Office (PAO) of 18 provinces and cities
 - All interviewers, health workers and provincial coordinator who helped us facilitate the data collection and administration supports
- Special thanks to all EW participants
- Special thanks to GF for financial support
- HIV/AIDS Flagship Project

**Thank You and Welcome
Questions and Comments
and Suggestions**