

# 2011 CAMBODIA STI SURVEY

## Female Entertainment Workers

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Presented by: Dr. Mun Phalkun

NCHADS  
US CDC



# Background and rationale

- STIs are:
  - major causes of reproductive morbidity (pain, infertility) and mortality (HIV)
  - usually concentrated in Most at Risk Populations (MARPs), characterized by frequent, unprotected sexual intercourse
- Measuring risk behaviors, protective behaviors and prevalence of STI among MARPs allows for monitoring the impact of treatment & preventive interventions

# Objectives

## Primary objective:

- To determine national prevalence estimates of and related risk behaviors for *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, syphilis, HIV and Hepatitis B among Female Entertainment Workers.

## Secondary objectives:

- To provide data for program planning and management of STI control and prevention programs for FEWs and their clients.
- To validate the current clinical algorithm for presumptive treatment of FEWs and explore alternative algorithms for improved sensitivity and specificity (results are not presented at this time).

# METHODS

# Survey design

- ▶ A cross-sectional survey of 17 provinces
- ▶ Participation voluntary and anonymous
- ▶ STI lab test results linked to self-reported behaviors
- ▶ Survey population
  - Female entertainment workers (FEWs) *instead of brothel based female sex workers as in 2005*
    - “former brothel” FEWs
    - beer promoters
    - karaoke workers
  - The eligibility criteria for inclusion in the survey are:
    - All female entertainment workers in the entertainment establishment (EE)
    - Age 18 years or older (*15+ years in the 2005 survey*)
    - Able to speak Khmer

# 2011 Survey included the 10 previous provinces plus 7 more

	Provinces	Years	New 2011 Provinces	
1	<b>Phnom Penh</b>	96, 01, 05	11	Kampong Thom
2	<b>Sihanoukville</b>	96, 01, 05	12	Pailin
3	<b>Battambang</b>	96, 01, 05	13	Odor Meanchey
4	Bantey Meanchey	01, 05	14	Kampong Chhnang
5	<b>Kampong Cham</b>	01, 05	15	Takeo
6	Pursat	01	16	Kampong Speu
7	Kandal	01	17	Preah Vihear
8	<b>Siem Reap</b>	05		
9	Koh Kong	05		
10	Prey Veng	05		

# Sample Size FEW

	Sample size	Provinces	Phnom Penh	Other provinces
<b>Former BB FEW</b>	1073	17	129	59
<b>FEW other</b>	1605	17	181	89
<b>TOTAL SAMPLE SIZE</b>	<b>2678</b>	17	<b>310</b>	<b>148</b>

# Sampling strategy

- Stratified two-stage cluster sampling design
- PAO/NGO of the survey provinces listed all Entertainment Establishments (EE) and number of FEWs in each EE.
- Lists served as sampling frames:
  1. Former brothel EE
  2. Other EE (beer promoters, Karaoke)
- Take all former brothel EE and random sample other EE until Provincial sample size reached



# Survey procedures

- Field work August to December 2011
- All FEW from selected venues were invited to STI clinic
- Verbal informed consent obtained and witnessed
- Interviews: same sex interviewer conducted face to face using questionnaire
  - socio-demographic information
  - information on sexual behaviors
  - STI/ HIV risk behaviors
  - STI/ HIV history
  - STI/ HIV health seeking behaviors

# Laboratory Testing of specimens

STI	Specimen	Test
<i>Neisseria gonorrhoea</i>	Self administered vaginal swab	Nucleic acid amplification test ( <i>in 2005, Becton Dickinson ProbeTec</i> )
<i>Chlamydia trachomatis</i>		Nucleic acid amplification test ( <i>in 2011, real time PCR with Abbott m2000 GC CT</i> )
<i>Treponema Pallidum</i>	Blood	Rapid test (SD Bioline); Confirm + with RPR
HIV		Rapid Test (Determine HIV 1/ 2), Confirm + with Stat-Pak
Hepatitis B		Hepatitis B Surface Antigen, core Antibody, surface Antibody (Biorad Monolisa Ultra)

# Clinical procedures (1)

Participants received:

- standard four STI risk assessment questions
  - considered positive if the answer is “yes” to  $\geq 2$ .
- speculum examination other clinic signs of infection
  - endocervical swab specimen collected for microscopy examination. (+ if  $> 10$  WBC/ hpf)
  - vaginal swab (if discharge present) and microscopy
- Same day treatment by medical doctor per STI guidelines using tests results available

# Clinical procedures (2)

- SD Bioline Rapid test for syphilis; if positive – RPR
  - Treatment with PCN (same day) if both tests positive
- HIV
  - Return of test results (same day) by counselor
  - Referral to OI/ ART if positive
- Hepatitis B surface antigen, GC, CT
  - Tested in laboratory at later time
  - Participant will need to return for results in 2 weeks and show PIN

# Follow up

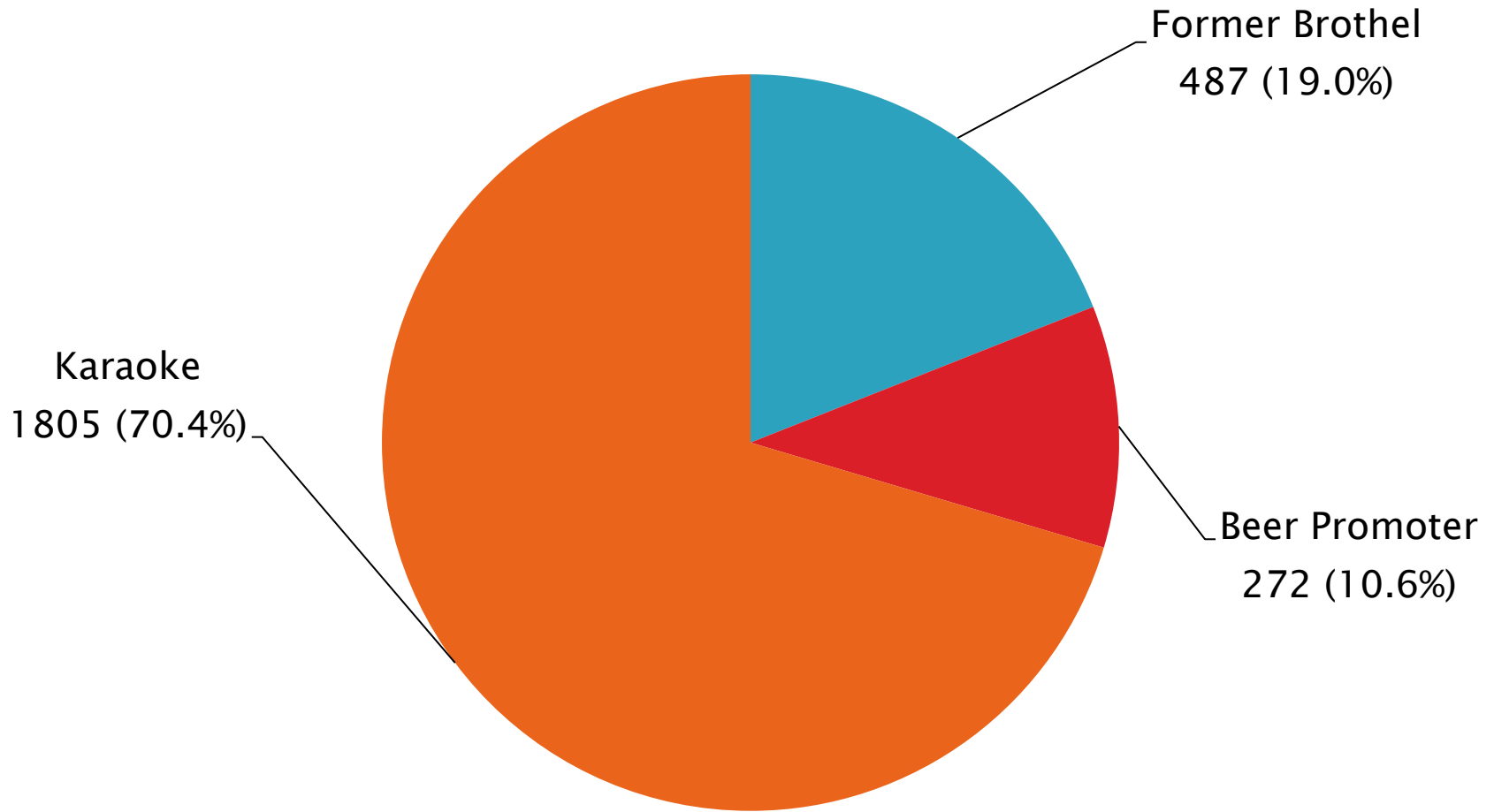
- Participant will received card with personal identification number (PIN) and map
- Follow-up in 2 weeks for results of:
  - Hepatitis B
  - GC and Chlamydia by real time PCR
- Participants with infections were counseled and requested to refer their sexual partners to the STI clinic for treatment
- They were provided a condom demonstration and free condoms.

# Data Entry, Processing and Analysis

- Questionnaires and lab forms transported at least twice a week from the field with the specimens and stored in NCHADS.
- Laboratory data forms collected on a periodic basis from the survey laboratories and brought to NCHADS for data entry.
- ▶ Forms entered electronically using Epi Data. Double data entry performed by two different people. Cross checking of the two entered datasets performed.
- Data analyzed with STATA 11, which takes into account cluster sampling when computing standard errors and weight.

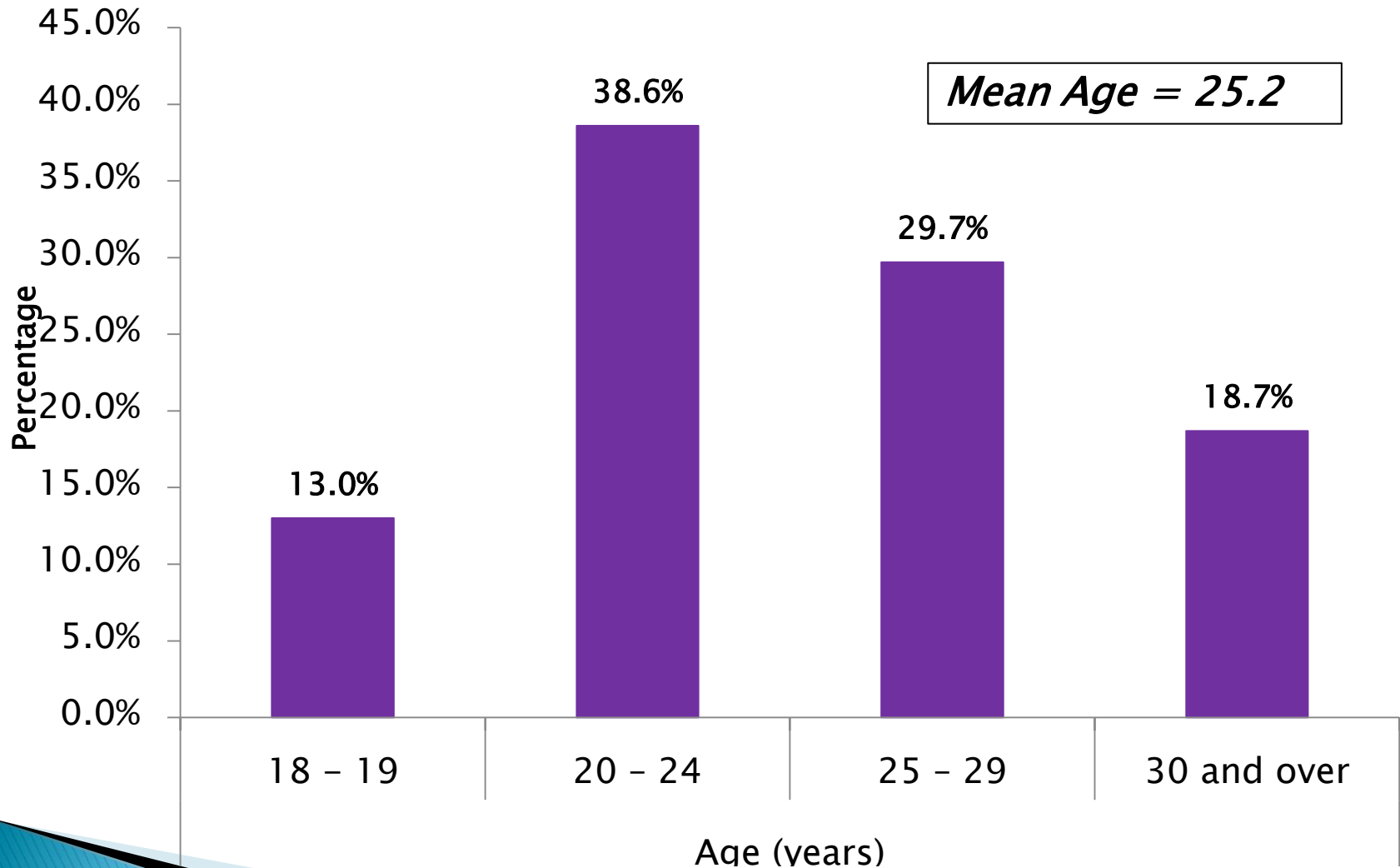
# Results

# FEW Type

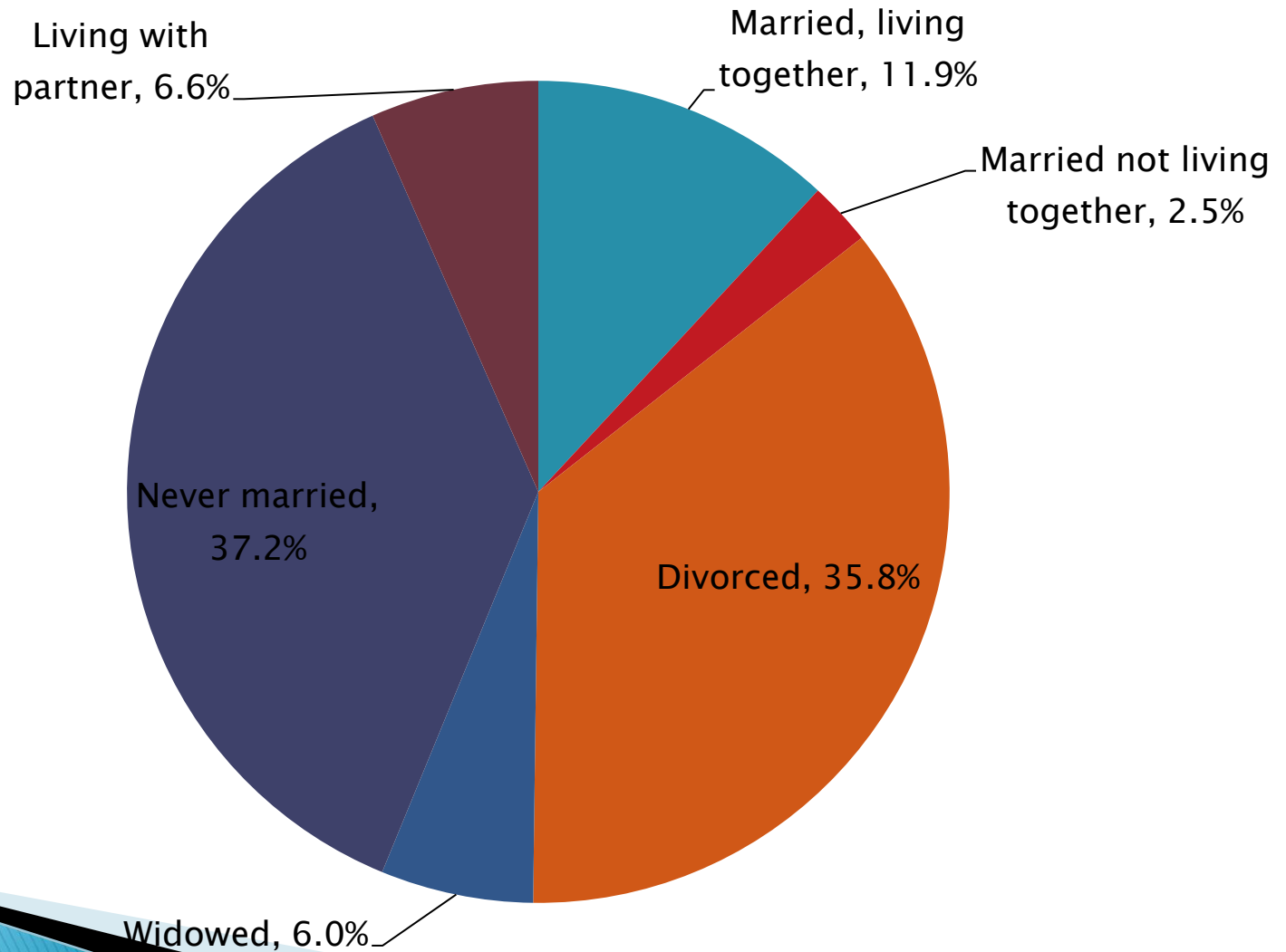




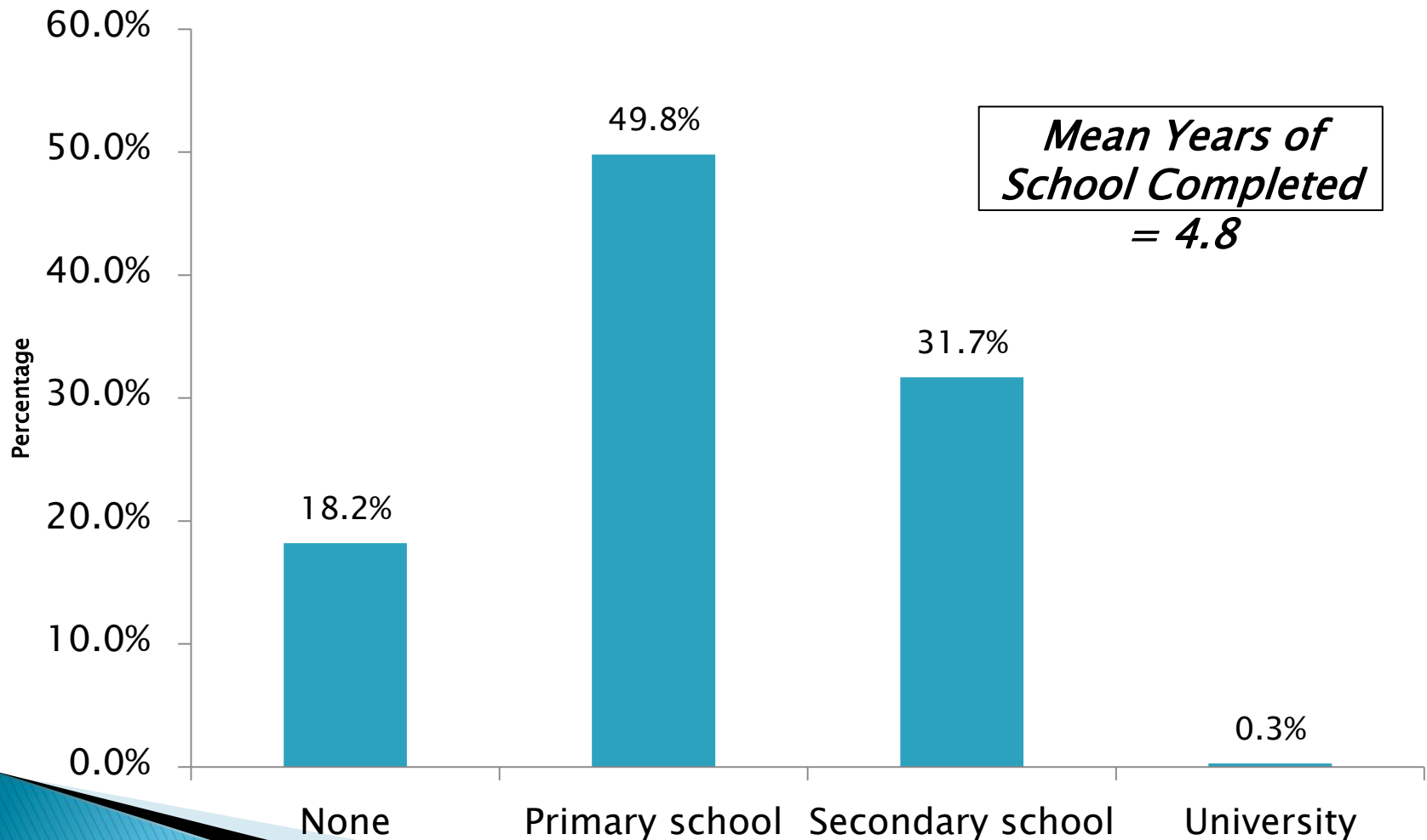
# Demographic Characteristics: Age



# Demographic Characteristics: Marital Status



# Demographic Characteristics: Education Level



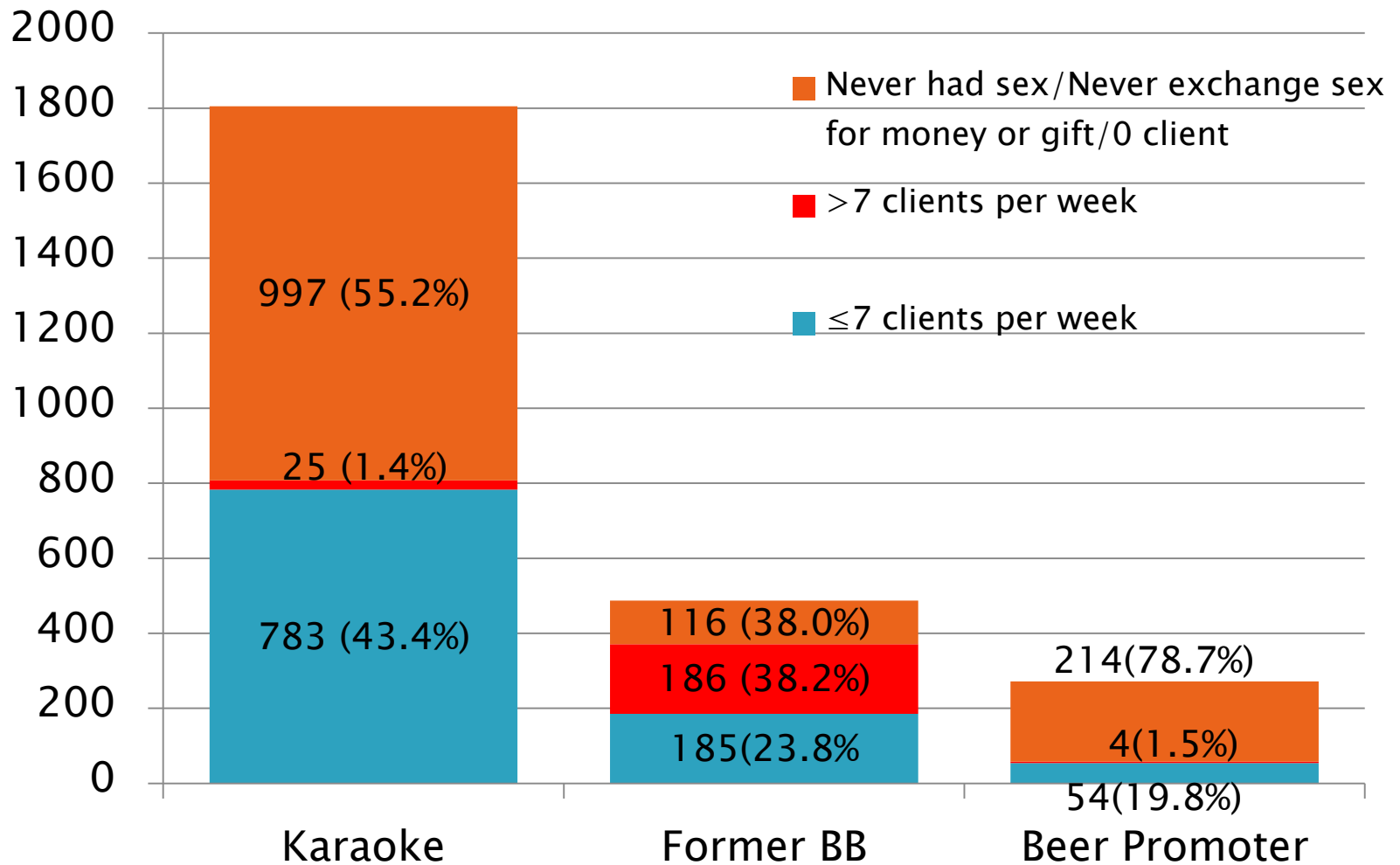
# FEW Mobility

Work as other type of job before this one? (N=2564)	%
Dancer at night club	0.5
Massage	7.1
Beer promotion girl	4.4
Karaoke	13.5
Worked at beer garden	2.6
Sex worker at brothel	1.2
Garment worker	<b>25.8</b>
Worked at a restaurant	12.5
Other	30.9
None of above	13.2

# FEW Fertility and Abortion

Since working as EW, Number of times pregnant (N=2564)		%
	None	42.8
	1	19.7
	2	10.2
	3+	18.1
While working as an EW, how many abortions have had? (N=2564)		
	None	12.6
	1	18.3
	2	9.9
	3+	7.2
	Don't remember	0.4
How many months ago was last abortion (N=2564)		
	1-12 months	28.3
	>13 months	3.6
	Don't remember months	3.9

# FEW Type by Number of Clients



# Number and type of sexual partners

## Boyfriend/ Sweetheart

In the past 12 months, how many boyfriends/sweethearts (N=2558)		%
	None	42.1
	1	38.2
	2+	19.7
In the past 12 months, have sex with boyfriends/sweetheart (N=1543)		%
	Yes	87.0
	No	13.0
In the past month, how many times have sex with boyfriend/sweetheart (n=1369)		%
	None	6.8
	1- 7 times	82.4
	8-30 times	9.3
	31-65 times	0.5
	Don't know	1.1

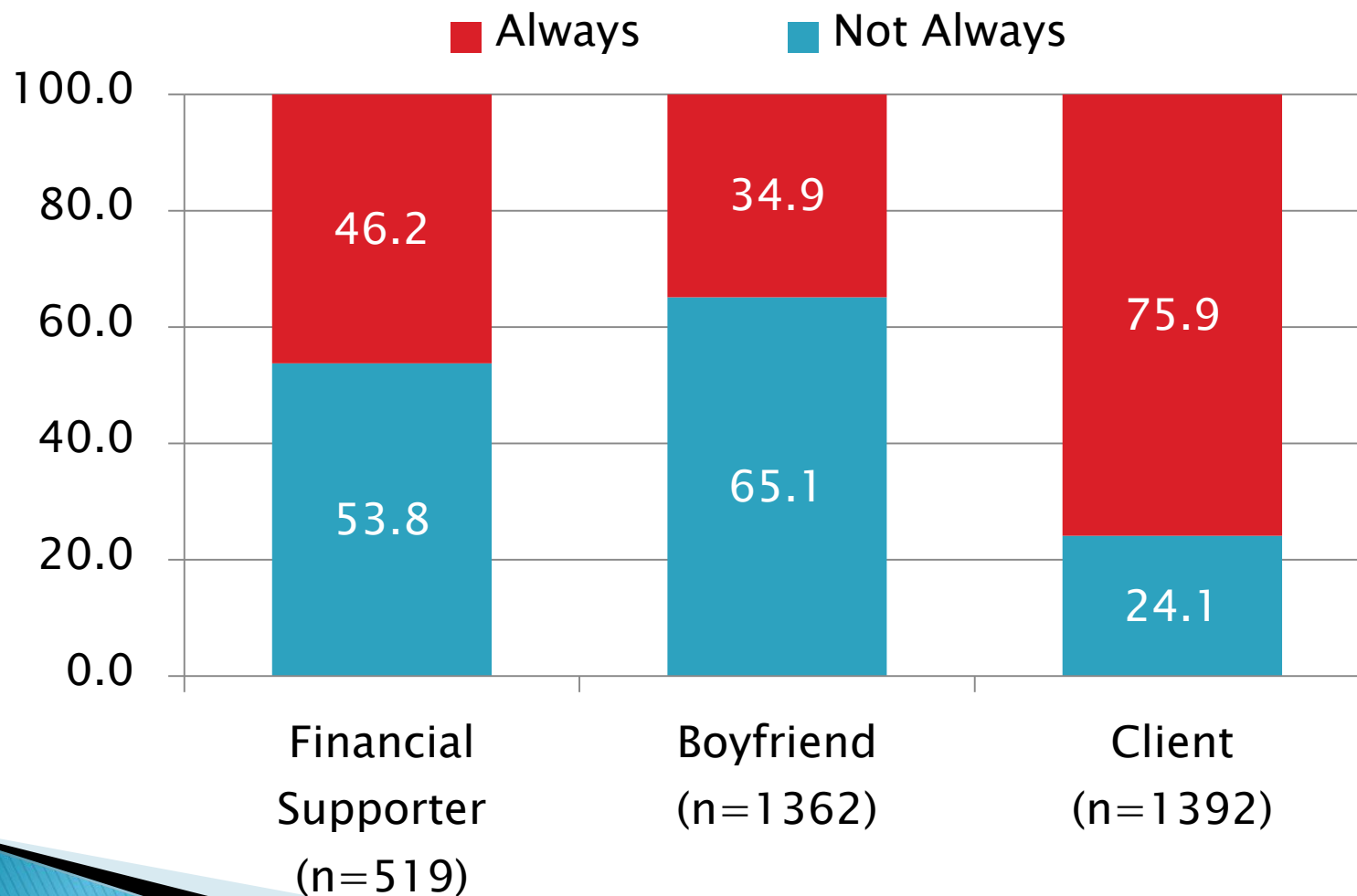
# Number and type of sexual partners

## Transactional partners

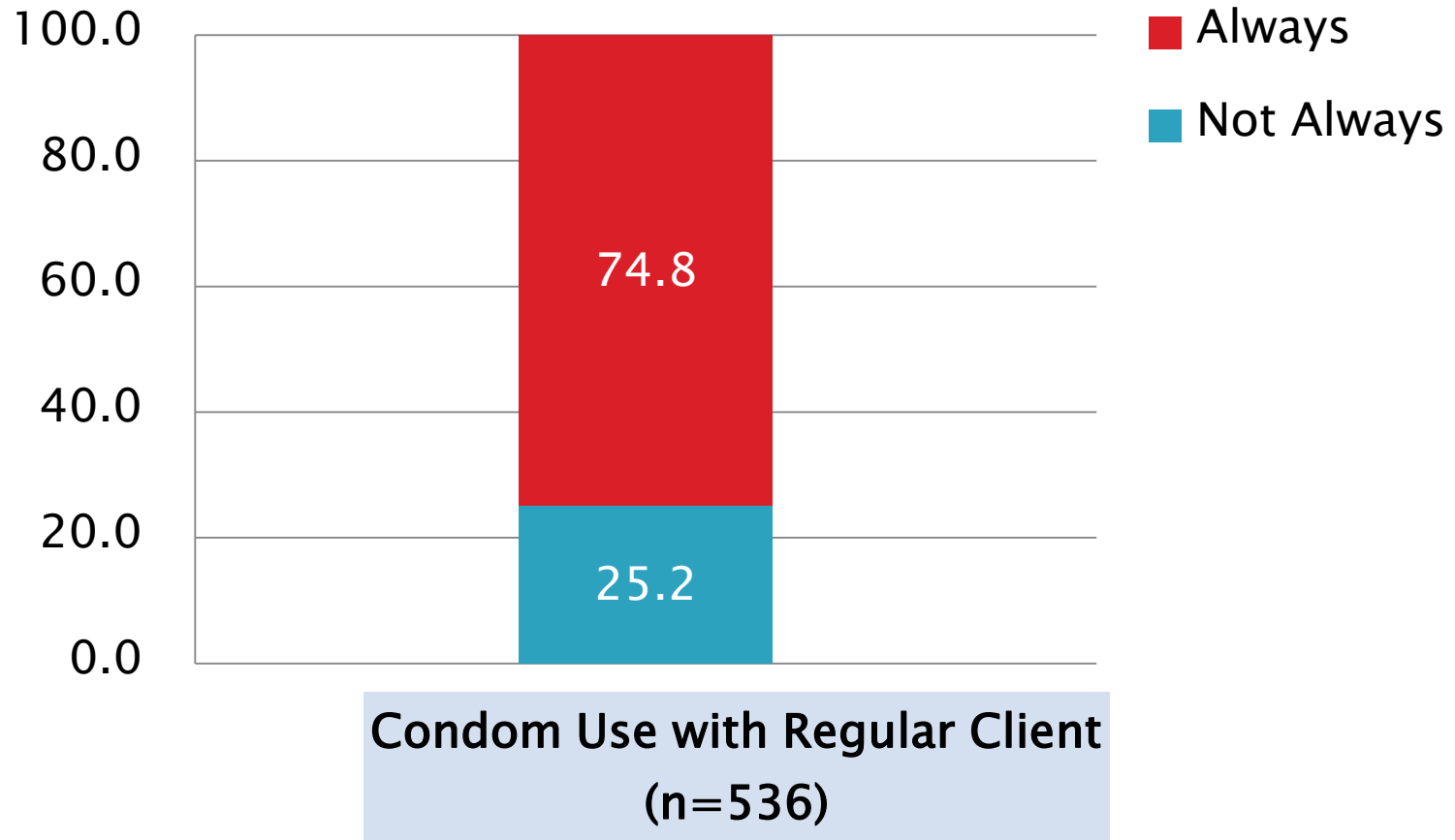
In the past 12 months, ever received gifts or money in exchange for sex? (N=2564)		
		%
	Never had sex	12.3
	Yes	41.1
	No	46.6
How many clients have sex with last working day (N=1476)		
	None	29.4
	1	53.5
	2	7.8
	3+	8.2
	Don't know	1.1
Currently, do you have regular sex clients (sleeping with you more than five times) (N=1476)		
	Yes	36.4
	No	63.5
	No response	0.1
Sex with financial supporter (N=2564)		
	Yes	16.4
	No	31.8
	No financial supporter	51.8



# Percentage of Condom Use in Last Three Months By Partner Type

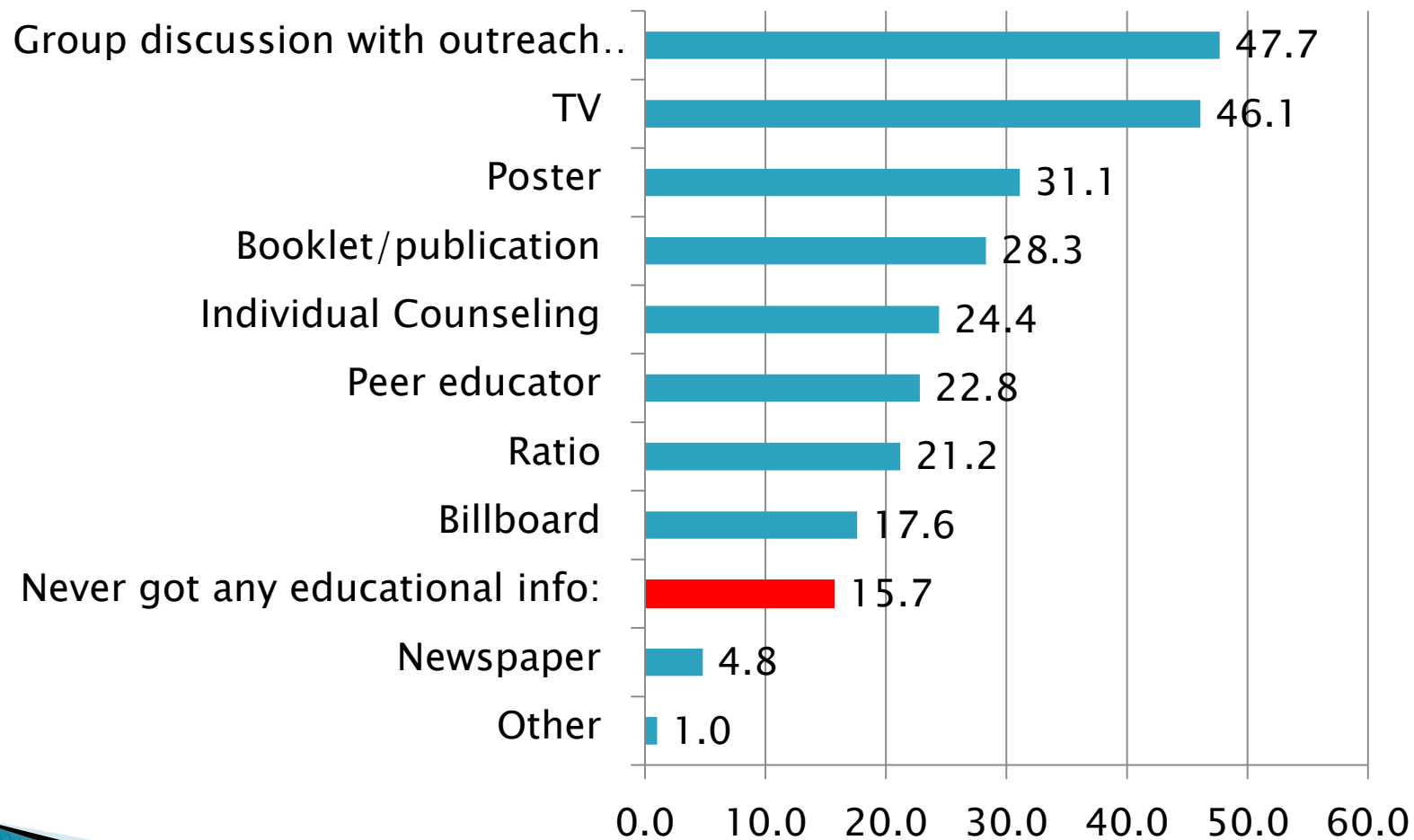


# Percentage of Condom Use in Last Month With **Regular Client**\*



\* Regular Client: sleeping with more than five times

# Educational Information Received about HIV/AIDS and STIs in the past 3 months



# Drug Use

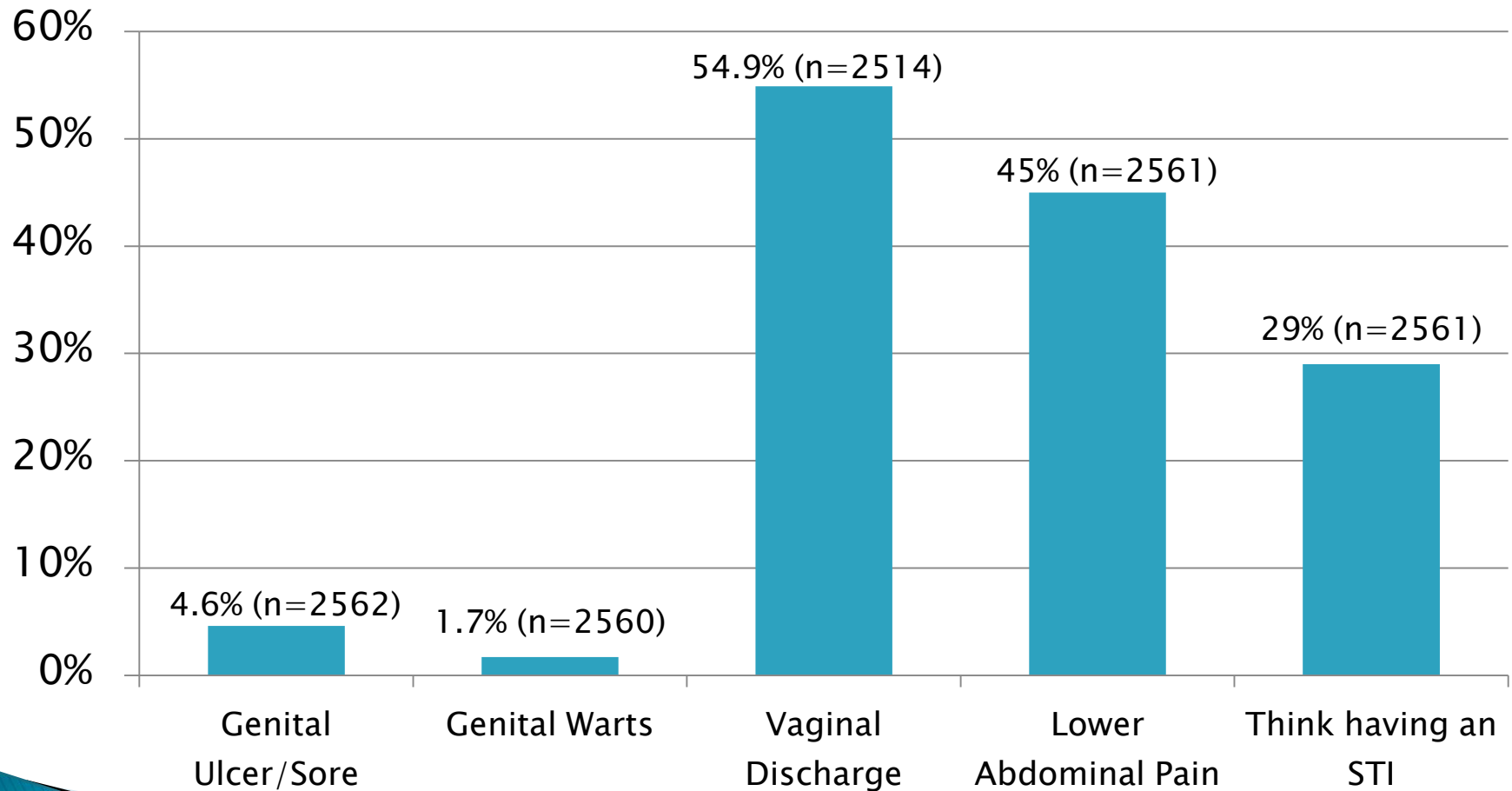
	%
Have ever used drug (n=2564)	4.5
If yes to drug use, type of drug (n=145)	
Heroin:	9.3
Amphetamine (Ice, Yama):	80.2
Ecstasy:	0.0
Sleep Booster (Valium, Diazepam):	0.0
Glue:	0.0
Marijuana:	0.2
Other:	1.9
For the past 12 months, have Injected Drug (n=145)	1.0

# Alcohol use

In the past week,

How often did you drink alcohol while working (N=2560)		%
	None	25.0
	1-3 days	20.1
	4-6 days	6.9
	Everyday	48.0
How many drinks per week (N=2136)		
	None	7.0
	1-7 cans	24.8
	8-24 cans	15.7
	25-95 cans	16.0
	≥ 96 cans	36.3

# STI symptoms, in past 12 months



# HIV Testing

	%
Know where can receive an HIV test (N=2562)	87.3
Had blood test for HIV in the past 12 months (N=2564)	62.2
Where did you have the last blood test for HIV (N=1680)	
Private clinic/Lab	6.5
Public hospital	15.7
VCCT (Public)	<b>39.2</b>
VCCT (NGO)	<b>35.8</b>
Pharmacy	0.1
Other	2.6
Received the result of HIV test (N=1678)	96.2
Willing to tell result of HIV test (N=1562)	93.0
HIV test result self report (N=1402)	
HIV positive	2.6
Intermediate	1.0
HIV negative	96.4

# Sexual health check

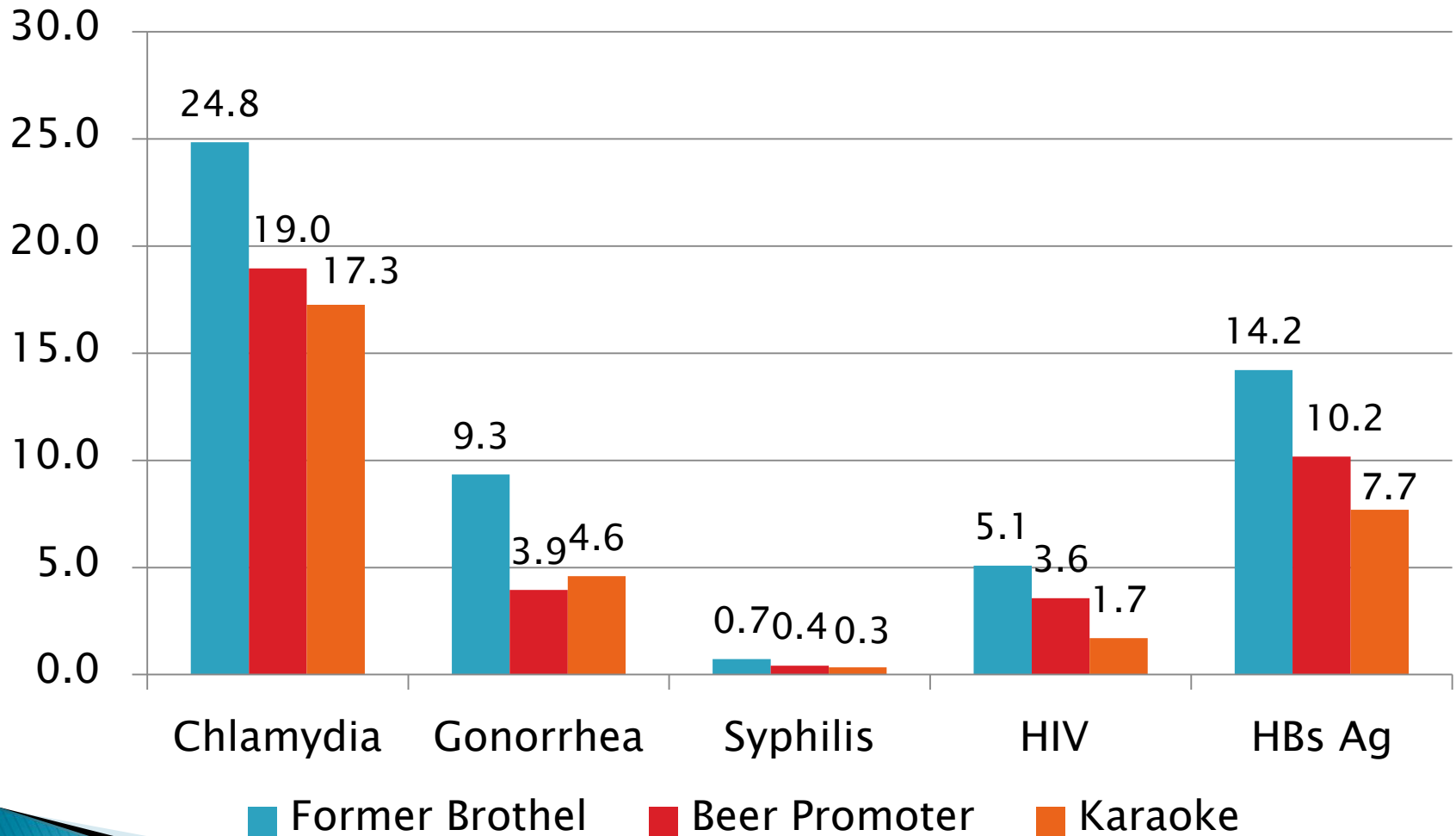
Number Visits to a clinic for SH check-up, for the past 12 months (N=2558)		%
	None	44.5
	1-2 visits	21.2
	3-4 visits	19.5
	5-6 visits	6.8
	7+ visits	8.1
Type of clinic Visited (N=1593)		
	Family Health Clinic (NCHADS)	38.3
	Other government/MoH clinic	19.4
	NGO clinic (RHAC,MSI,MEC,PSF)	26.1
	NGO clinic run by other Organization	8.8
	Private clinic	5.1
	Don't know which organization	0.4
	Other type of clinic	2.0



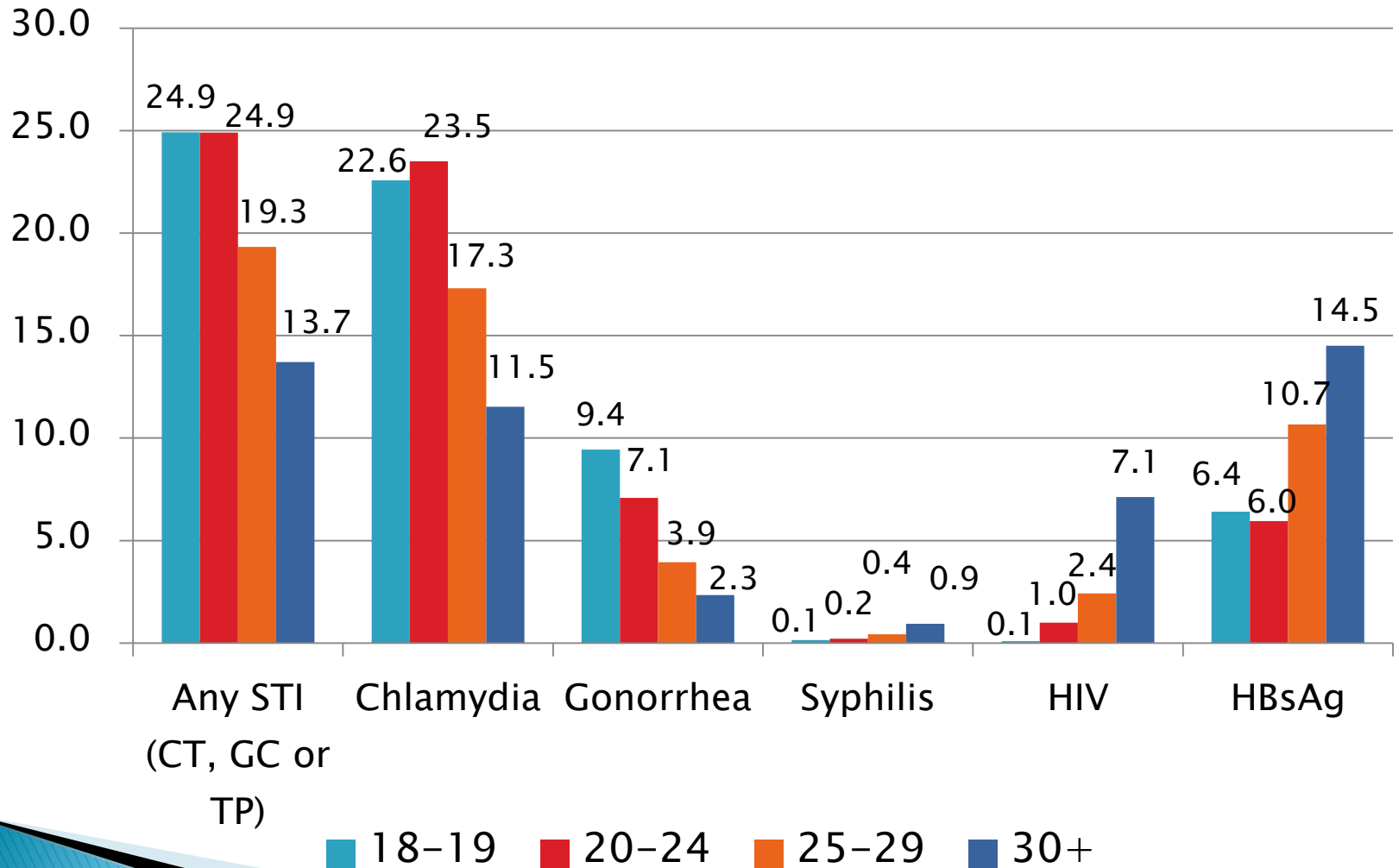
# Lab Results (Overall)

Test	# tested	% Positive
Chlamydia	2503	18.9
Gonorrhea	2523	5.3
Syphilis Active	2562	0.4
Any STI (CT, GC or TP)	2564	20.8
HIV	2561	2.6
Hepatitis B Sag	2559	9.3
Any Test Positive	2564	29.6

# Distribution (%) of STI by EW Type

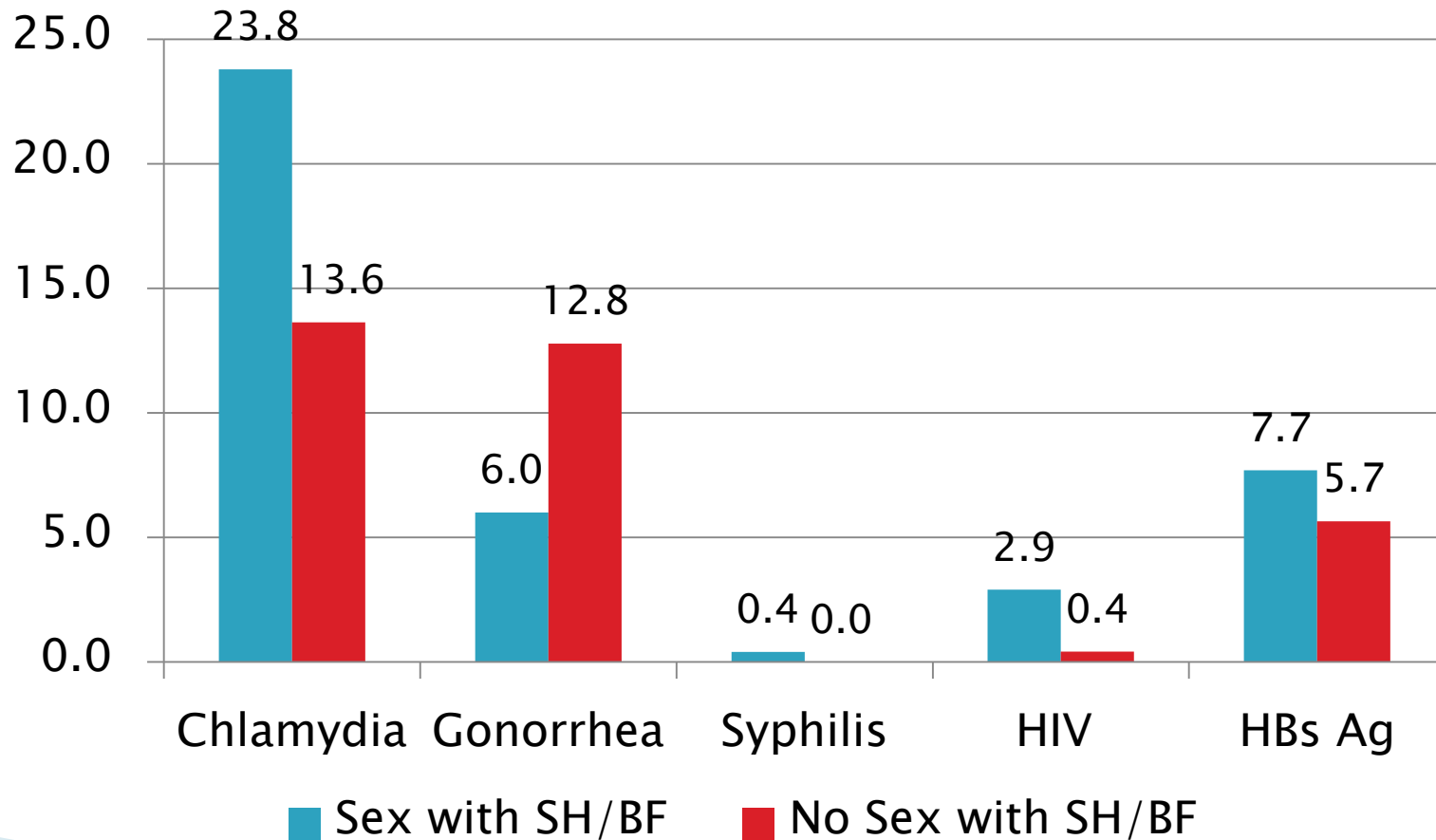


# Prevalence of STI by Age Group



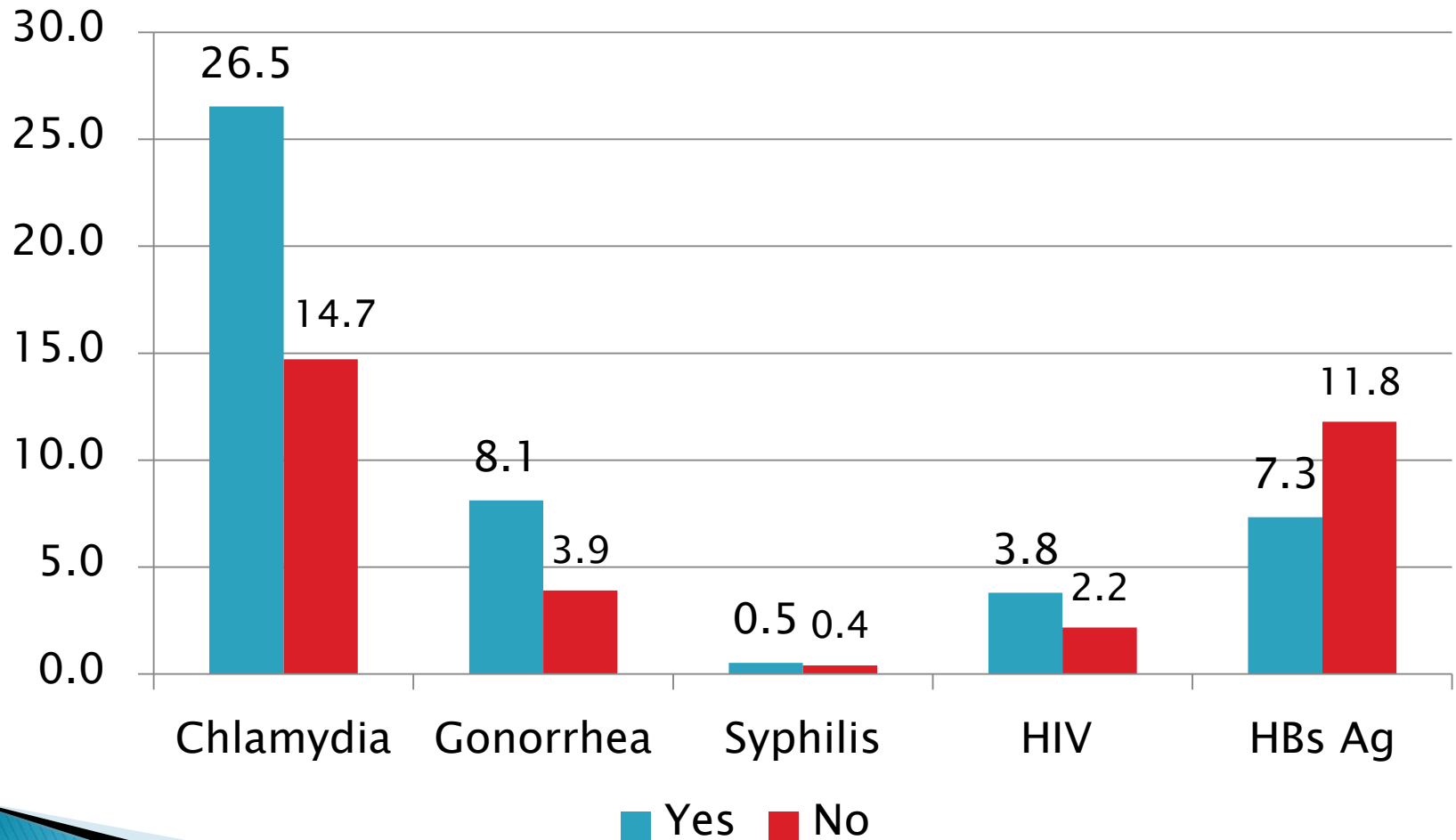
# Distribution (%) of STI by Sex with Sweetheart/ Boyfriend, Past 12 months

(Sex with BF=1,375, No Sex with BF=168)

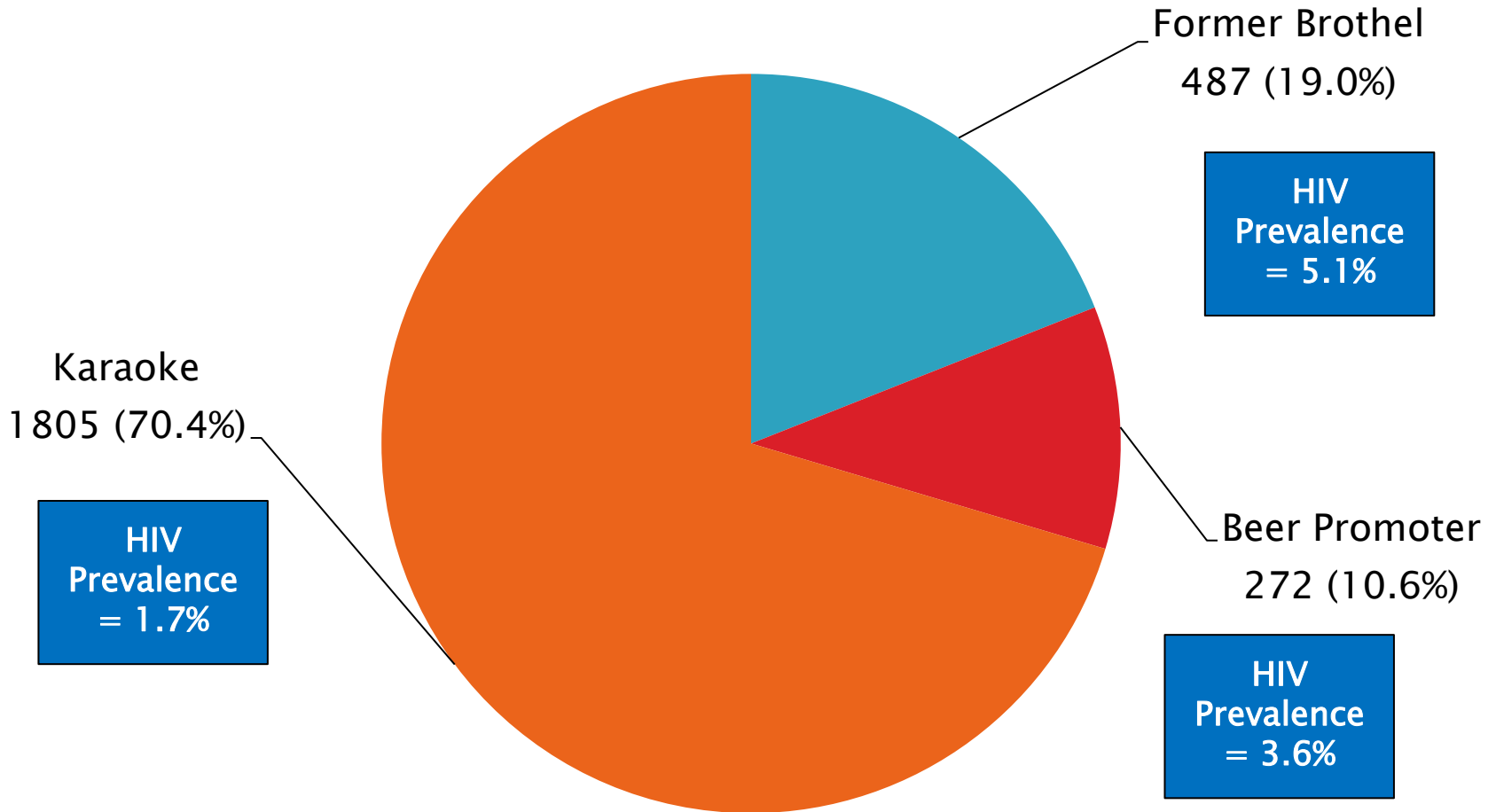


# Distribution (%) of STI by Exchange Sex for Money, Past 12 months

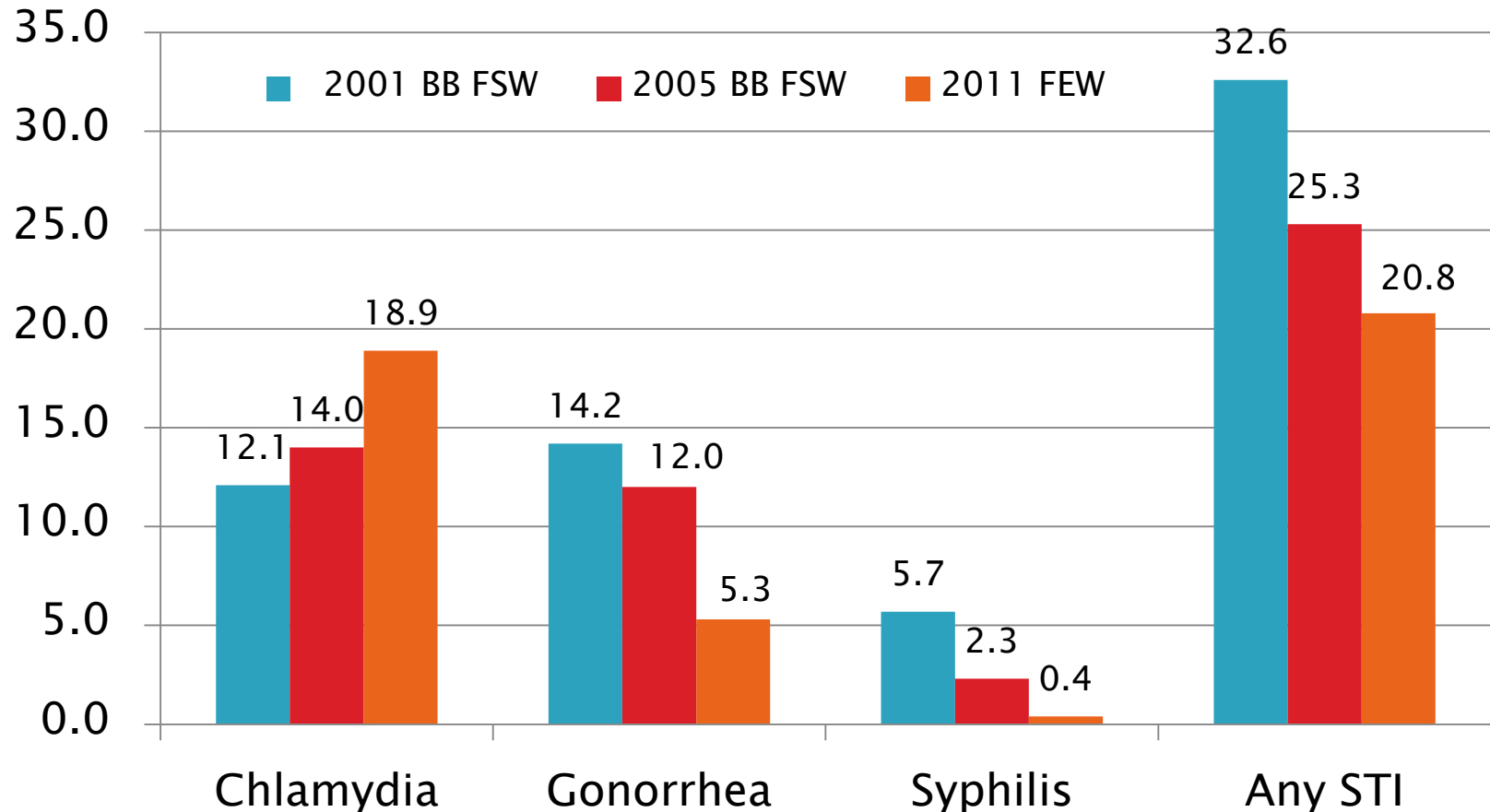
(Yes, n=1,478; No, n=761)



# FEW Type



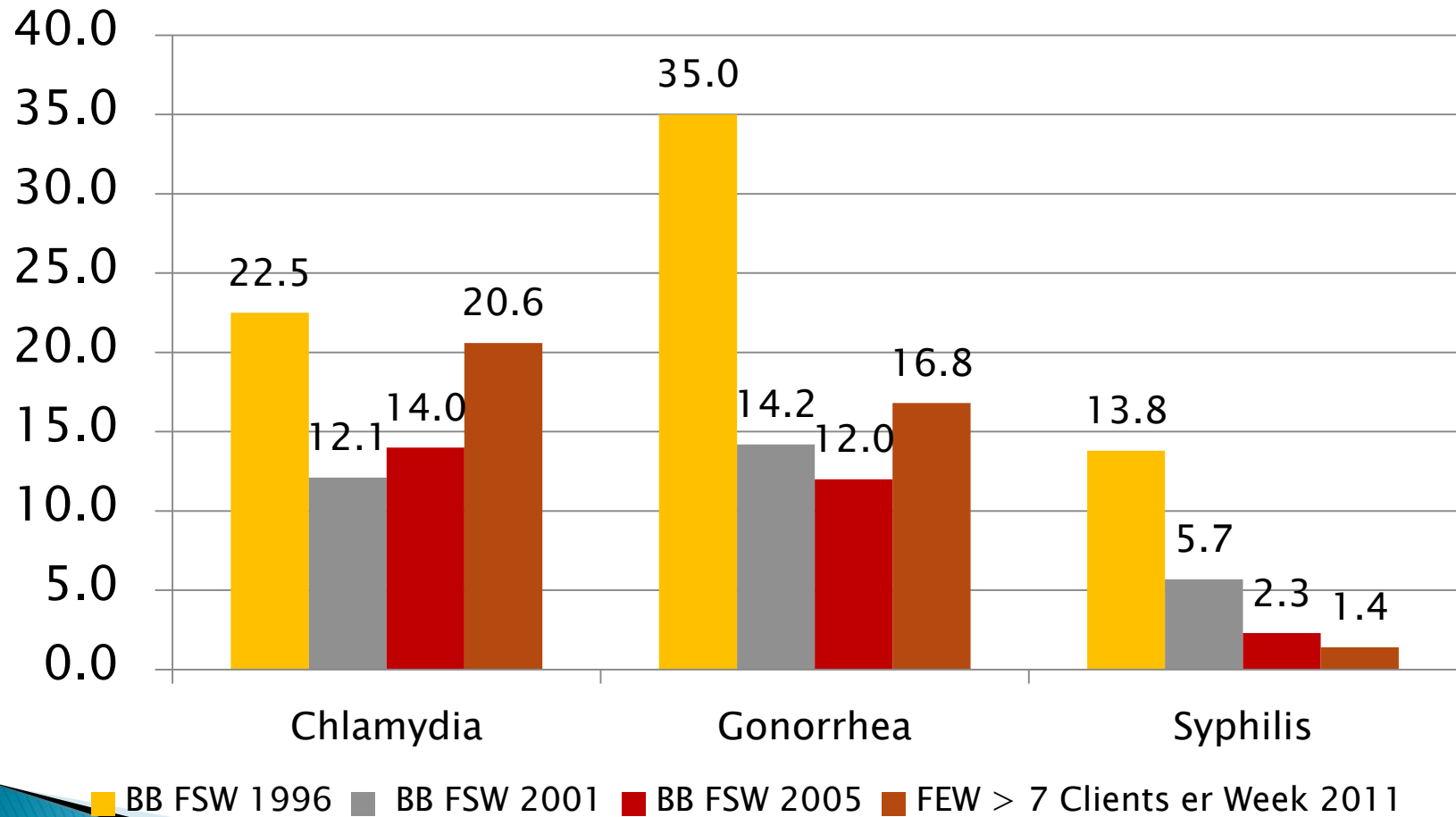
# Comparison STI prevalence by year of Survey



\*Direct comparison difficult: different population, different lab testing methods, different sampling approach, different weight

# STI Prevalence by Survey, Year

## BB FSW, FEW with >7 clients/ week





# Conclusion

# Conclusions (1)

- ▶ Female Entertainment Workers as a group had high prevalence of:
  - STIs especially Chlamydia
  - HIV (trend declining from 1998 peak)
  - Pregnancy and abortion
  - High risk behaviors (sex with multiple partners)
- ▶ FEW are a mixed group
  - some individuals not engaged in risk (8% report never having sex)
  - most have no or few clients per week
  - self report of Intravenous Drug Use is very low
  - Multiple different types of sexual partners (husband, client, boyfriend, regular client, financial supporter)

# Conclusions (2)

- ▶ Consistent condom use with:
  - Clients high, but declining
  - Boyfriends/ sweethearts remains low
- ▶ Abortion rate is worrisome.
- ▶ Chlamydia and gonorrhoea see high prevalence among younger age groups while syphilis, HIV and HBs are high among older age groups.
- ▶ FEW who had  $>7$  clients per week are more at risk to get HIV, Syphilis and Gonorrhoea
- ▶ “Former Brothel” Entertainment Establishments were difficult to locate in many provinces or define clearly
- ▶ Some sites had a mixture of FEW types – for example Karaoke establishments with FSW

# Recommendation (1)

- ▶ Mobility from garment factory is high, shall outreach program expanded to this group?
- ▶ More attention should be on those with sweetheart, boyfriend or financial supporter.
- ▶ Presumptive treatment for chlamydia should be in place.
- ▶ Interventions to maintain high percentage of consistent condom use, and increase condom use among sweetheart, boyfriend and financial supporter.
- ▶ Available and accessible safe abortion services.
- ▶ Partner tracking for STI testing and treatment.

# Acknowledgement

- ▶ We would like to acknowledge:
  - Ministry of Health
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**THANK YOU**