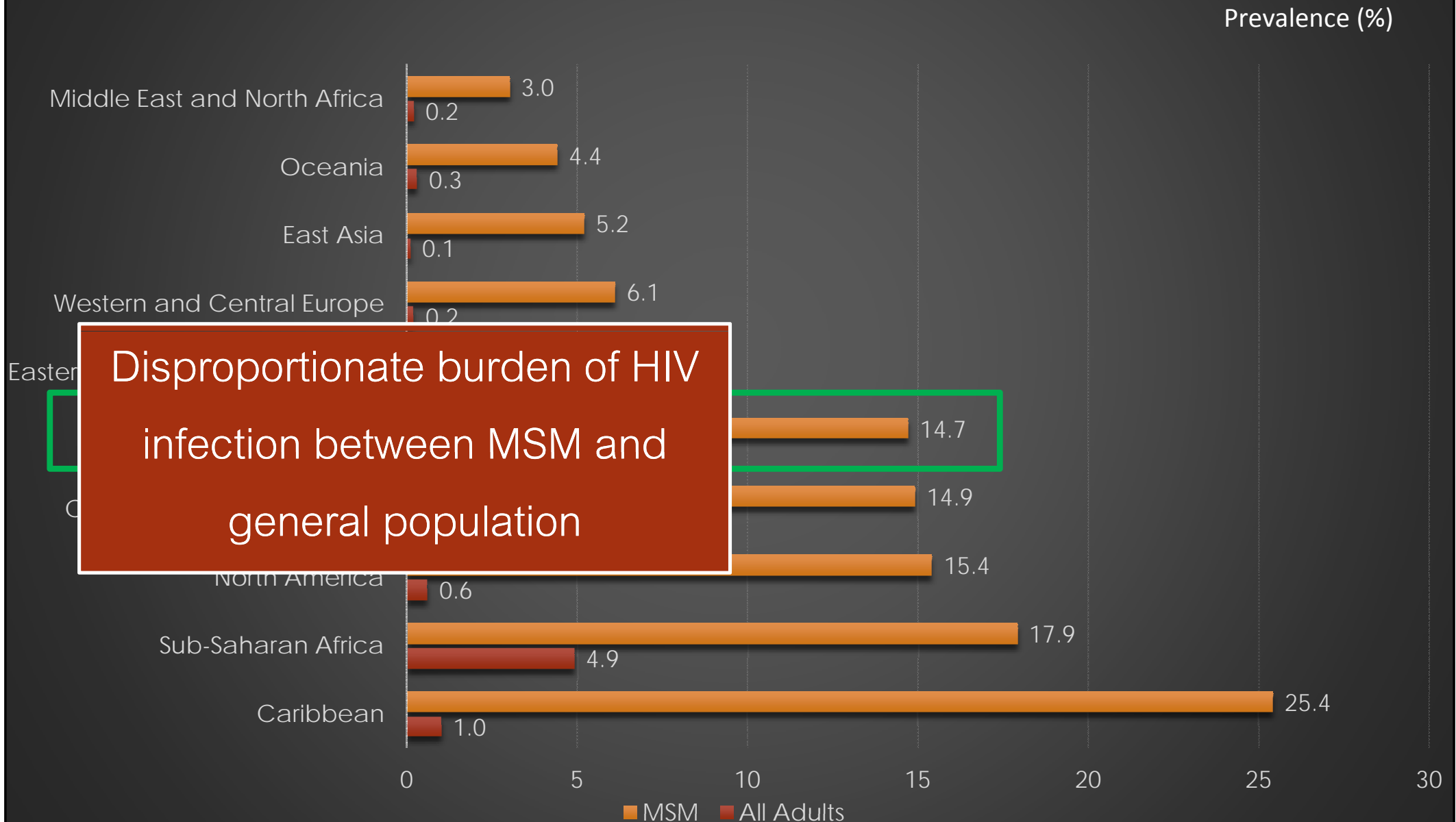


Methamphetamine Use Prior to Sex and the Risk Factors Associated with HIV Prevalence Among Men Who Have Sex With Men (MSM) in Thailand, 2006-2010

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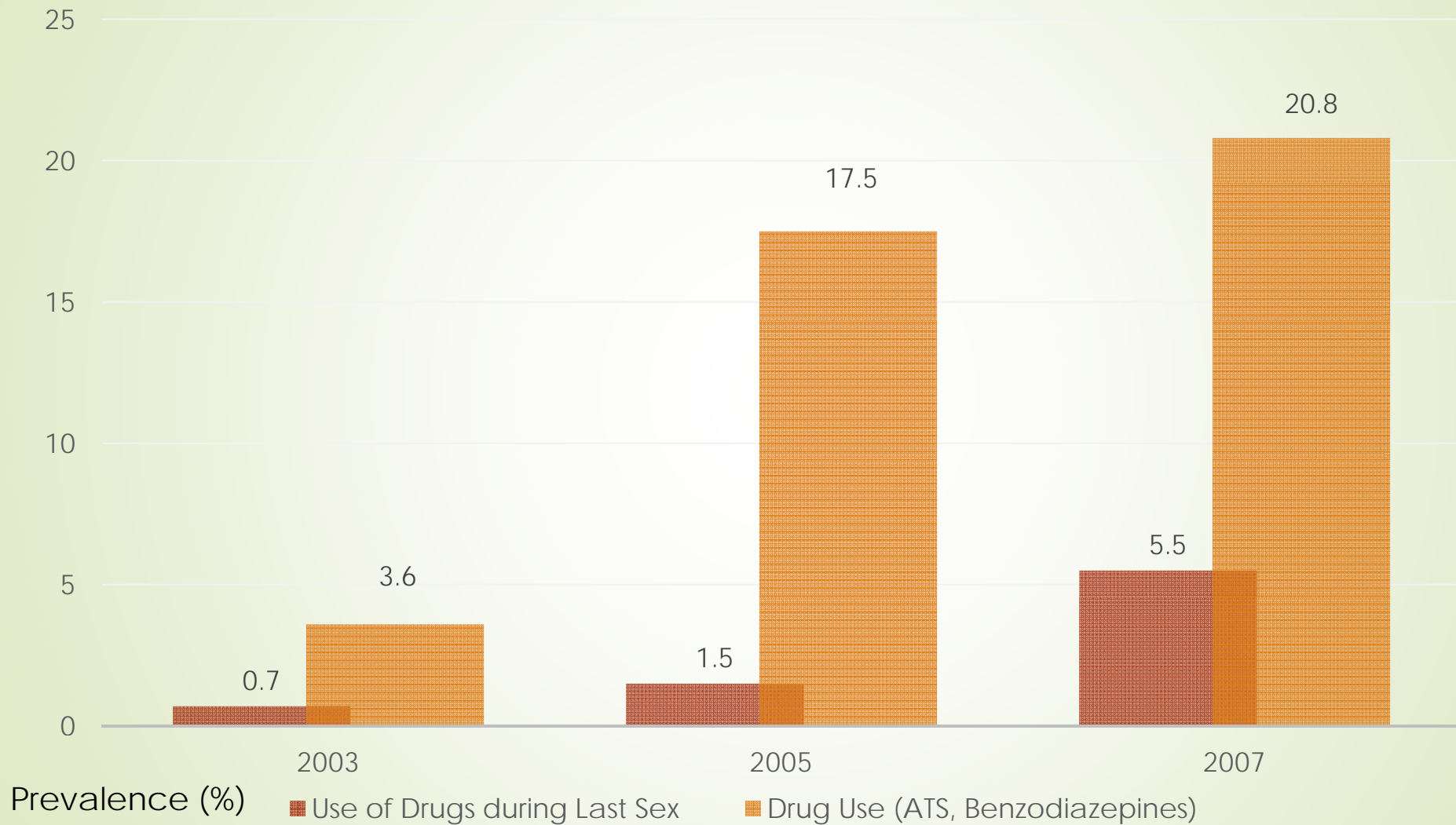
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Global prevalence of HIV in MSM compared with regional adult prevalence reported by UNAIDS, 2012



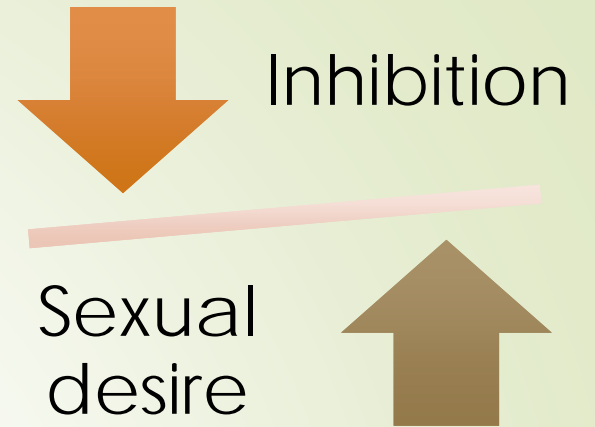
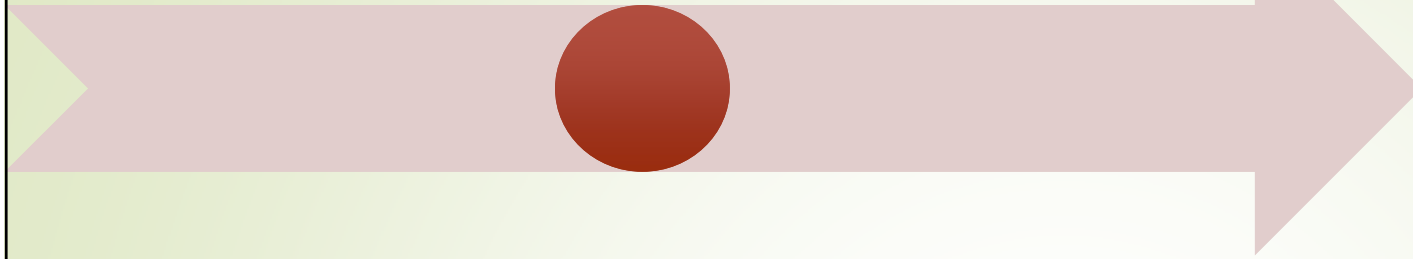
Source: Chris Beyrer, Global epidemiology of HIV infection in men who have sex with men, The Lancet, 2012 and Global report: UNAIDS report on the global AIDS epidemic 2012

Upward Trends of Substance Use among MSM in Bangkok, Thailand



ATS: Amphetamine Type Substance, Source: van Griensven F et al. 2009

Methamphetamine prior to sex

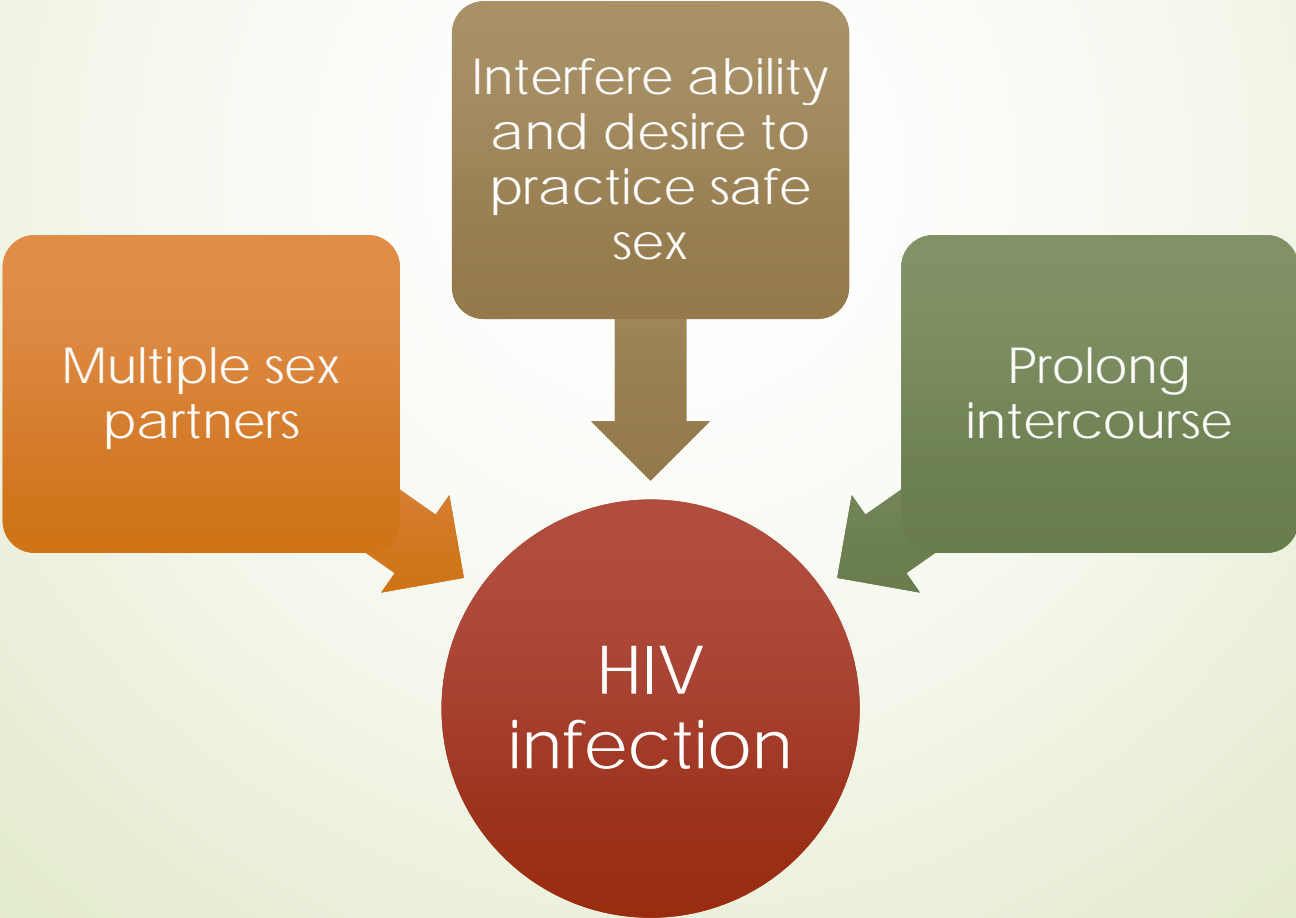


Interfere ability
and desire to
practice safe
sex

Multiple sex
partners

Prolong
intercourse

HIV
infection





Rationale

- Does the Methamphetamine Use Prior to Sex Common in Thailand?
- Does the Methamphetamine Use to Enhance Sex Facilitate Greater HIV Risk Taking among MSM in Thailand?

Study Design

Aim 1: To examine **the prevalence** of self-reported **using methamphetamine prior to sex** among Thai MSM

Objectives

Aim 2: To investigate the **risk factors** associated with **HIV prevalence** including methamphetamine prior to sex

Thai MSM:
Meth use prior
to sex and HIV
infection

Study Design

Cross-Sectional Study

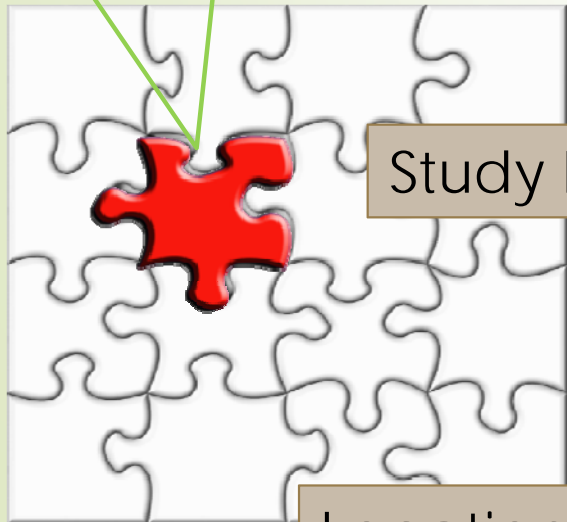
Study Population

1,744 MSM

- Men, aged 18 years or older
- Thai nationality, resident of Bangkok
- Anal sex in the preceding 6 months

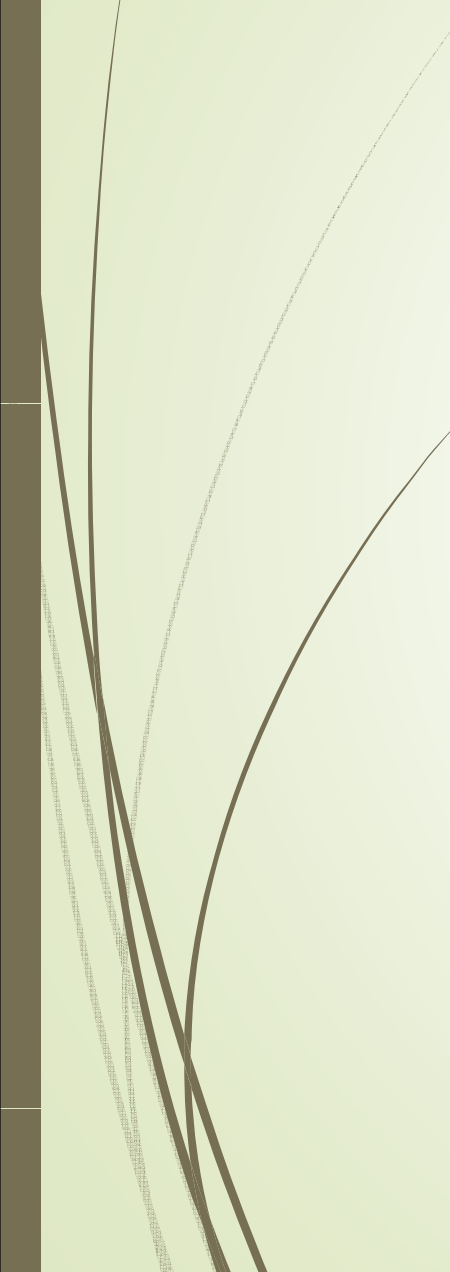
Location and Time

Bangkok, 2006 - 2010





Materials and Methods

- ▶ Demographic and behavioral data were collected by audio-computer-assisted self-interview
 - ▶ Men were tested for STI/HIV infection
 - ▶ Logistic regression analysis was used to investigate the risk factors associated with HIV prevalence
- 



Human Subjects

- The ethical review committee for research in human subjects of the Thailand Ministry of Public Health (FWA#1953)
- An institutional review board of the US Centers for Disease Control and Prevention (FWA#1413)

Results

April, 2006 to November, 2010

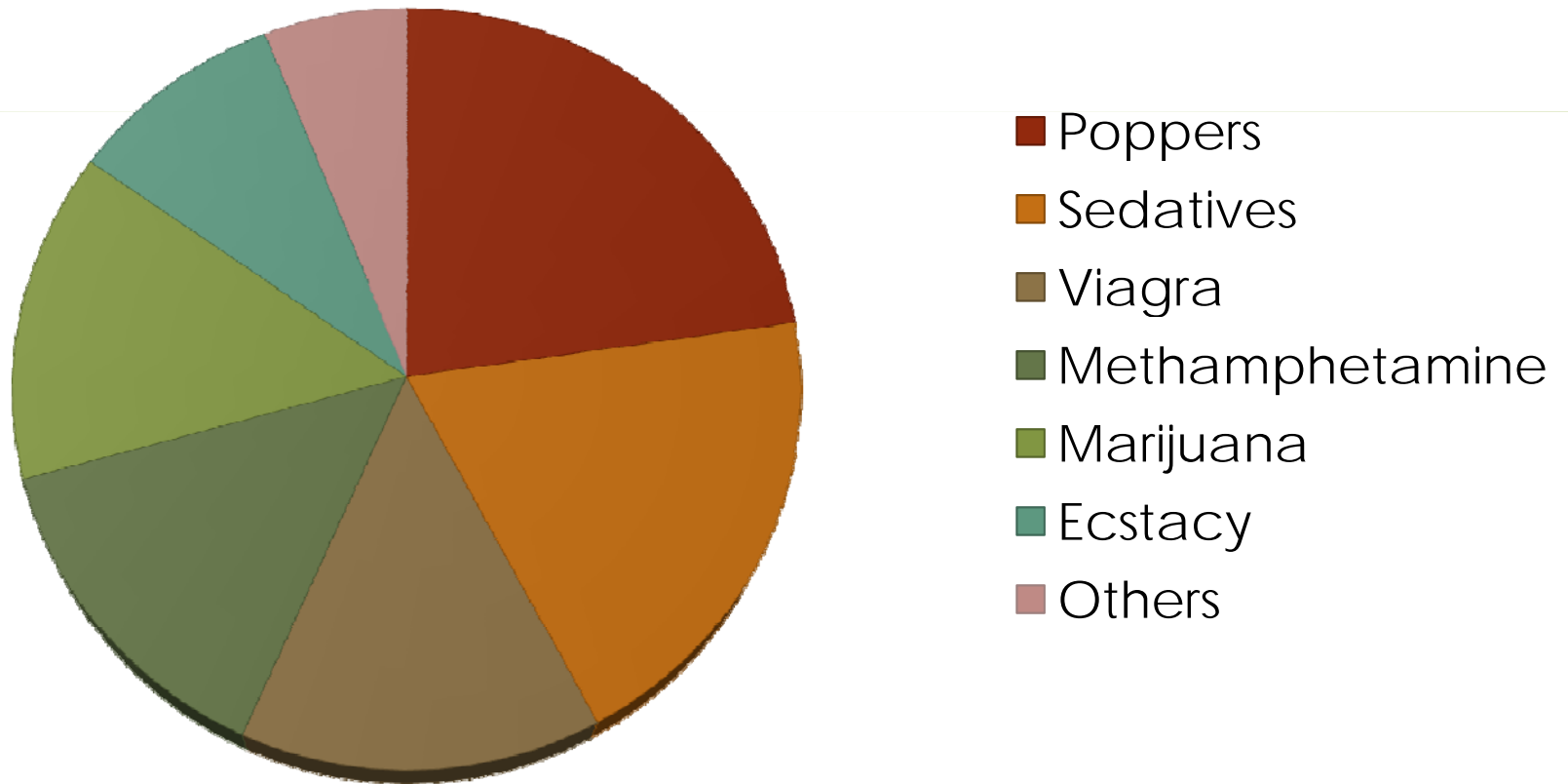


- Methamphetamine use was 11.3% (195/1,744)
- The overall HIV prevalence was 21.3% (372/1,744)

Demographics of study population

	HIV Positive (n=372)	Total (N=1,744)	P	Prevalence (%)
Age category (years)			0.14	
18 - 22	79 (21.2)	452 (25.9)		17.5
23 - 27	145 (39.0)	629 (36.1)		23.1
28 - 32	78 (21.0)	350 (20.1)		22.3
>32	70 (18.8)	313 (17.9)		22.4
Employment status			<0.01*	
Unemployed	26 (7.0)	78 (4.5)		33.3
Employed	239 (64.2)	1036 (59.4)		23.1
Student	37 (9.9)	321 (18.4)		11.5
Employed and Student	70 (18.8)	309 (17.7)		22.7
Education Level			<0.01*	
Primary or less	56 (15.1)	186 (10.7)		30.1
Secondary	113 (30.4)	496 (28.4)		22.8
Vocational	79 (21.2)	302 (17.3)		26.2
University or higher	124 (33.3)	760 (43.6)		16.3
Male circumcision (clinical examination)			0.79	
No	335 (90.1)	1564 (89.7)		21.4
Yes	37 (9.9)	180 (10.3)		20.6

Prevalent of substance use among MSM in Bangkok, Thailand, 2006-2010



Multivariate Analyses Of Factors Associated With HIV Prevalence Among MSM In Bangkok

	AOR (95% CI)	P
Age at first sex (years) γ	0.94 (0.91-0.98)	<0.01*
Usual anal sex role		
Insertive only	1	
Receptive only	1.73 (0.99-3.01)	0.05*
Dual role taking	1.77 (1.14-2.75)	0.01*
Forced to have sex against will		
Never	1	
Ever	1.63 (1.16-2.29)	0.01*
<i>Treponema Pallidum</i> (TP)		
Non-reactive	1	
Reactive	1.91 (1.10-3.32)	0.02*
Park sex seeking		
No	1	
Yes	1.67 (1.10-2.53)	0.02*

Note: AOR; Adjusted Odds Ratio, 95% CI; 95% Confidence interval, P; P-value, *; p<0.05

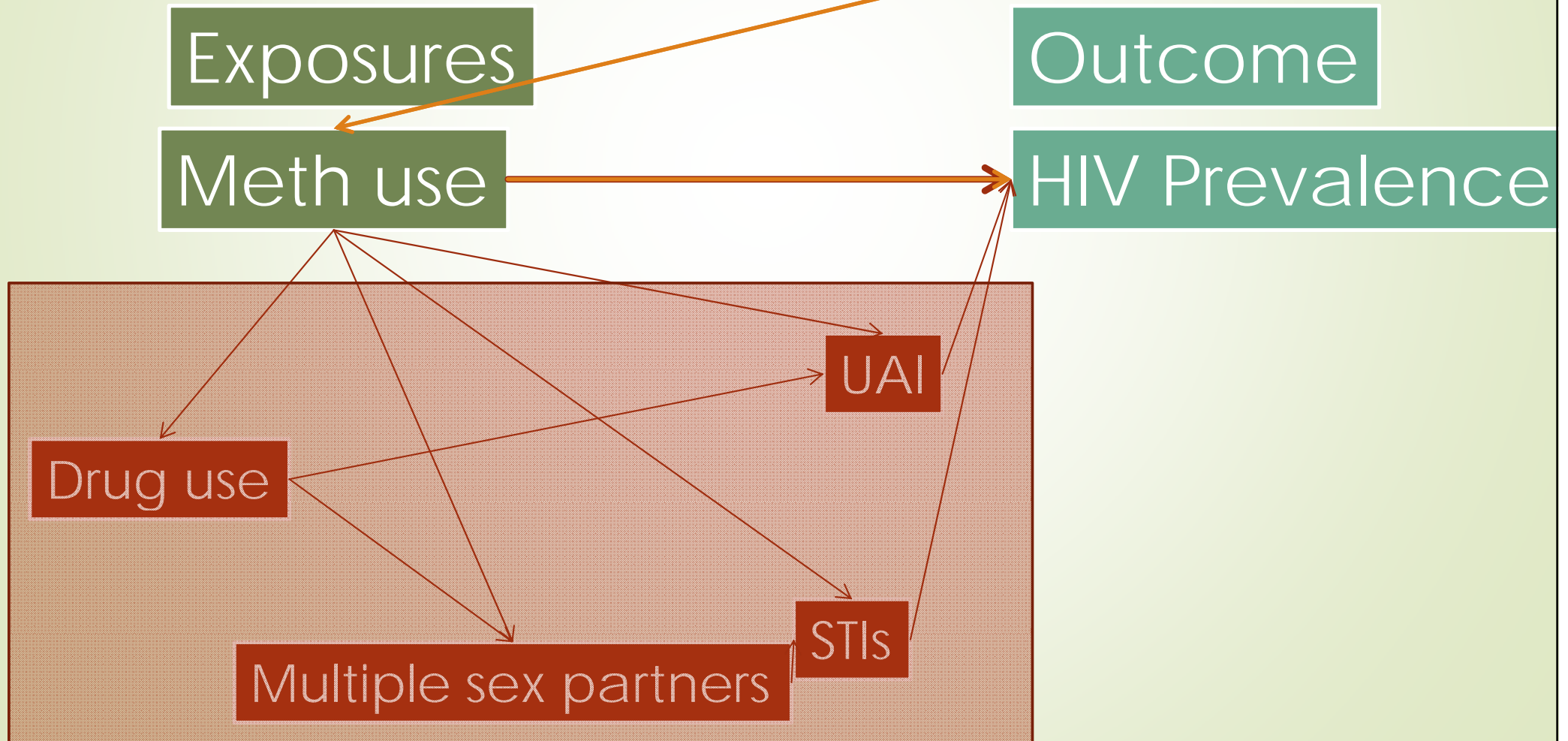
Multivariate Analyses Of Factors Associated With HIV Prevalence Among MSM In Bangkok

	AOR (95% CI)	P
Nitrate inhalation		
No	1	
Yes	1.68 (1.08-2.60)	0.02*
Methamphetamine use prior to sex		
No	1.00	
Yes	1.16 (0.72-1.86)	0.54
Herpes Seropositivity (HSV-A)		
Self-Reported Methamphetamine Use Prior to Sex was Not Associated With HIV Prevalence		
yes	4.05 (2.77-7.81)	<0.01*
Anti-HSV positivity		
Negative	1	
anti-HSV-1	1.25 (0.89-1.76)	0.19
anti-HSV-2	2.64 (1.67-4.18)	<0.01*
anti-HSV-1 and 2	4.23 (2.69-6.65)	<0.01*

Note: AOR; Adjusted Odds Ratio, 95% CI; 95% Confidence interval, P; P-value, *; p<0.05

Discussion

Directly investigate the impact of Methamphetamine use prior to sex on HIV prevalence among MSM after adjusting for sexual behaviors





Conclusion

- Behavior of methamphetamine use to enhance sex was common and high prevalence of HIV infection among these men
- It underscores the need for innovative and increased efforts to prevent HIV infection in this population



Public Health Significance

- There is a need for a broad approach in addressing methamphetamine use and risk for infection with HIV and other STDs
- HIV and STD prevention and treatment programs could be enhanced to include assessment for methamphetamine use
 - With referrals to methamphetamine treatment, primary testing and sexual health promotion



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MSM Cohort Study**