

# Estimation of the HIV Prevalence among General Population in Cambodia, 2010

National Center for HIV/AIDS Dermatology and STD

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# Acknowledgement (1)

This estimation is a collective effort of the following organizations;

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- UNAIDS
- USCDC
- WHO
- KHANA
- FHI
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- Institute Pasteur, Phnom Penh
- National AIDS Authority
- National Center for Maternal and Child Health
- Department of Planning, Ministry of Health
- National Institute of Statistics, Ministry of Planning

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  - Dr. Joyce Neil, US CDC Atlanta

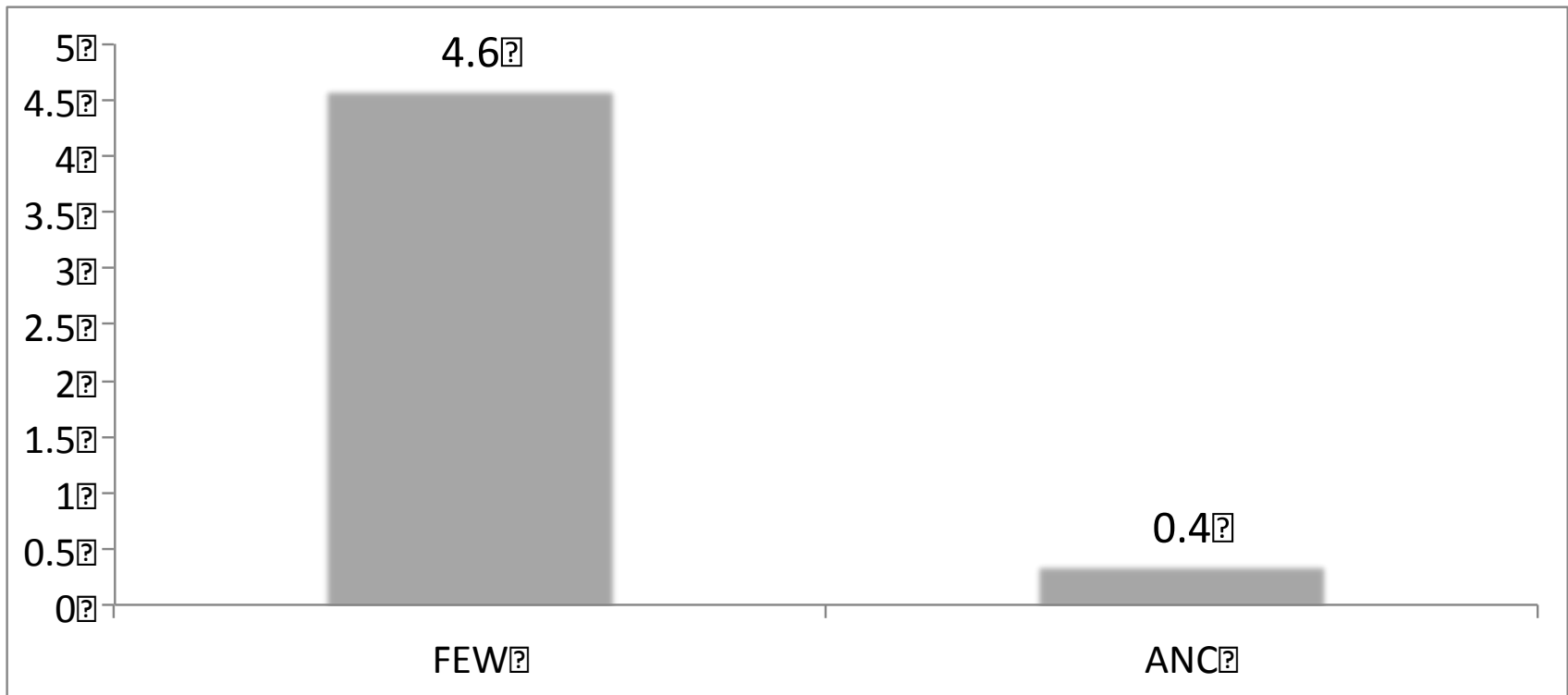
# Outlines

- HIV/AIDS in Cambodia
  - Characteristic of the epidemic
  - HIV prevalence among sentinel groups
  - Responses
- Methods for HIV estimation
- Result
- Conclusions

# Characteristics of the Epidemic

- The first HIV case was identified in 1990 and the first AIDS case was in 1993
- The peak of the HIV prevalence is believed to be around 1998-1999
- Female commercial sex worker group was hard hit in the early stage of the epidemic
- The main mode of transmission is unprotected heterosexual intercourse.
- Groups that are believed to be vulnerable to HIV are; female entertainment worker, Men who have sex with men, drug user and those who have multiple sexual partners

# HIV Prevalence among Different Sentinel Groups in HSS 2010



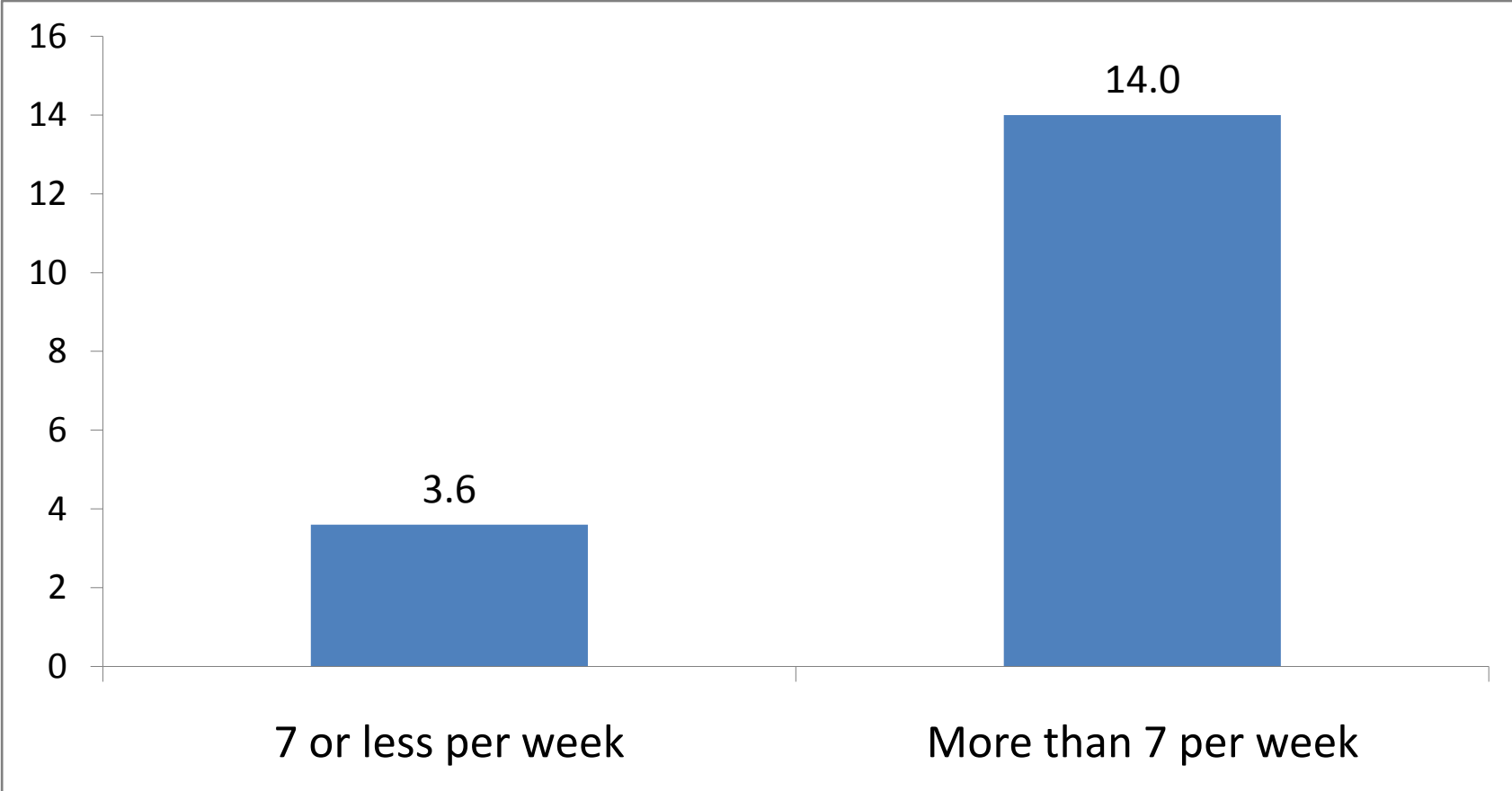
ANC prevalence was QC adjusted and Provincial capital/remaining district weighted

FEW: Female entertainment worker

FEW prevalence was QC adjusted

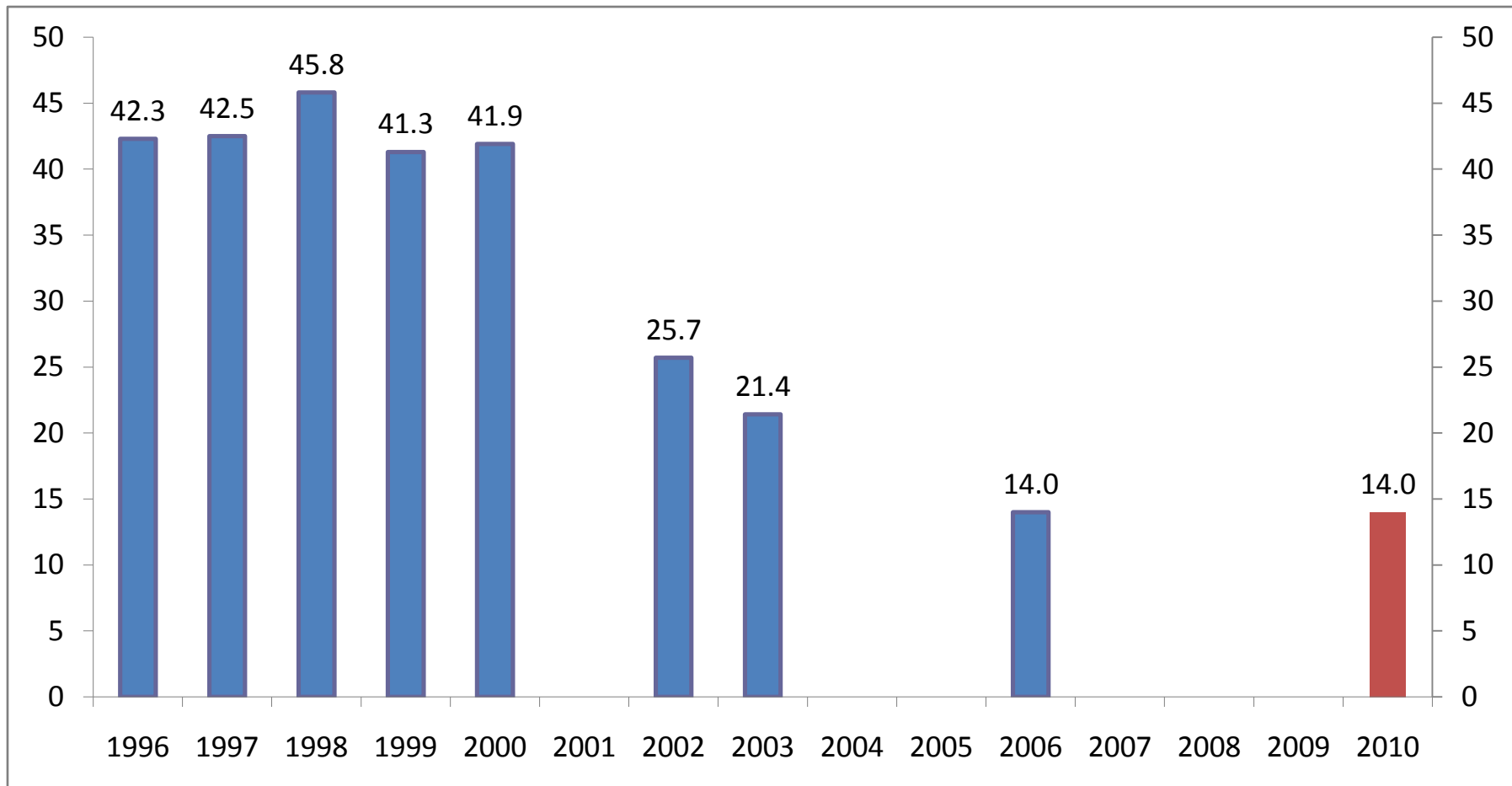
HSS: HIV sentinel Surveillance

# HIV Prevalence among FEW, by Number of Sexual Partners



FEW: Female Entertainment Worker

# HIV Prevalence among FEW with More than 7 Clients per Week, Compared to FSW

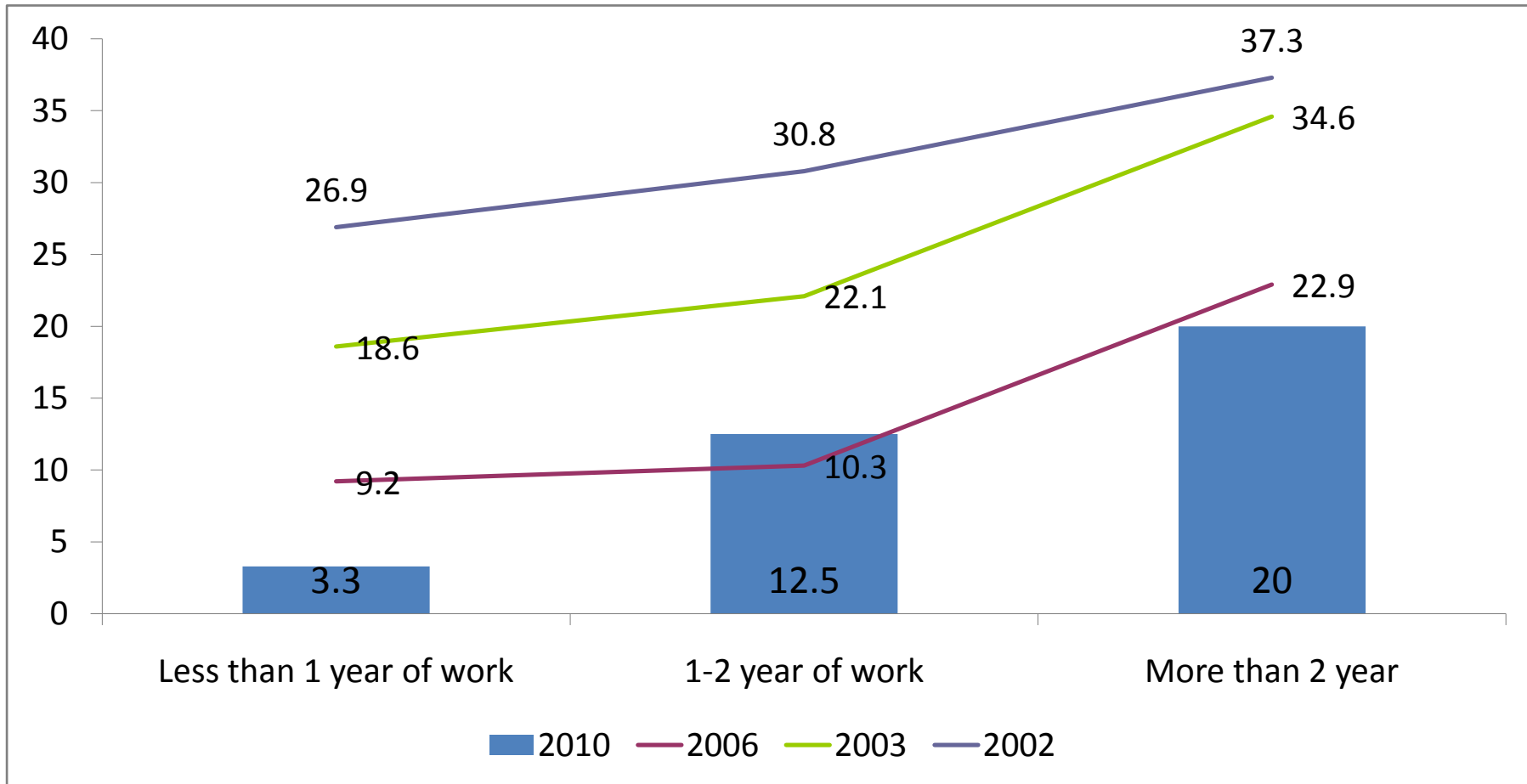


FSW: Female sex worker

FEW: Female entertainment worker

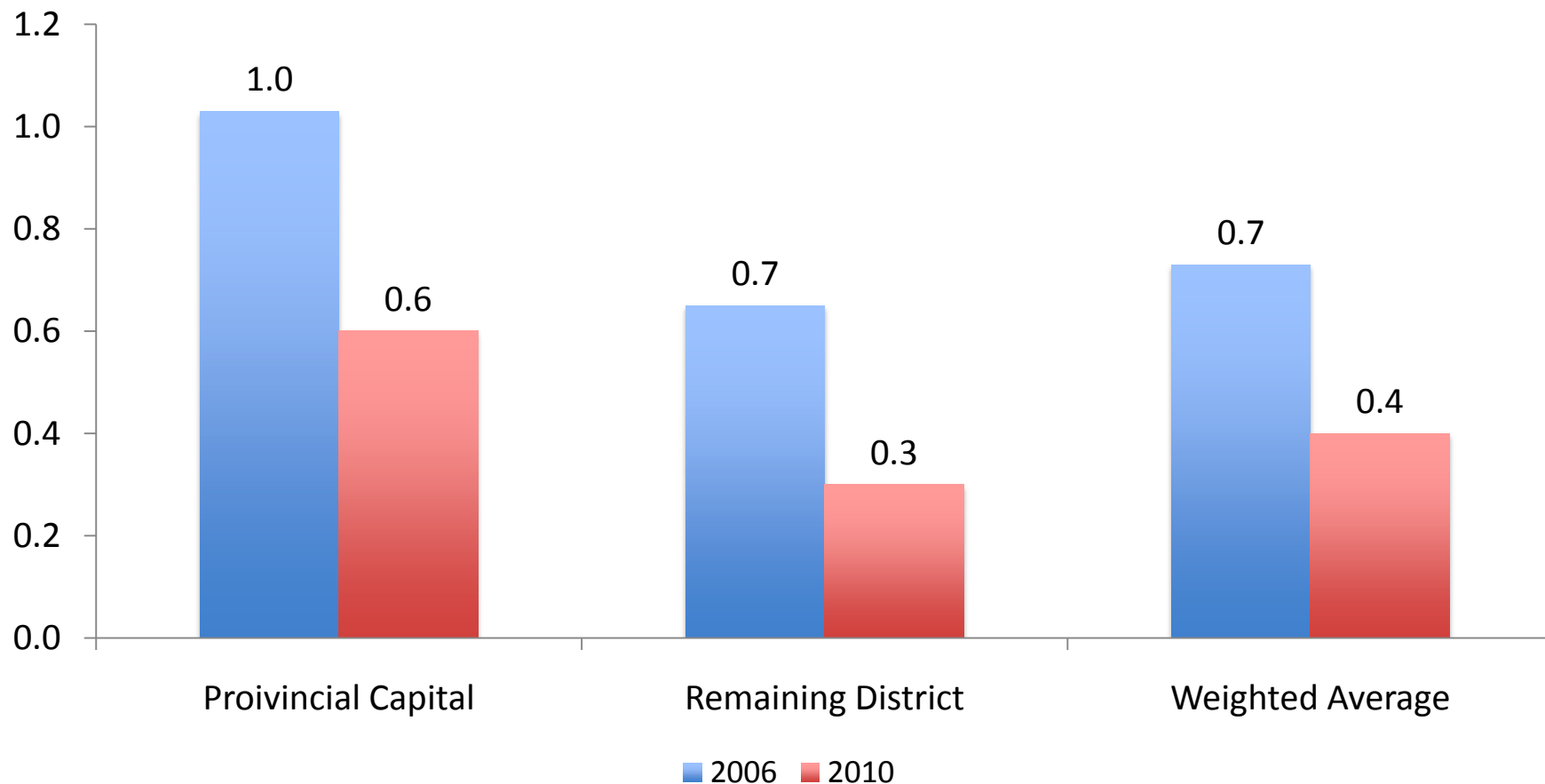


# HIV Prevalence among FEW with More than 7 Clients per week, Compared to FSW by Duration of Work

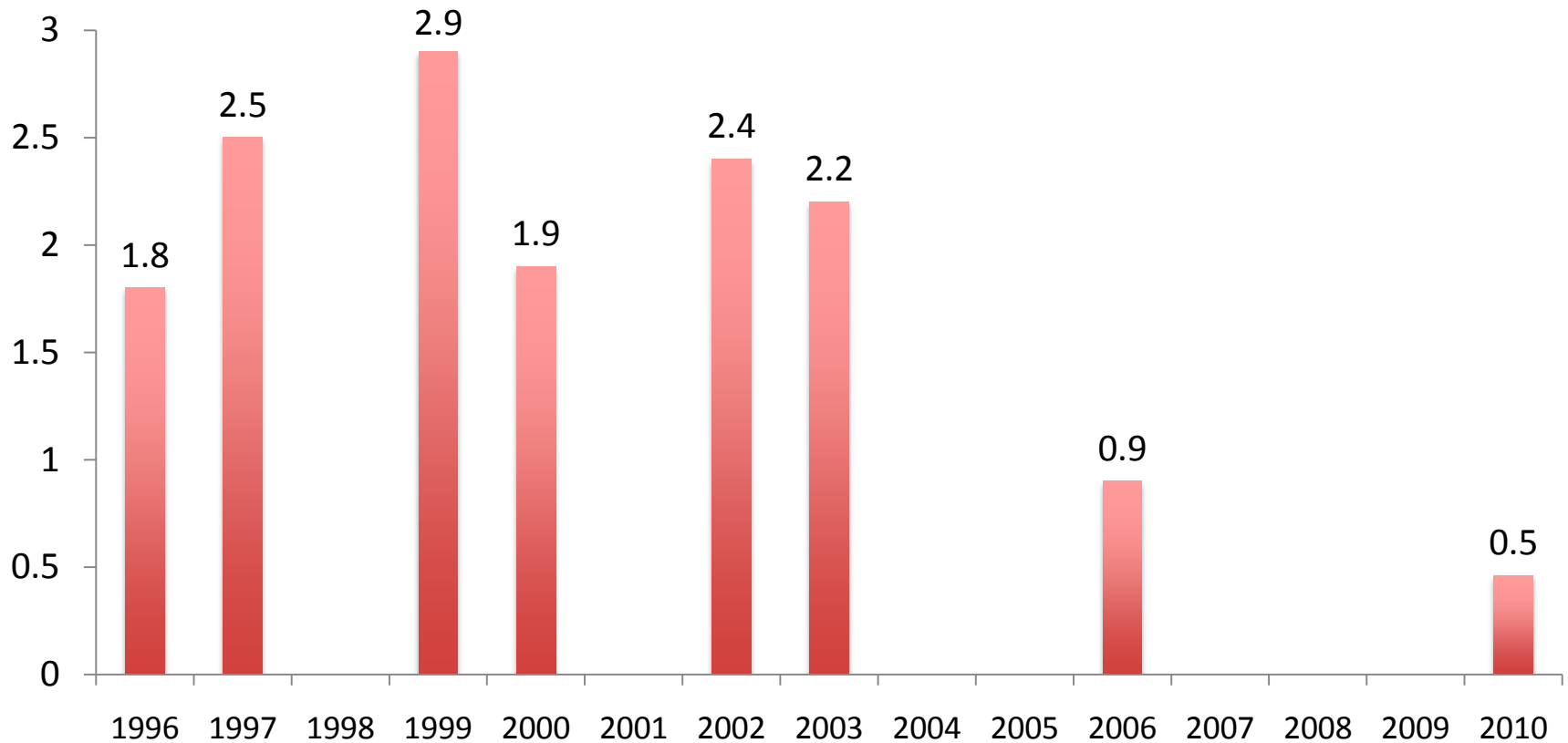


FSW: Female sex worker  
FEW: Female entertainment worker

# HIV Prevalence among Pregnant Women, by Locations of ANC Clinics in 2006 & 2010



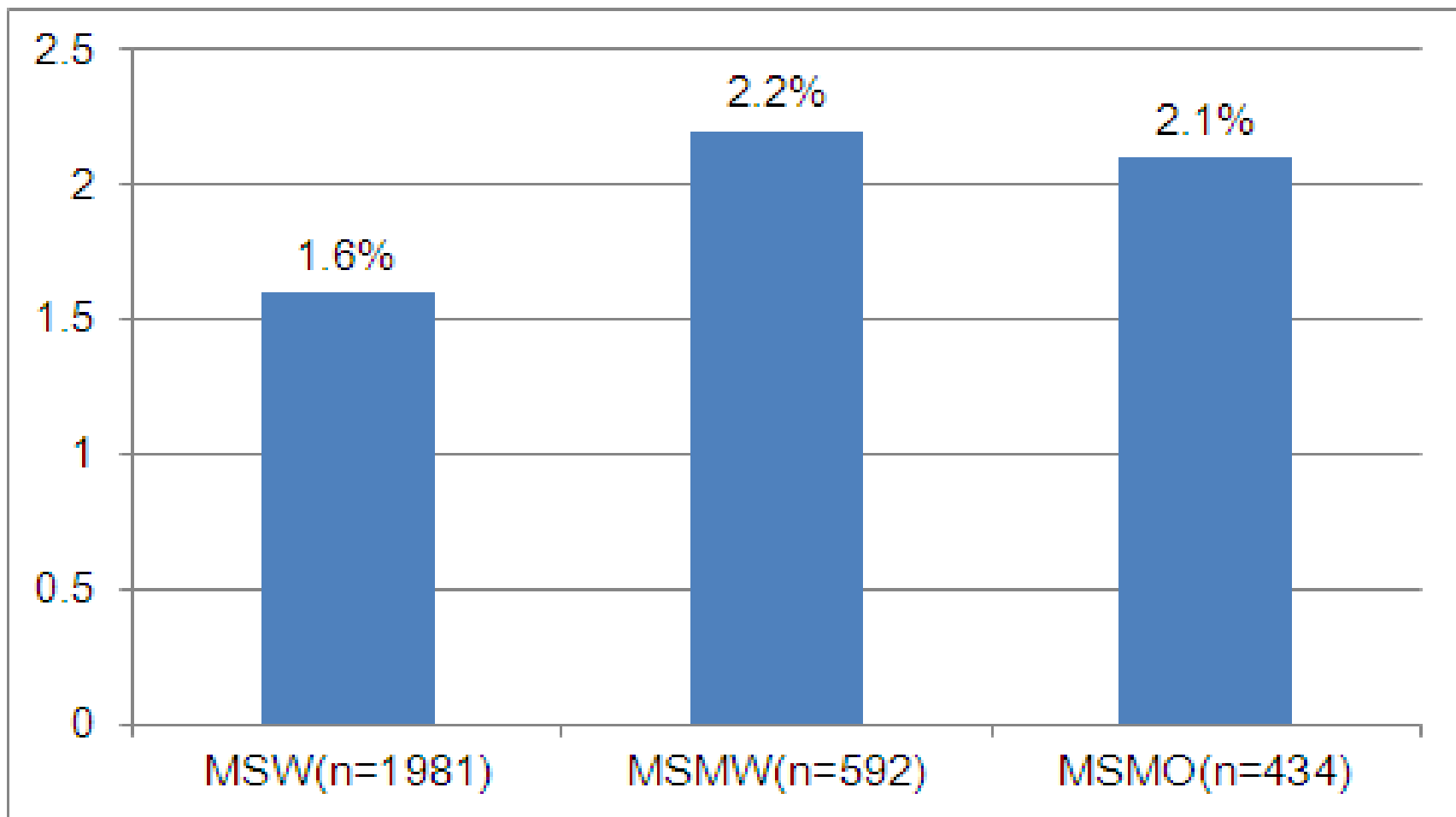
# Population Weighted\* HIV Prevalence among Pregnant Women Attending ANC over years



ANC: Antenatal care

\* Population weighted was based on the distribution of provincial specific population from census 1998

# HIV Prevalence Among MSW, MSMW, and MSMO



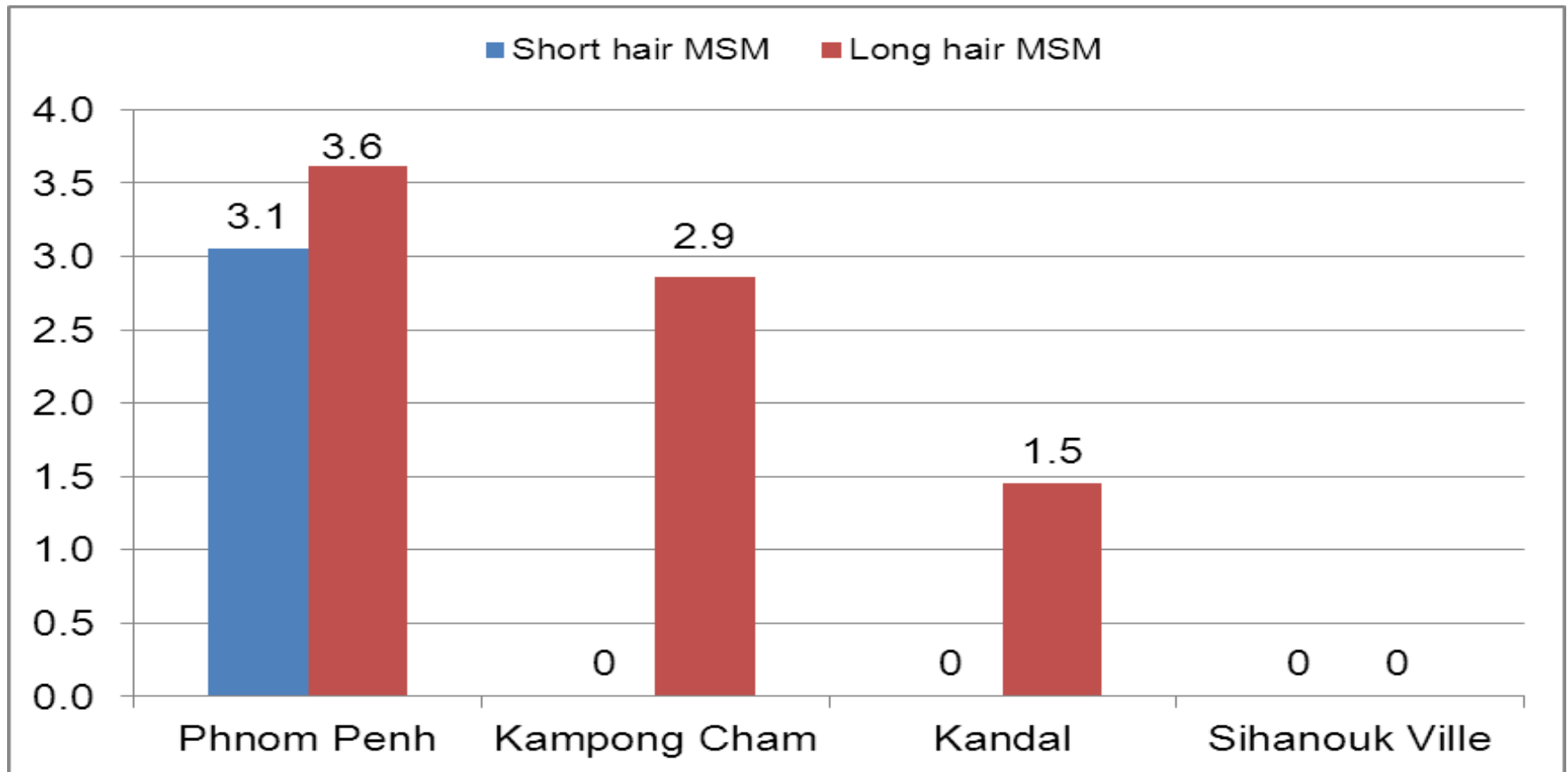
MSW: men who have sex with women

MSMW: men who have sex with men and women

MSMO: men who have sex with men only

Note: this slide was borrowed from Bross Khmer presentation made by FHI

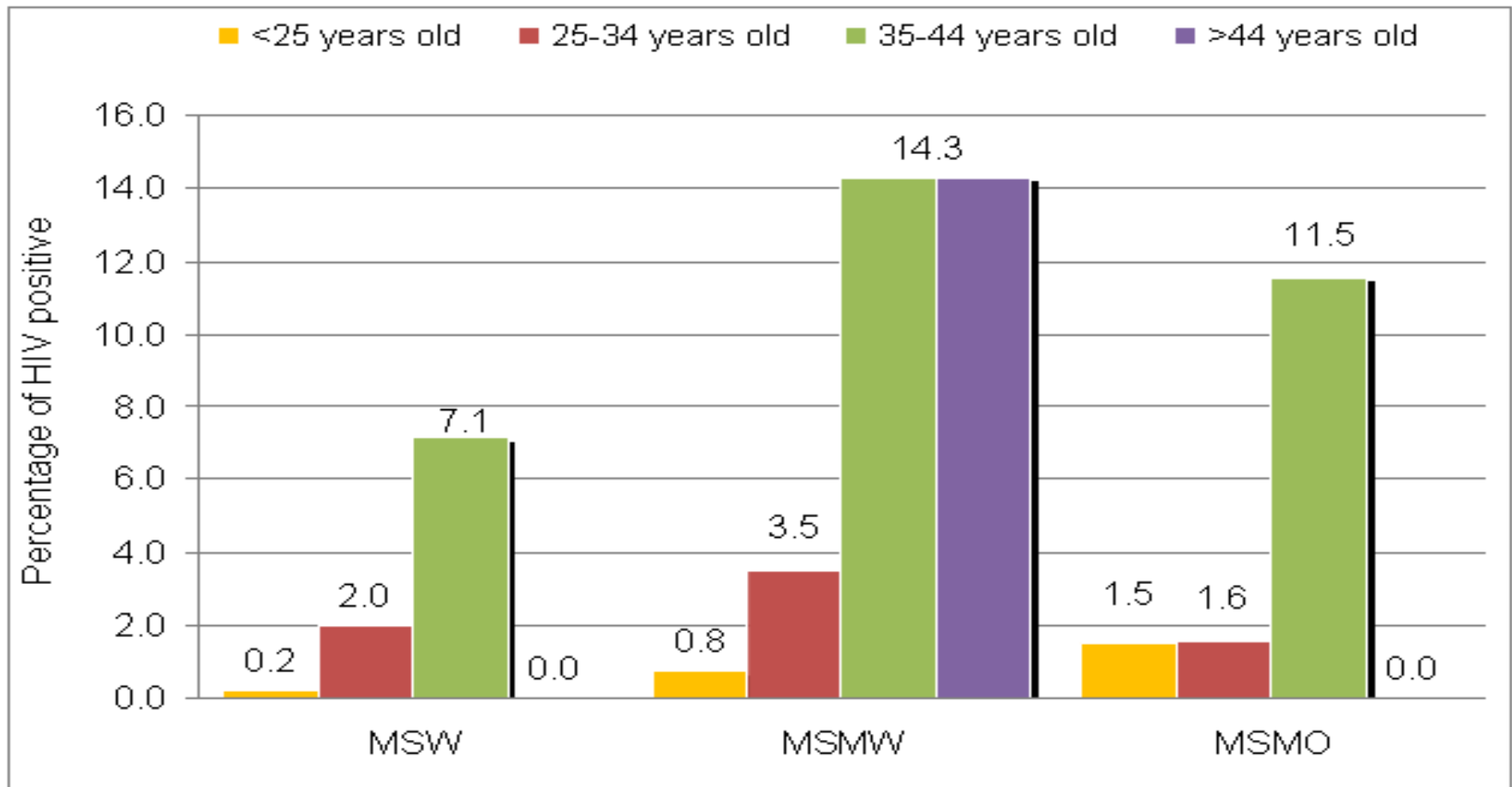
# HIV Prevalence among Long and Short hair MSM, by provinces



MSM: men who have sex with men

Note: this slide was borrowed from Bross Khmer presentation made by FHI

# HIV Prevalence among Different Groups, by age groups



MSW: men who have sex with women

MSMW: men who have sex with men and women

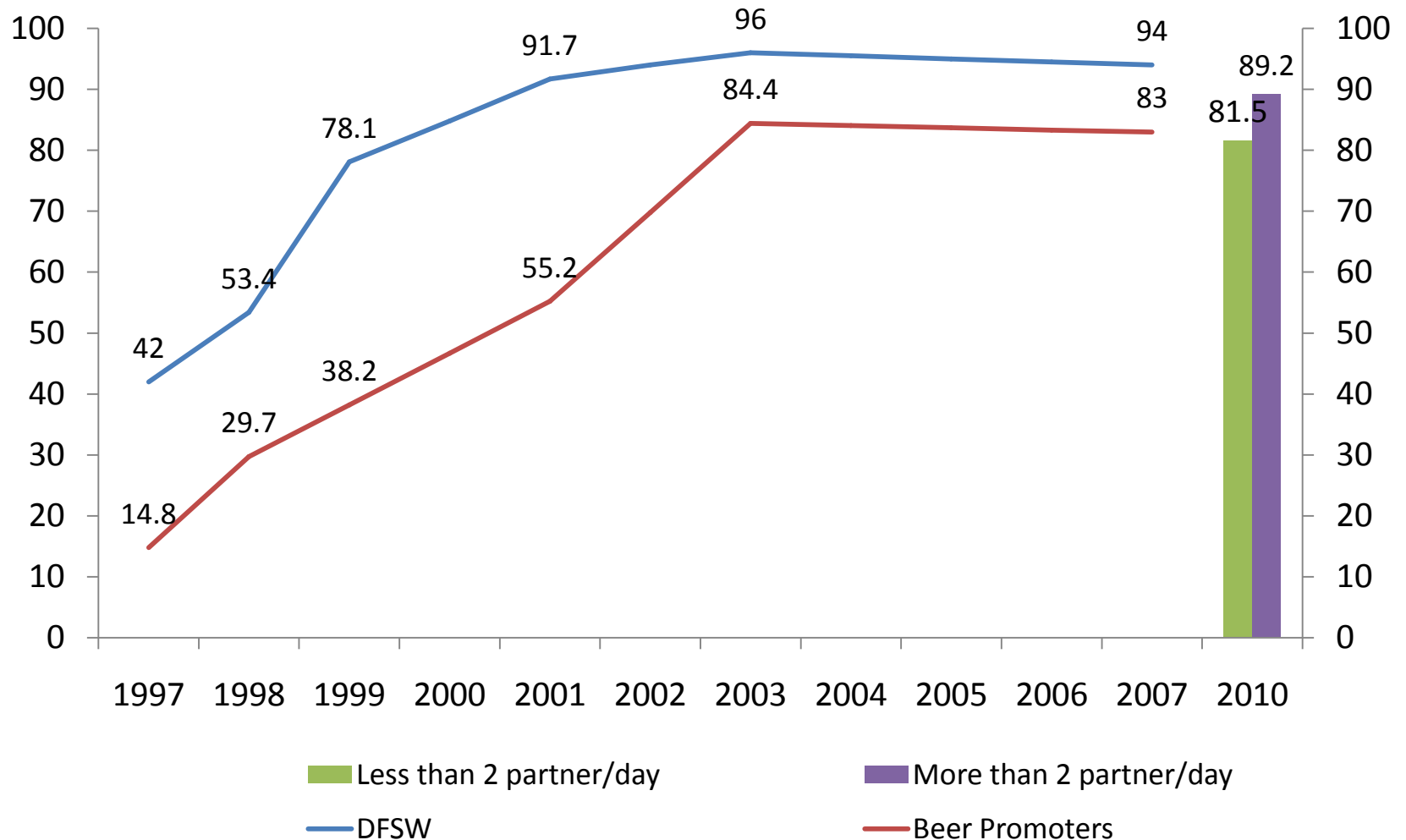
MSMO: men who have sex with men only

Note: this slide was borrowed from Bross Khmer presentation made by FHI

# Responses to HIV/AIDS Epidemic (1)

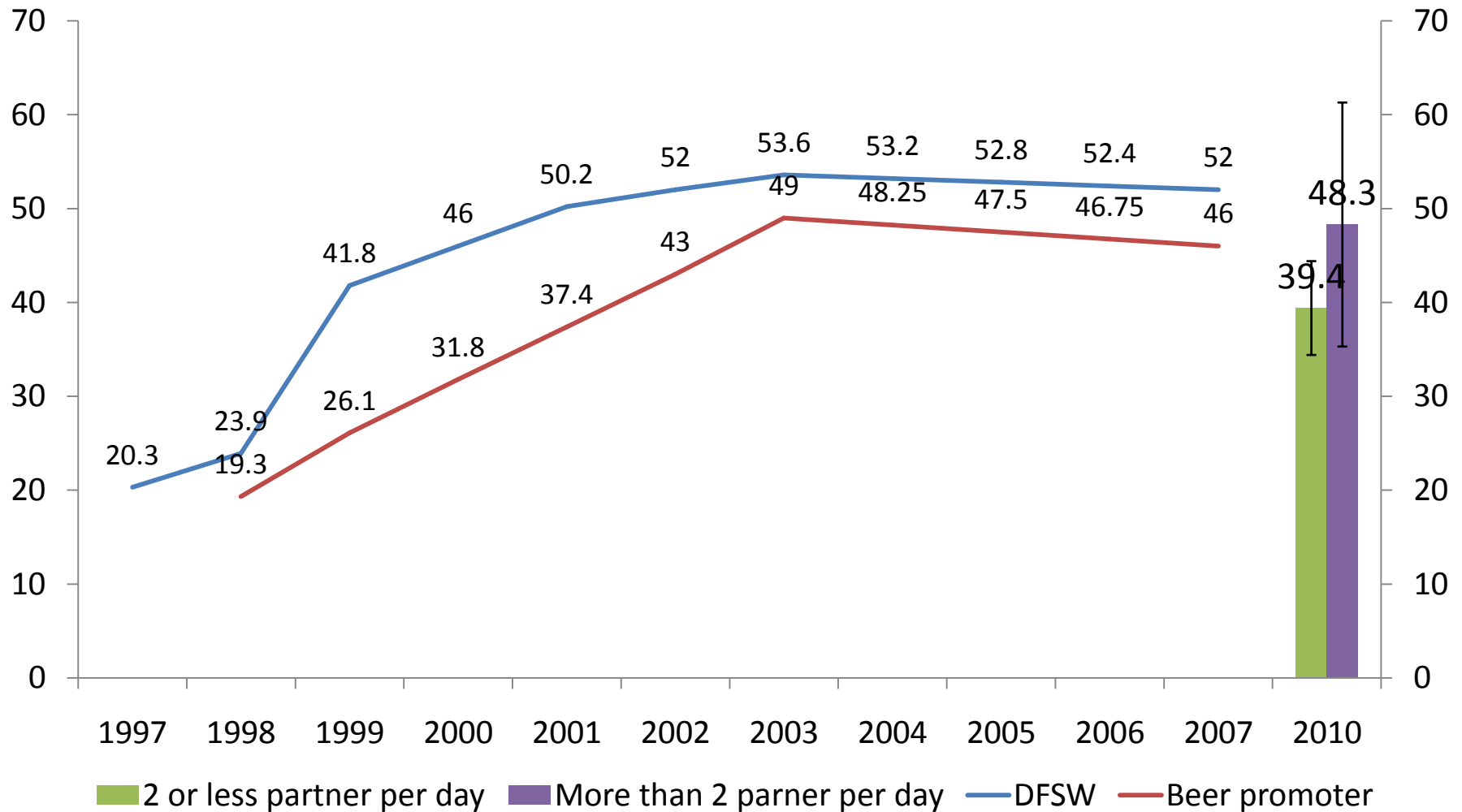
- At the early phase of the epidemic, prevention was the main strategy implemented, among which reducing HIV risky behavior was the core objective
- As result, safe sexual practice; such as high consistent condom use have been observed across all sentinel groups

# Percentage of Consistent Condom Use with Clients

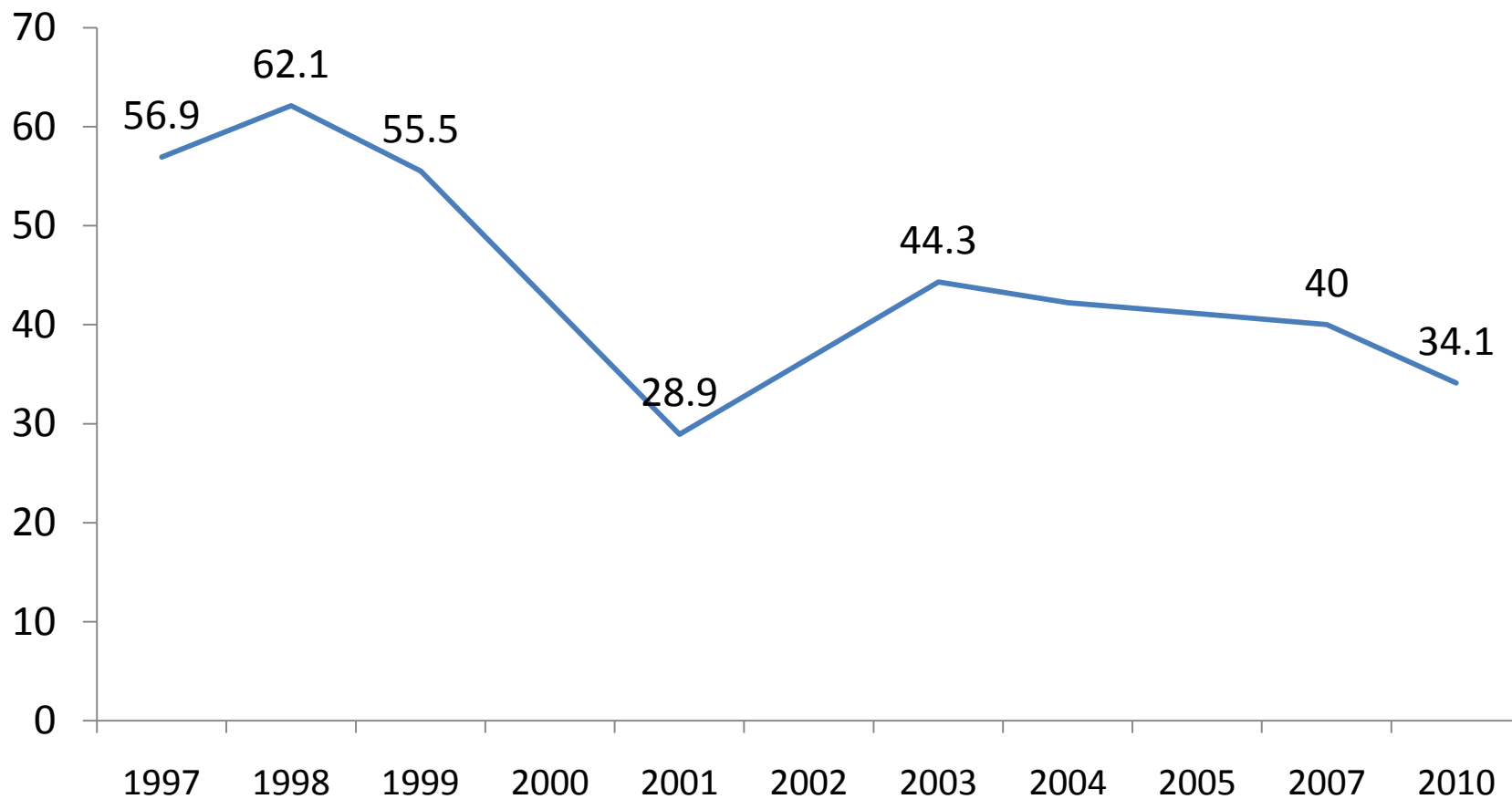




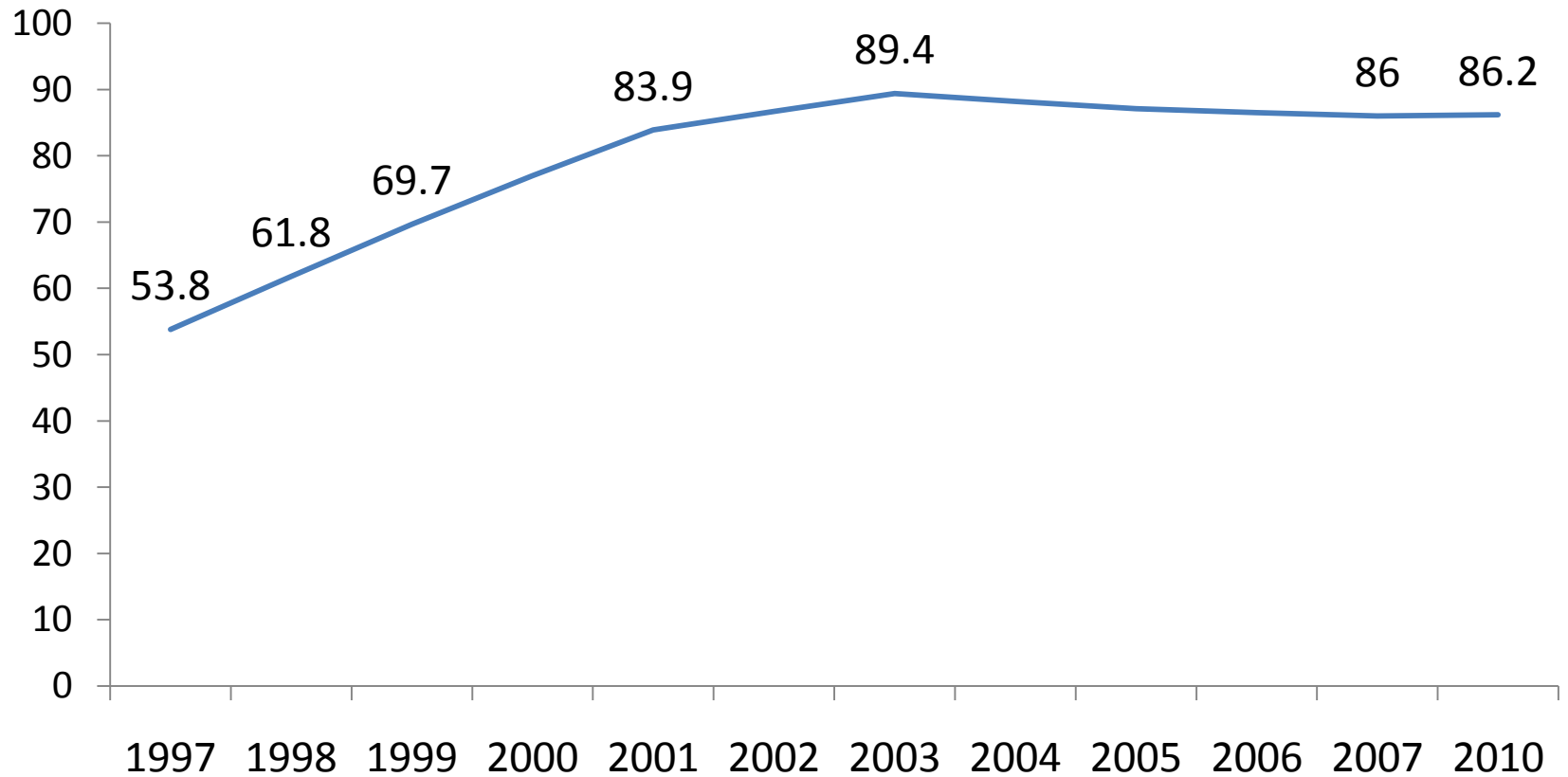
# Trend of Percent of Consistent Condom Use with Sweethearts



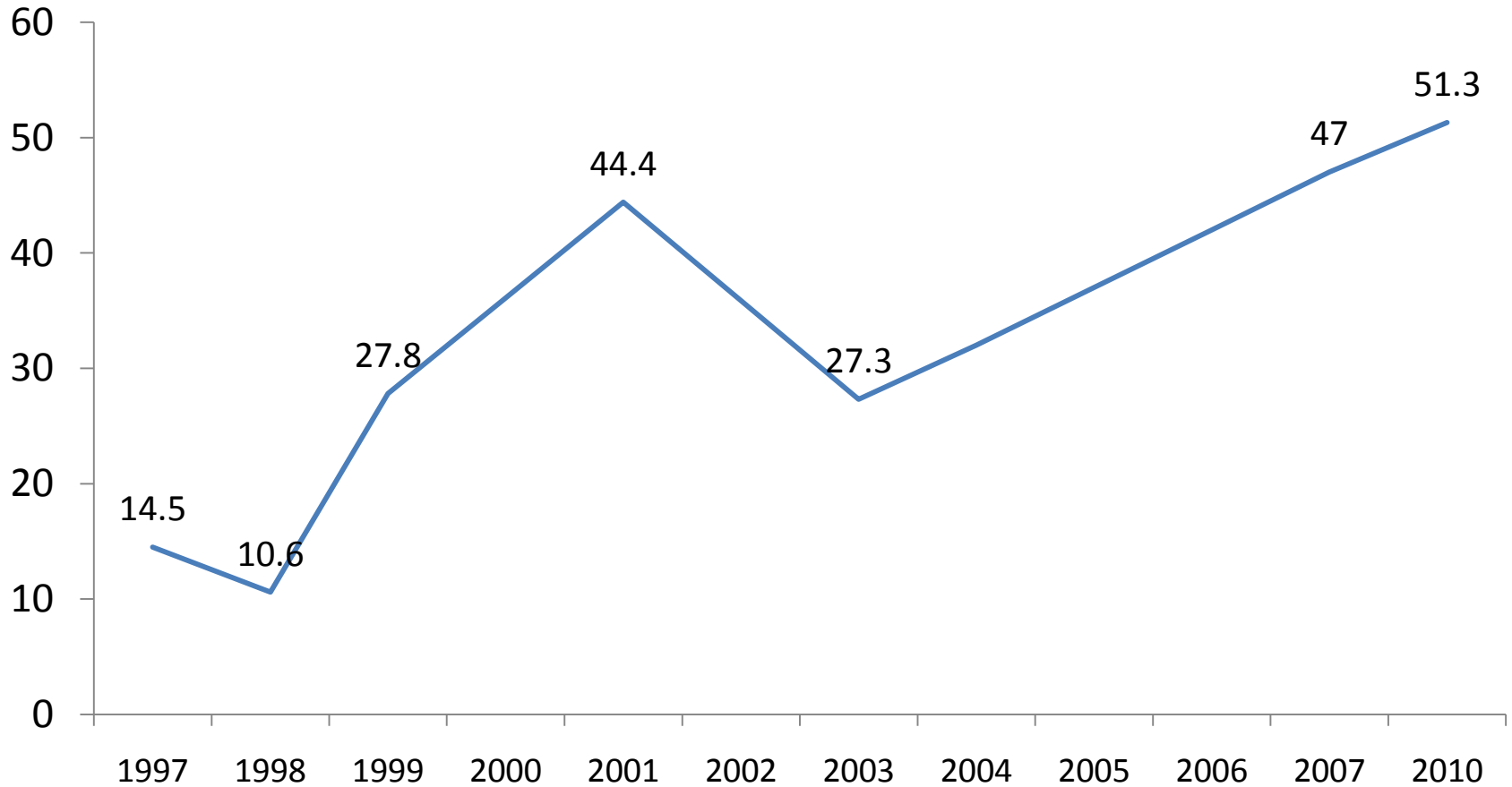
# Percent of Commercial Sex Use in the Past Year among Moto-taxi driver



# Percent Consistent Condom Use with Commercial Partner (in the past 3 months) among Moto-taxi driver



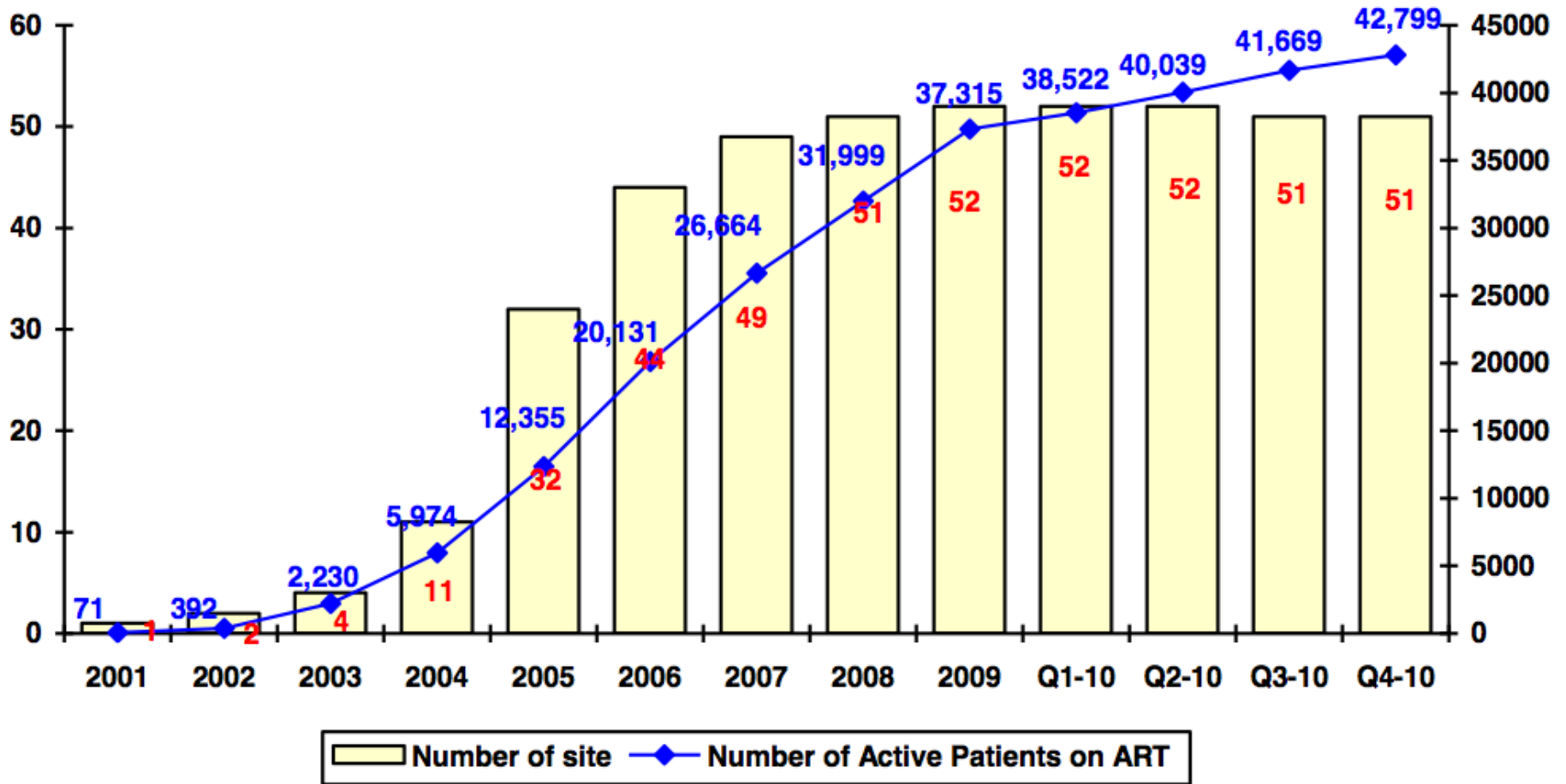
# Percent of Consistent Condom Use with Sweethearts (in the past 3 month) among Moto-taxi driver



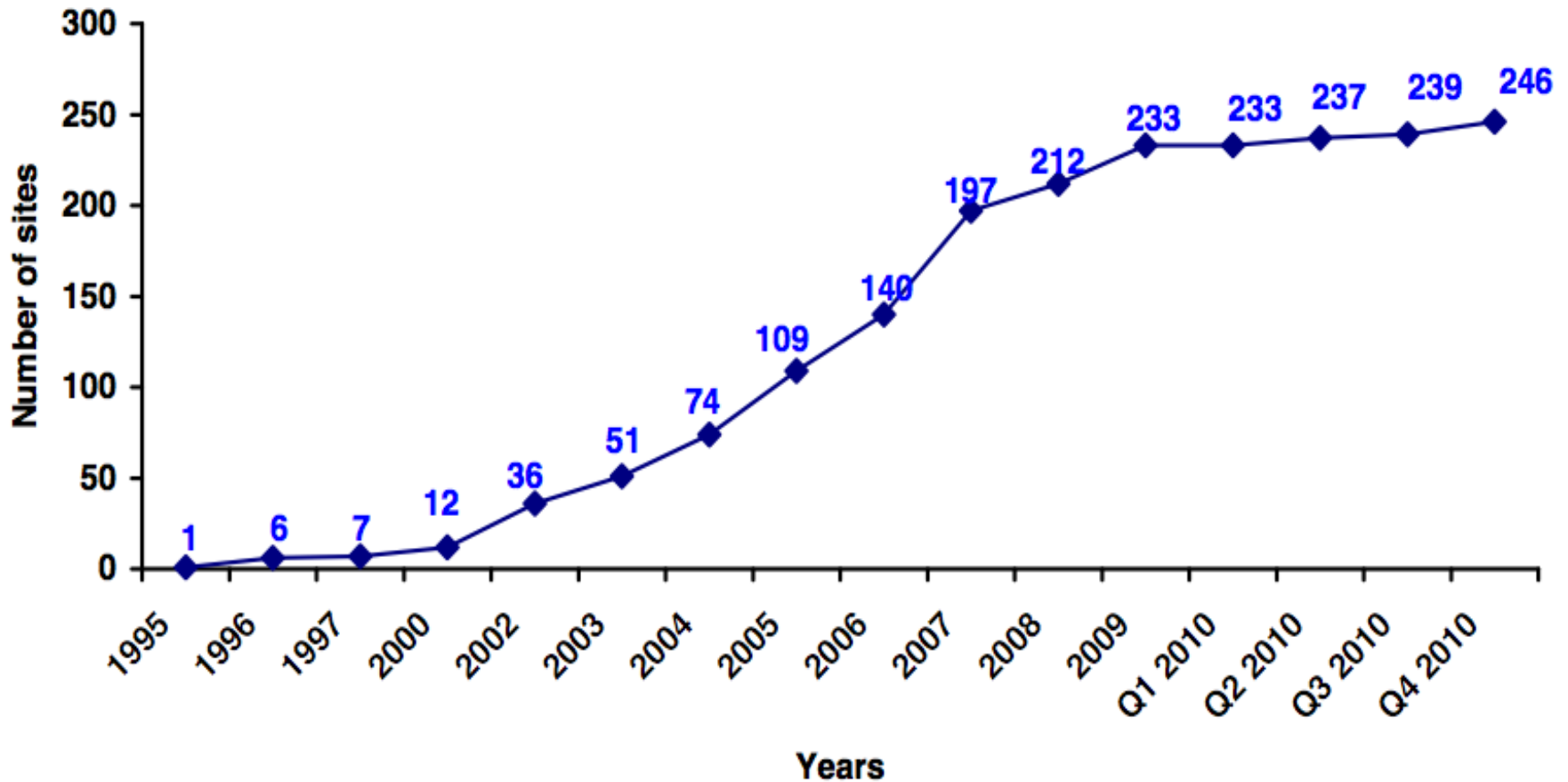
## Responses to HIV/AIDS Epidemic (2)

- A decade later, care and treatment services have been expanded in response an increase number of people infected with HIV
- Number of VCCT sites have also been scaled up country wide to provide more access to HIV testing
- ARV treatment was slowly started in 2001 and then widely scaled up by 2005

# Reported Number of Patients Receiving Antiretroviral Treatment



# Number of VCCT sites Over Years

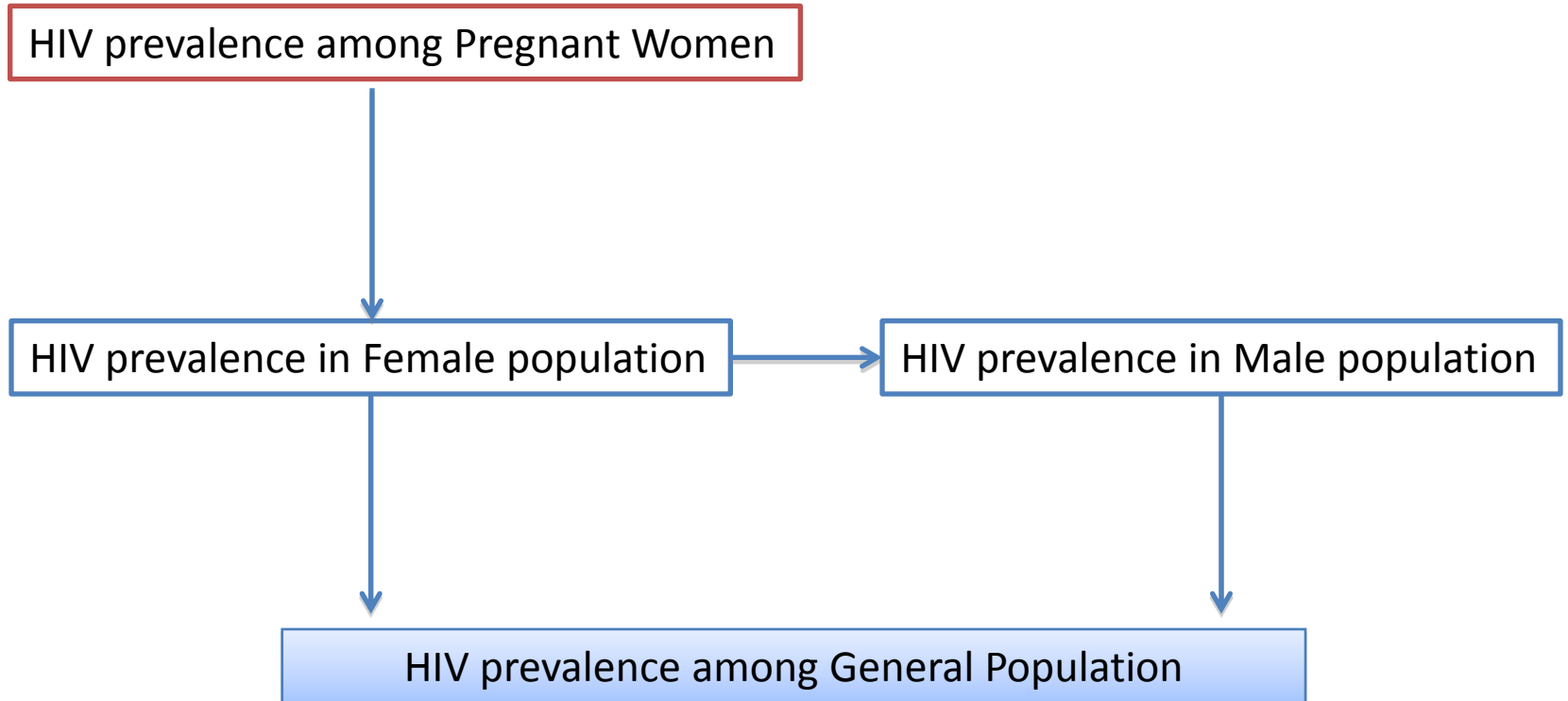


# Methods for HIV Estimation (1)

- Three rounds of HIV Estimation and Projection workshops have been conducted in Cambodia; 1998, 2003 and 2007
- The main objective of the HIV estimation and projection workshop is to estimate the HIV prevalence among the general population
- The main data used in previous round and 2011 was HIV prevalence among pregnant women using antenatal clinic (ANC)



# Methods for HIV Estimation (2)



# Methods for HIV Estimation (3)

HIV/AIDS situation in Cambodia can be classified into part:

Low ART Coverage Phase (1990-2005)	High ART Coverage Phase (2006-2011)
Few number of patients receiving ART	Large number of patients receiving ART
Low number of people have been tested for HIV and known their HIV status	Large number of people have been tested and known their HIV status
Low proportion of HIV infected pregnant women receiving PMTCT	High proportion of HIV infected pregnant women receiving PMTCT
Low proportion of pregnant women used antenatal care service	High proportion of pregnant women used antenatal care service

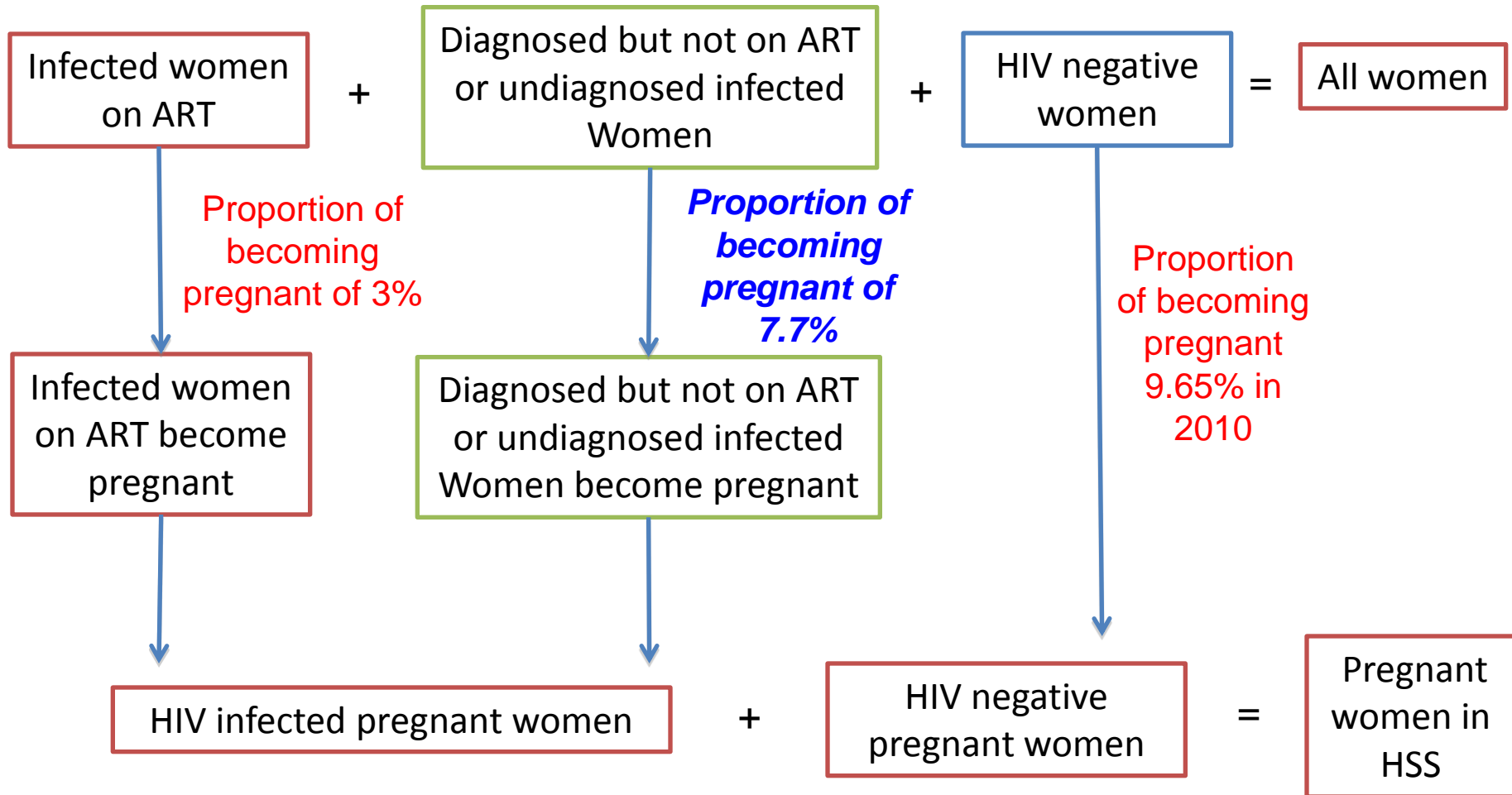
ART: Antiretroviral treatment

# Methods: Low ART Coverage Phase

- Population weighted\* HIV prevalence among ANC (1995 to 2003) was used to estimate the HIV prevalence among the female population aged 15 to 49 years old
- It is assumed that the HIV prevalence among female population is 25% lower than the HIV prevalence among pregnant women, therefore a correction factor of .75 was used

\* Based on the year-province specific population distribution from census1998

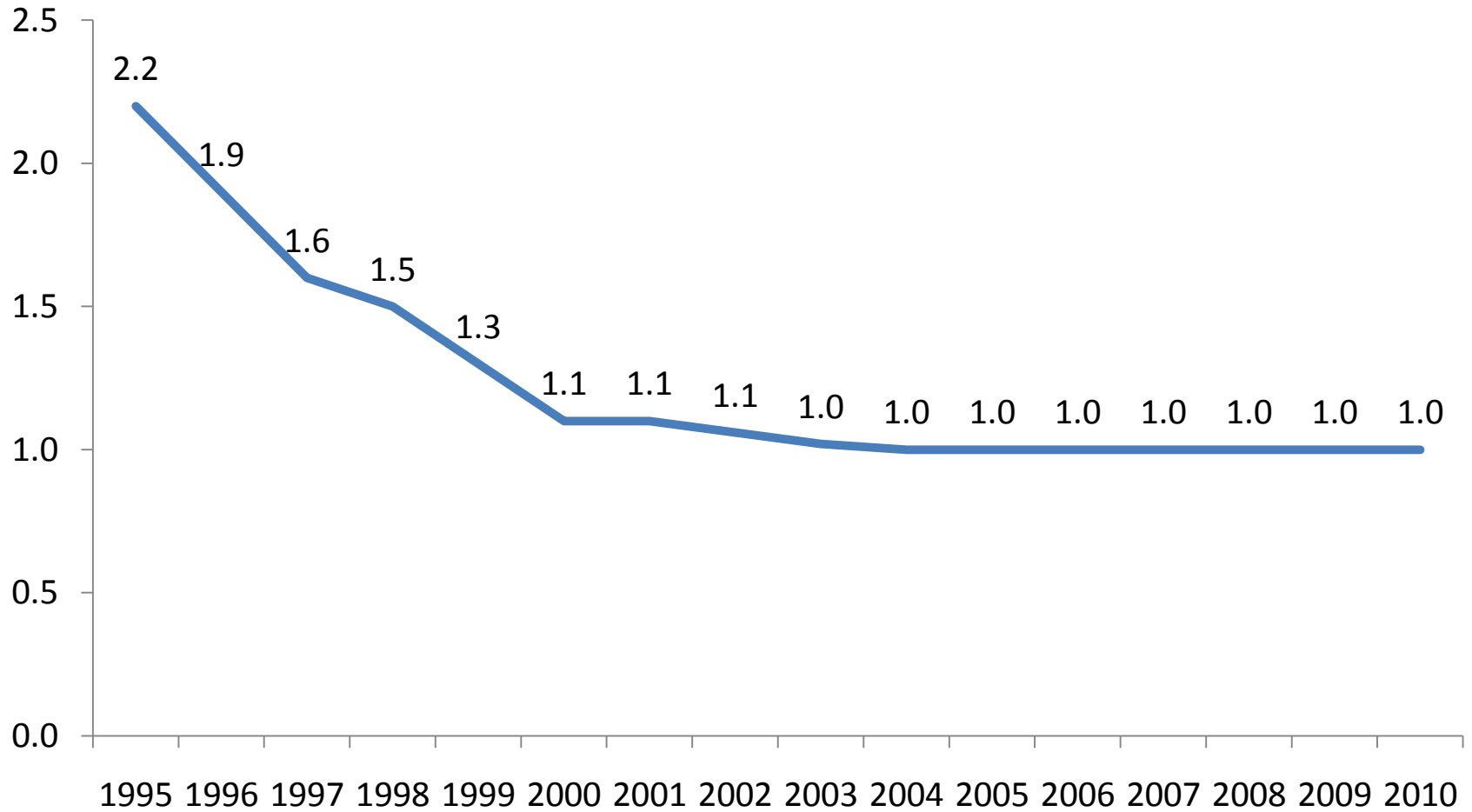
# Methods: High ART Coverage Phase



# Methods for HIV Estimation (4)

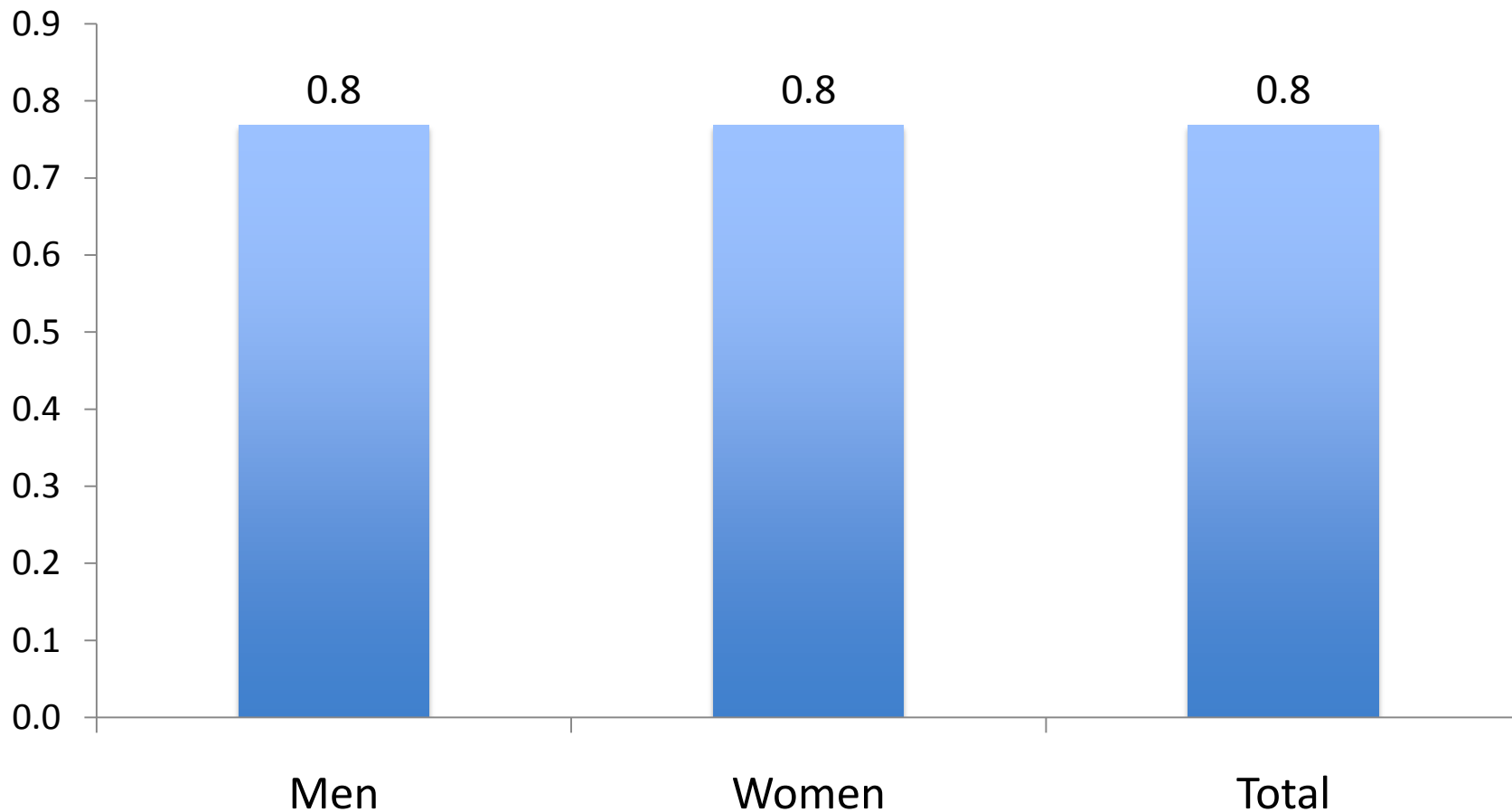
- The estimated HIV prevalence among female from the two phases (Low and high ARV coverage) of the epidemic were smoothed using the 2009 version of Estimation and Projection Package (EPP)
- The HIV prevalence among the male population was estimated from the female by using the ratio of HIV prevalence among TB patients (This method was also applied in HIV consensus workshop in 2007)

# Ratios of the HIV Prevalence of Male to Female among TB Patients



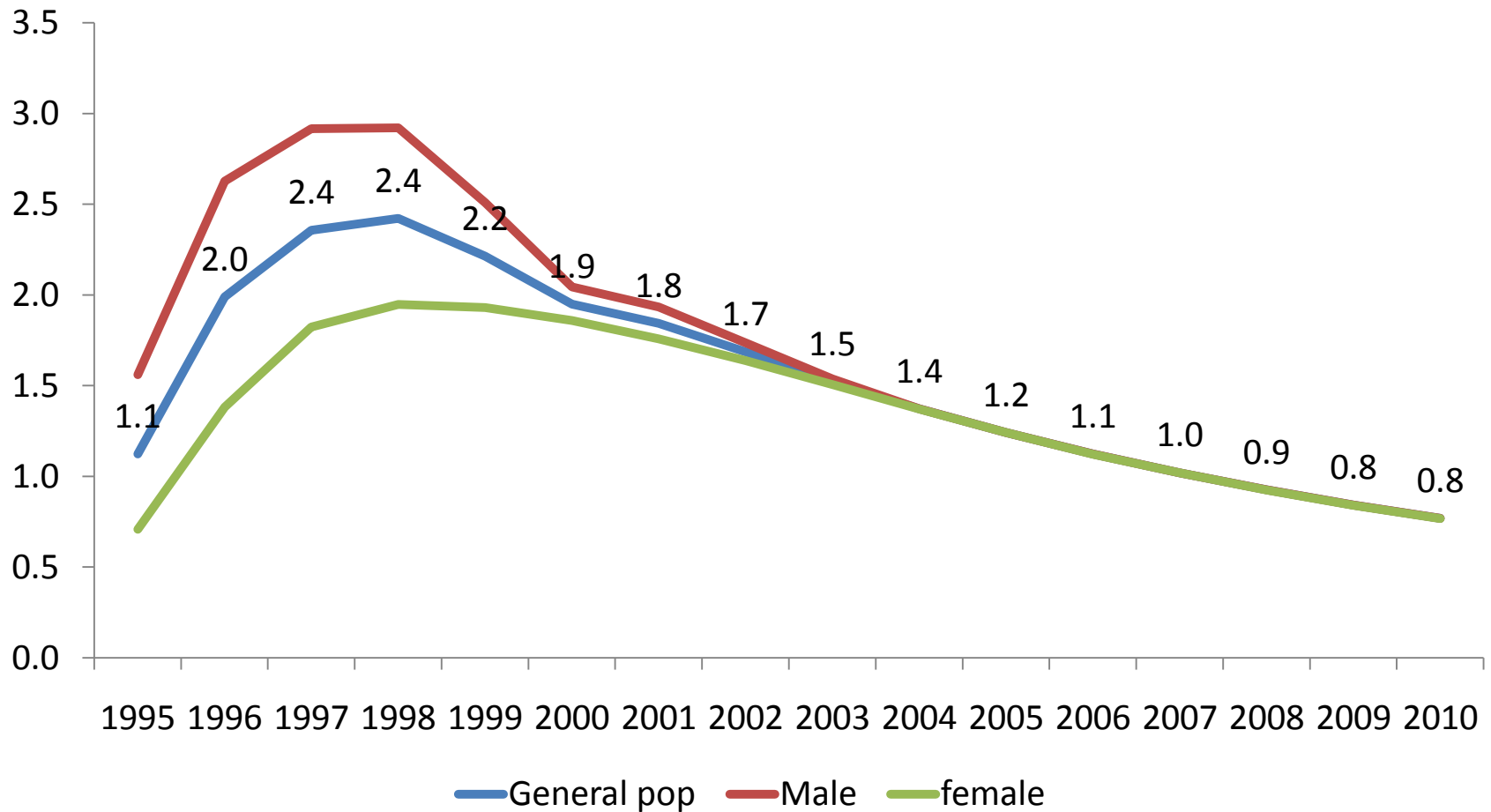
# Results

# Estimated HIV Prevalence among General Population in 2010 (15-49years old)





# Trend of Estimated HIV Prevalence among General Population (15-49years old)



# Conclusions

- The trend of HIV prevalence continues to decline by 2010
- The decline is due to:
  - Increasing coverage of ART leading to decreasing infectiousness of HIV infected individuals
  - Successful implementation of targeted HIV prevention activities (condom program, VCCT, PMTCT/linked response, 3Is, STI care, outreach programs, etc)
  - Decrease of new HIV infections
- The rate of the decline is decreasing due to:
  - Lower mortality resulting from increasing ART coverage

**Thank You**