

# Consensus Workshop on HIV Estimation for Cambodia

## Surveillance Unit

National Center for HIV/AIDS Dermatology and STD

June 28, 2007



# Objective

- To estimate HIV prevalence among persons in the general population aged 15 to 49 years in 2006, based on currently available data

# Sources of HIV prevalence data

- HIV Sentinel Surveillance (HSS) from 1996 through 2006
- Cambodia Demographic & Health Survey (CDHS) 2005

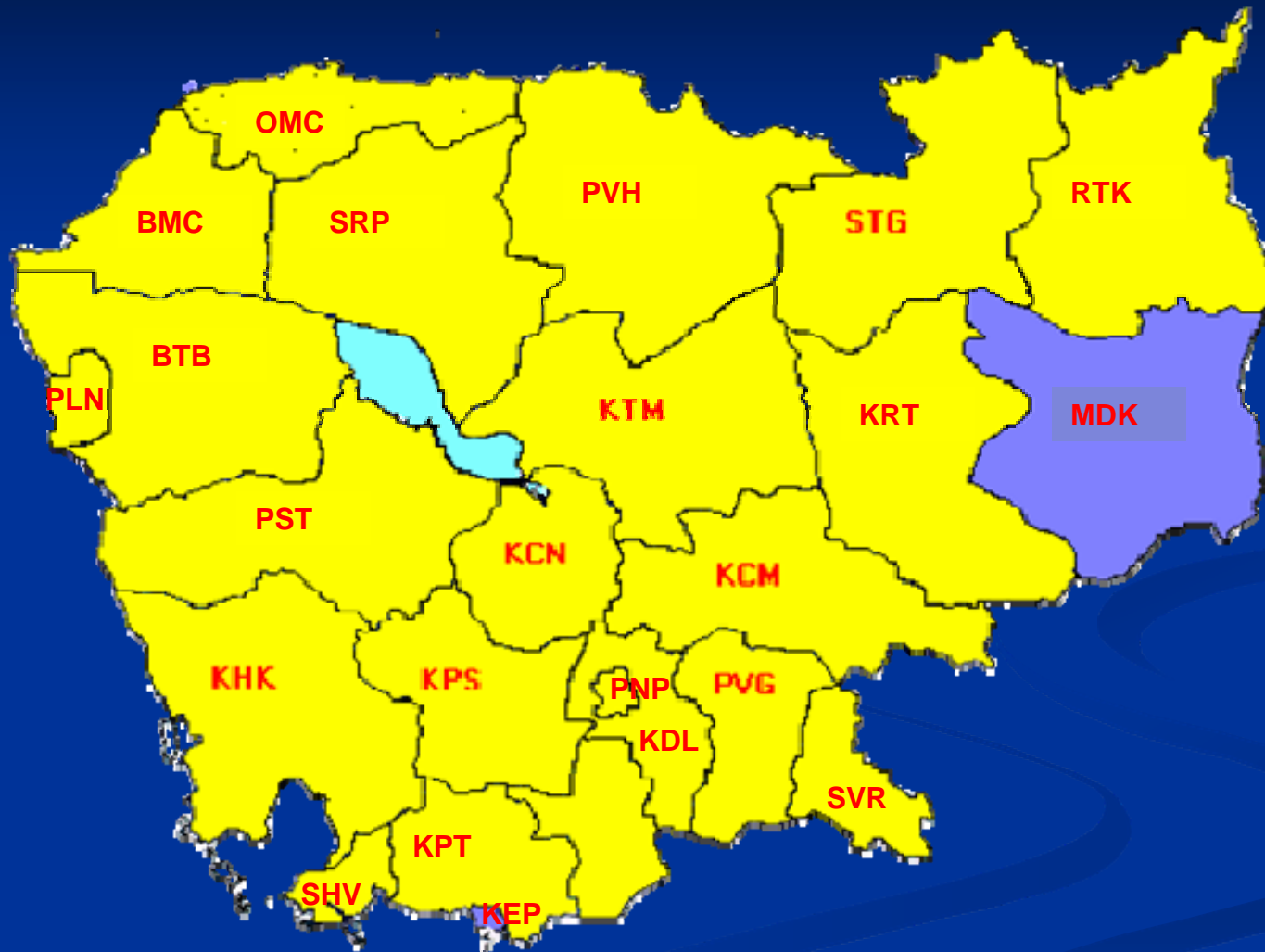
# HIV Sentinel Surveillance 2006

- 22 of 24 provinces/municipalities were included
- Two sentinel groups were included: direct female sex workers (DFSWS) and pregnant women attending antenatal care clinics (ANC)

# HSS Provinces and Sentinel Groups

	HSS 1996	HSS 1997	HSS 1998	HSS 1999	HSS 2000	HSS 2002	HSS 2003	HSS 2006
<b>No. of Provinces</b>	18	22	19	20	21	20	22	22
<b>DFSW</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>IDFSW</b>	-	-	✓	✓	✓	✓	✓	-
<b>POLICE</b>	✓	✓	✓	✓	✓	✓	✓	-
<b>ANC</b>	✓	✓	-	✓	✓	✓	✓	✓

# Sentinel Sites (22 of 24 Provinces)



# HSS 2006 Sampling Scheme

- Women attending antenatal care clinics (ANC)
  - Separate samples of 300 women each were selected from provincial capitals (PC) and remaining districts (RD)
  - Pregnant women were selected consecutively from the ANCs or health centers until the required sample size was reached
  - Duration of data collection was limited to three months

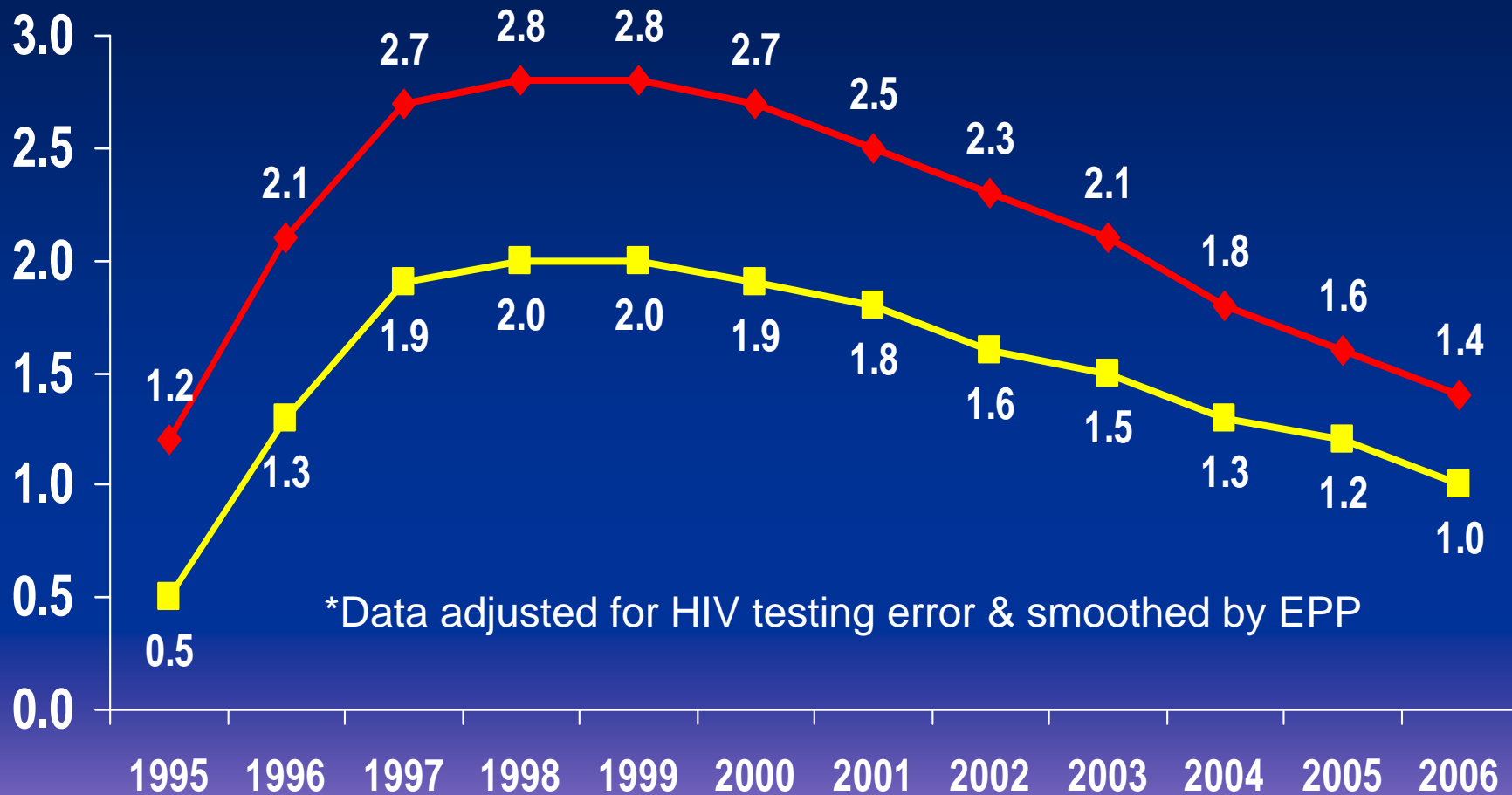
# Number of HSS Participants

	<i>2002</i>	<i>2003</i>	<i>2006*</i>
<b>ANC</b>	9,168	10,867	12,370
<b>Refusal rate</b>	1.9% (0 – 18.5)	1.9% (0 – 17.3)	0.7% (0 – 4.4)

*\*Data collected from Oct 2006 through Jan 2007*



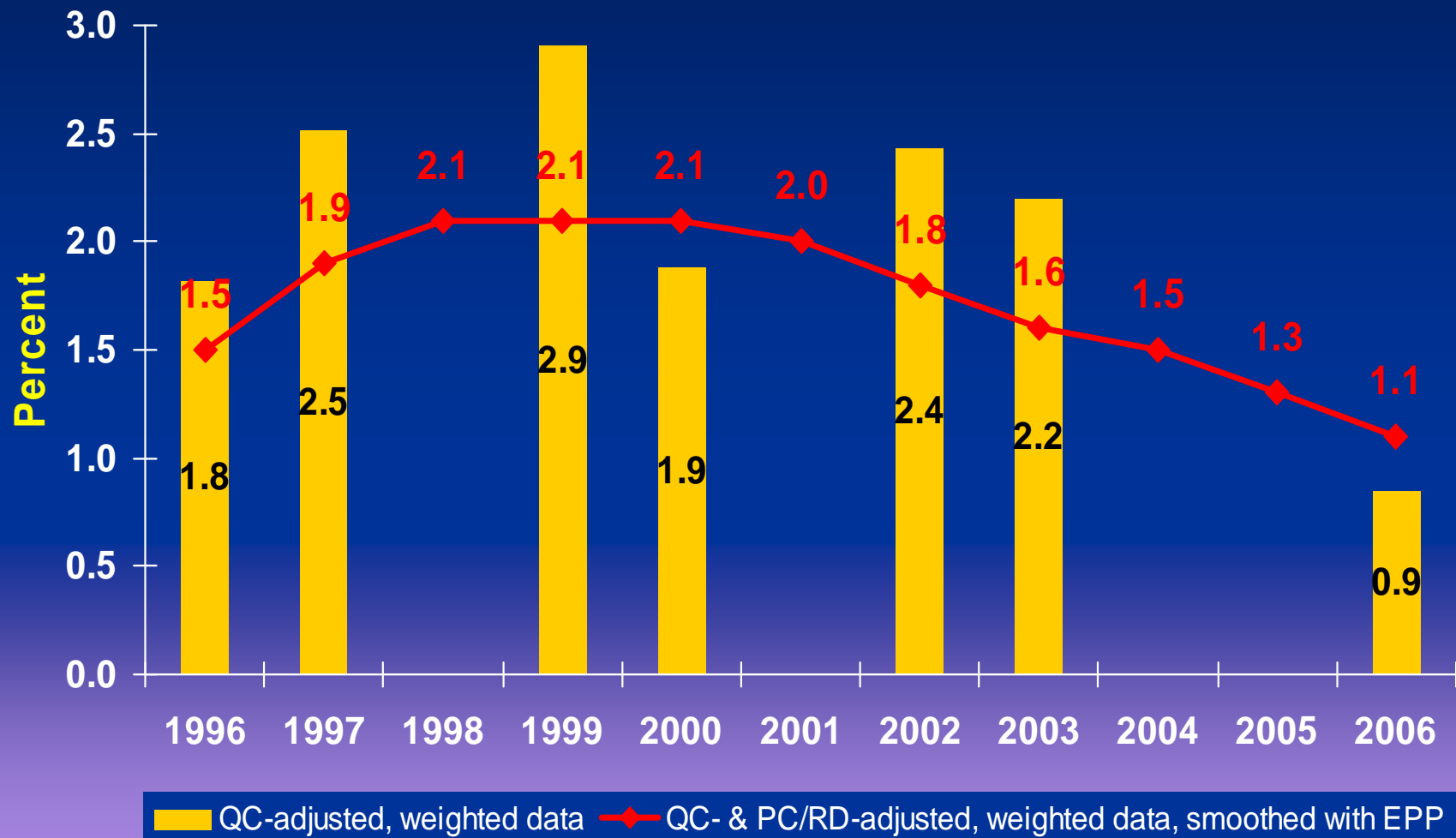
# HIV prevalence\* among ANC women aged 15-49 years - HSS



\*Data adjusted for HIV testing error & smoothed by EPP

◆ Provincial Capitals      ■ Remaining Districts

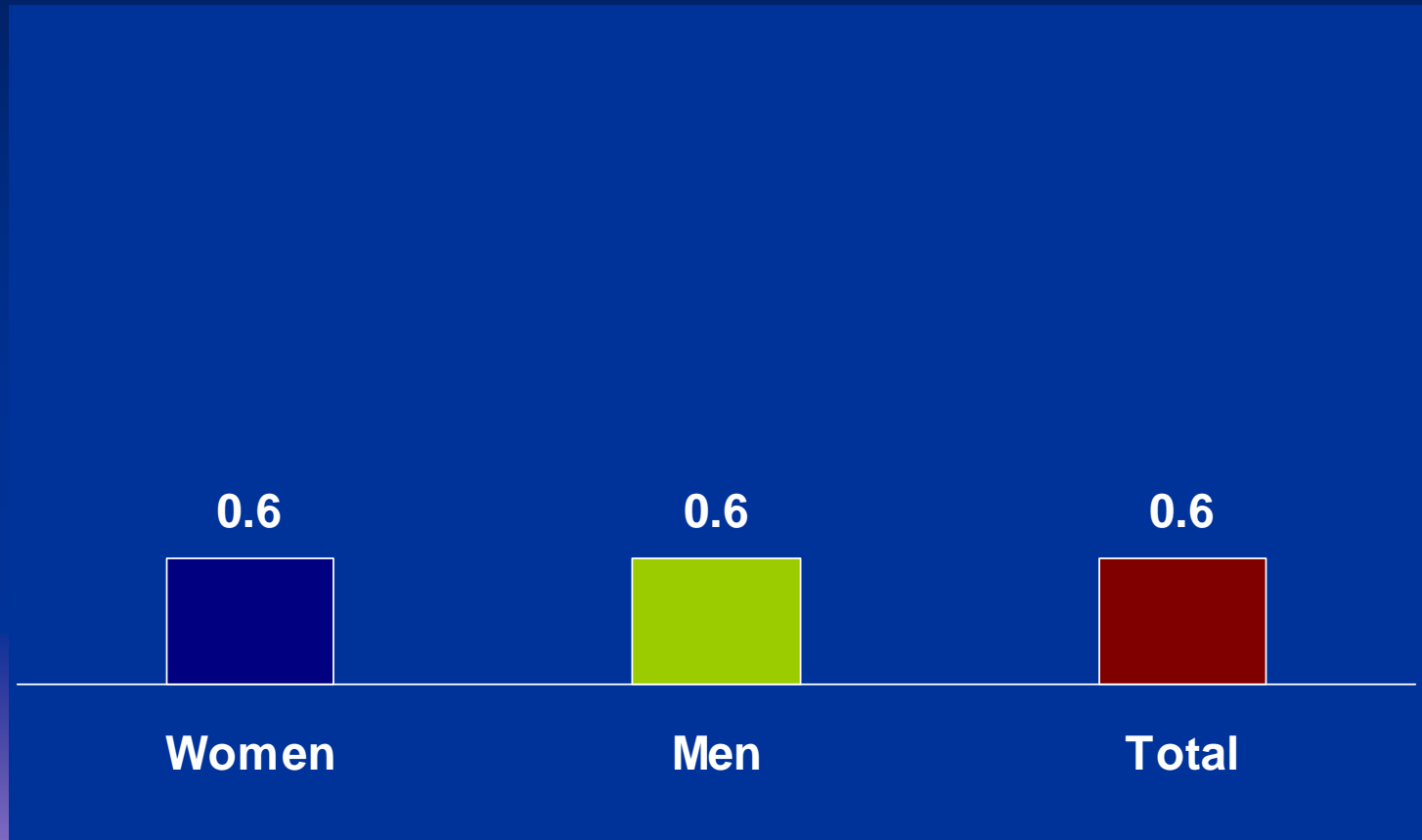
# HIV prevalence among ANC women aged 15-49 years - HSS



# CDHS 2005-methods

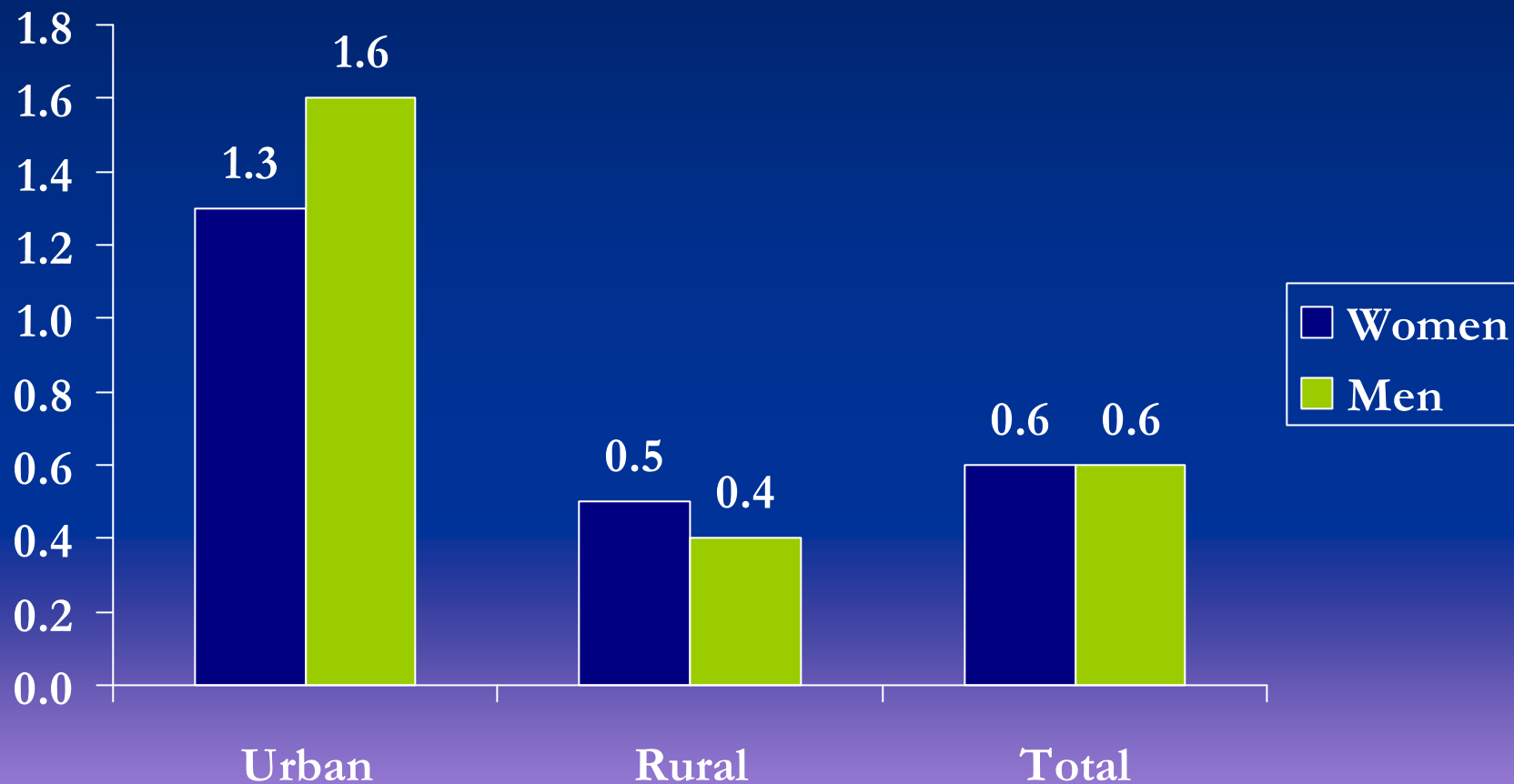
- Survey covered 24 provinces and cities which were classified as 19 study domains
- Nationally representative sample of 7229 males and 8638 females
- Two-stage stratified (urban and rural) cluster sampling
- All women and men aged 15-49 who were either permanent residents of the household or visitors present in the household on the night before the survey were eligible to participate in the survey

# HIV Prevalence among persons aged 15-49 years- CDHS 2005



Source: CDHS 2005

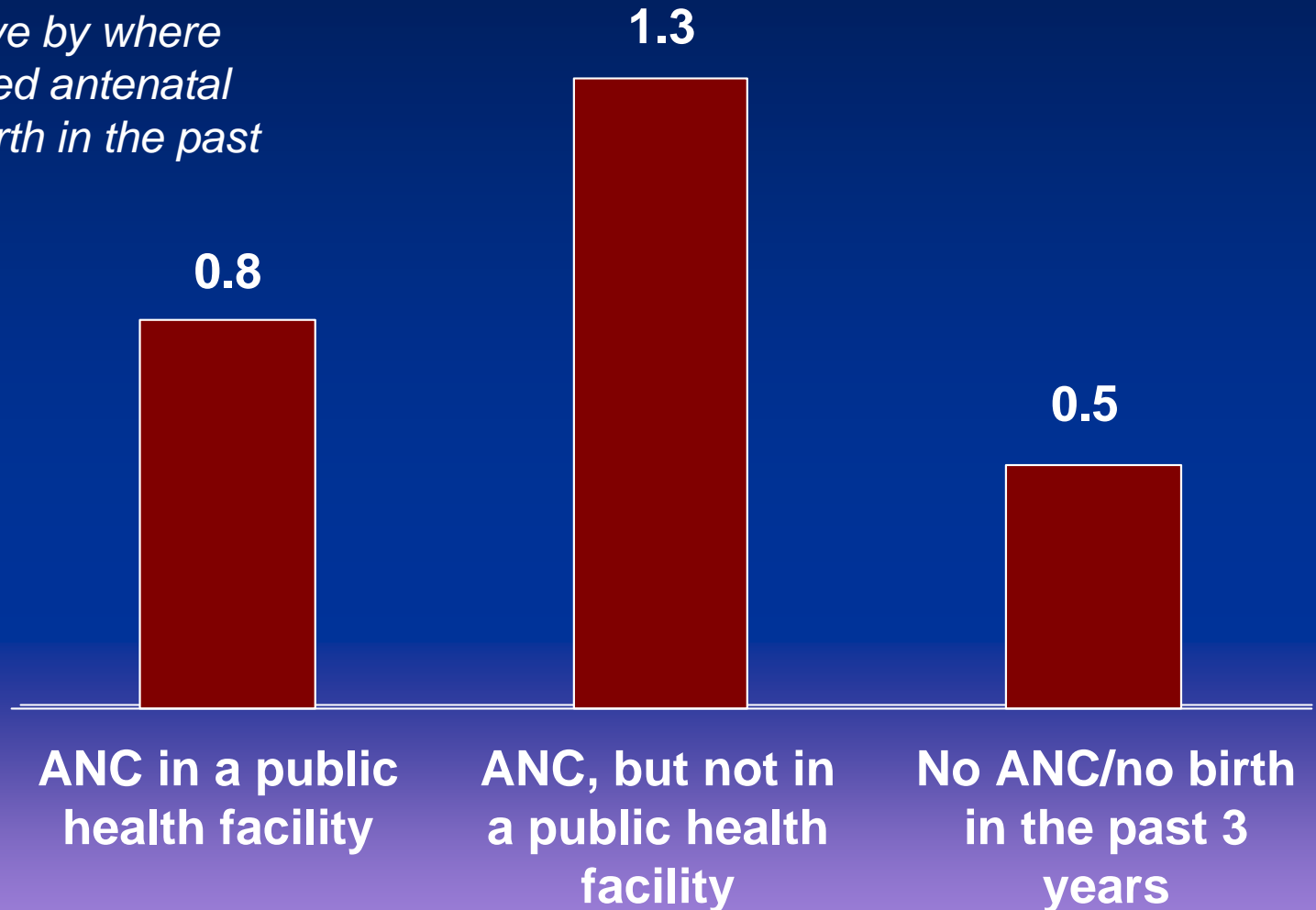
# HIV prevalence among persons aged 15-49 years, by residence\* – CDHS 2005



\*Urban residence defined as households in provincial capitals and rural residence defined as households in remaining districts

# CDHS 2005: HIV prevalence among women aged 15-49 years

*Percent positive by where women received antenatal care for last birth in the past 3 years*



Source: CDHS 2005

**Estimation of HIV prevalence  
among general population  
persons aged 15-49 years in 2006**

# Methods for estimation (1)

- HSS data from 1996 through 2006 were the primary sources used for estimation
- HIV prevalence among women attending antenatal clinics (ANC) was adjusted for HIV testing error and ANC location (provincial capital or remaining district) and smoothed using the Estimation and Projection Package (EPP)

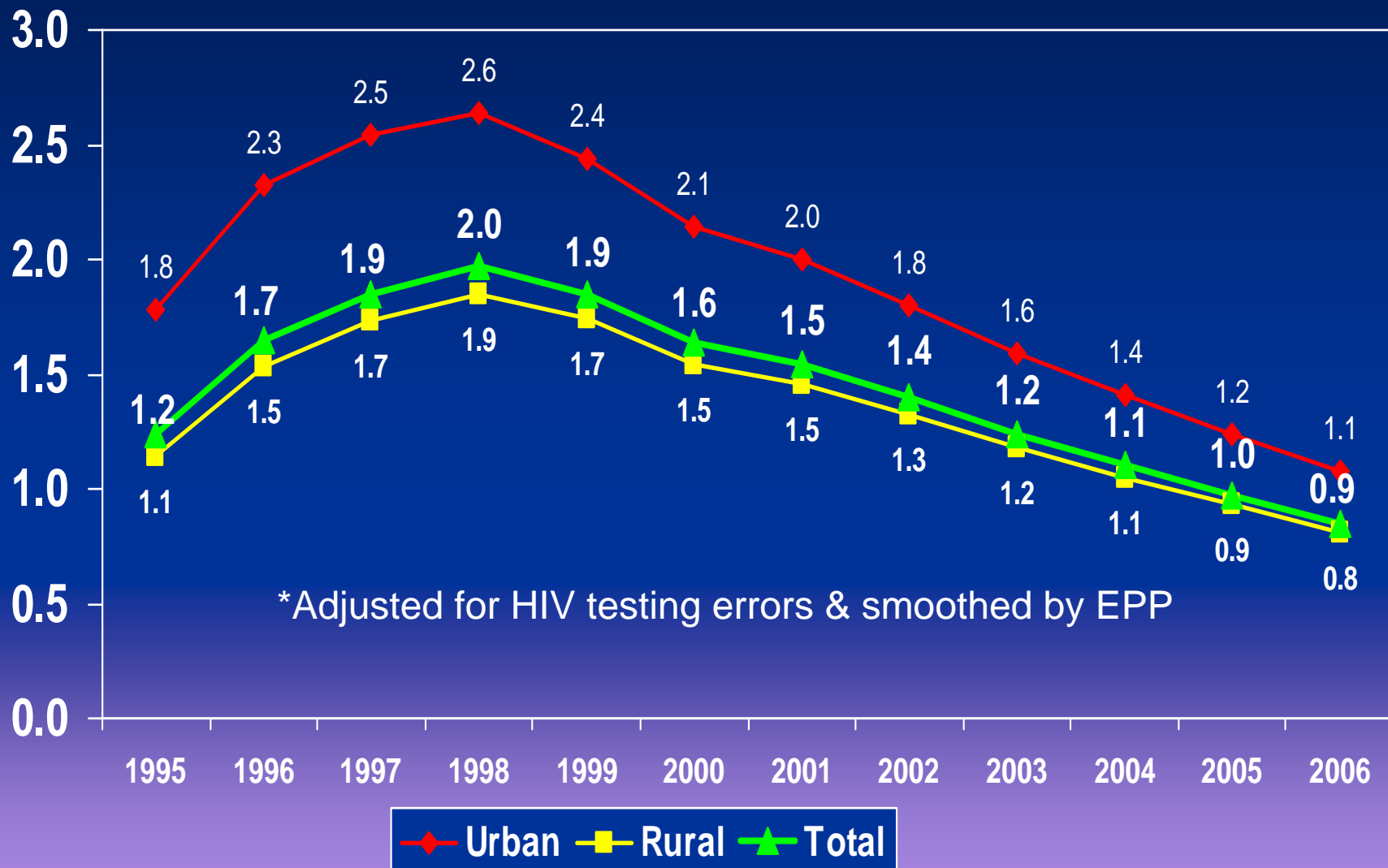


# Methods for estimation (2)

- HIV prevalence in the general female population was estimated using the ratio (0.75) of ANC prevalence to household female prevalence obtained from a population-based study (HSS 1999) and CDHS 2005
- HIV prevalence in the general male population was estimated using year-specific male-to-female (M:F) HIV prevalence ratios among TB patients. Because TB disease occurs in the later stages of HIV infection, we assumed that the TB prevalence ratio reflects the M:F HIV prevalence ratio in the general population approximately 2 years earlier
- HIV prevalence in the general population in 2006 was derived from these two estimates (HIV prevalence in the general male and female populations)

# Results

# HIV prevalence\* among the general population aged 15-49 years, by residence



# Conclusions

- In 2006, HIV prevalence among persons in the general population aged 15-49 years living in urban areas was higher than those living in rural areas
- HIV prevalence in the general population has declined from 1.2% in 2003 to 0.9% in 2006

# Acknowledgements

- National Center for HIV/AIDS, Dermatology and STDs (NCHADS)
- Provincial AIDS Programs
- National Institute of Public Health (NIPH)
- Collaborating partners:
  - US CDC Global AIDS Program
  - Family Health International / USAID
  - World Health Organization
  - UNAIDS
  - East-West Center

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Thank You