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)

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- NCHADS
- UNAIDS
- USCDC
- WHO
- KHANA
- FHI
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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
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
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

- Less than 2 partner/day
- More than 2 partner/day
- DFSW
- Beer Promoters
Trend of Percent of Consistent Condom Use with Sweethearts

- 2 or less partner per day
- More than 2 partner per day
- DFSW
- Beer promoter
Percent of Commercial Sex Use in the Past Year among Moto-taxi driver

- 1997: 56.9%
- 1998: 62.1%
- 1999: 55.5%
- 2000: 28.9%
- 2001: 44.3%
- 2002: 40%
- 2003: 34.1%
- 2004: 40%
- 2005:
- 2006:
- 2007: 40%
- 2008: 34.1%
- 2009:
- 2010:

Year:
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
Percent Consistent Condom Use with Commercial Partner (in the past 3 months) among Moto-taxi driver


53.8  61.8  69.7  83.9  89.4  86   86.2
Percent of Consistent Condom Use with Sweethearts (in the past 3 month) among Moto-taxi driver

![Graph showing the percentage of consistent condom use among Moto-taxi drivers from 1997 to 2010. The percentage increases overall, with significant increases in 2001 and 2007, and a slight decrease in 2002.]
Reponses to HIV/AIDS Epidemic (2)

– A decade later, care and treatment services have been expanded in response to an increase in the 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)

HIV prevalence among Pregnant Women

HIV prevalence in Female population

HIV prevalence in Male population

HIV prevalence among General Population
HIV/AIDS situation in Cambodia can be classified into part:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Few number of patients receiving ART</td>
<td>Large number of patients receiving ART</td>
</tr>
<tr>
<td>Low number of people have been tested for HIV and known their HIV status</td>
<td>Large number of people have been tested and known their HIV status</td>
</tr>
<tr>
<td>Low proportion of HIV infected pregnant women receiving PMTCT</td>
<td>High proportion of HIV infected pregnant women receiving PMTCT</td>
</tr>
<tr>
<td>Low proportion of pregnant women used antenatal care service</td>
<td>High proportion of pregnant women used antenatal care service</td>
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</tbody>
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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

Infected women on ART + Diagnosed but not on ART or undiagnosed infected Women + HIV negative women = All women

Infected women on ART become pregnant

Diagnosed but not on ART or undiagnosed infected Women become pregnant

HIV infected pregnant women + HIV negative pregnant women = Pregnant women in HSS

Proportion of becoming pregnant of 7.7%

Proportion of becoming pregnant of 3%

Proportion of becoming pregnant 9.65% in 2010
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 (15-49 years old)
Trend of Estimated HIV Prevalence among General Population (15-49 years 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