

## **Cambodia Behavioral Surveillance Surveys: 1997-1999**

This document presents valuable data about HIV/AIDS-related knowledge, attitudes, and behaviors, based on the behavioral surveillance surveys conducted in Cambodia over the course of three years.

### **Introduction to Behavioral Surveillance Surveys**

FHI's Behavioral Surveillance Surveys (BSS) provide valuable data about HIV/AIDS-related knowledge, attitudes, and behaviors. The BSS methodology is a monitoring and evaluation tool designed to track trends in HIV/AIDS-related knowledge, attitudes, and behaviors in subpopulations at particular risk of HIV infection, such as female sex workers, injection drug users, migrant men, and youth. Based on classic HIV and sexually transmitted diseases (STD) serologic surveillance methods, BSS consist of repeated cross-sectional surveys conducted systematically to monitor changes in HIV/STI risk behaviors. A key benefit of the methodology is its standardized approach to questionnaire development, sampling frame construction, and survey implementation and analysis. BSS findings serve many purposes: They yield evidence of project impact, provide indicators of project success and highlight persistent problem areas, identify appropriate intervention target populations, identify specific behaviors in need of change, function as a policy and advocacy tool, and supply comparative data concerning behavioral risks.

BSS have been conducted in more than 20 countries -- primarily in Africa and Asia -- since 1992, and their use in Latin America and the Caribbean is growing. Since 1999 they have been used in cross-border sites in Asia and Africa, where they are proving beneficial for understanding the pandemic from a regional instead of a purely country-specific perspective. In several countries multiple rounds of BSS have been implemented already, with the trend data used to formulate new programs and to adapt existing ones.

### **Introduction to Cambodia BSS**

The National Center for HIV/AIDS, Dermatology, and STD (NCHADS) of the Ministry of Health is responsible for developing programs to educate people about STDs, including HIV/AIDS, and for implementing programs to prevent the spread of disease through STD treatment and the promotion of condom use. In addition, many nongovernmental organizations in Cambodia are undertaking STD/HIV prevention and care programs in response to the growing epidemic.

An expanded national HIV and behavioral surveillance system has been in place since 1997. This system has provided crucial time series data and provincial-level prevalence figures that have served to mobilize both the government and the provincial AIDS committees. Surveys undertaken as part of this system were carried out by the Cambodian Ministry of Health, through NCHADS.

The Cambodia Behavioral Surveillance Surveys (BSS) have been conducted since 1997. The BSS involve the collection of waves of data among the same subpopulations with the same tools in the same cities. The objectives are to measure trends in high-risk sexual behavior in selected key subpopulations over time and to provide yearly information on social conditions affecting HIV/STD. Survey questions focus on behaviors that create the greatest risk of transmitting HIV infection.

This report highlights findings from the first through the third waves of the Cambodia BSS conducted in 1997, 1998, and 1999.

## Methodology

The initial wave of BSS was conducted in 1997. The second and third waves, conducted in 1998 and 1999, followed the same methodology used in the first wave.

## Study population

The BSS were designed to enable measurement of behavior change over time among specific subpopulations. The highest-risk subpopulations included brothel-based female sex workers (FSWs) and urban men belonging to the police and military. Other target populations included "bridge" groups -- such as women who work for beer companies promoting beer in restaurants and bars ("beer promoters") and moto-taxi and cyclo-taxi drivers ("moto drivers") -- who have significant sexual contact with both high- and low-risk groups. Moderate- to low-risk groups with varying sociodemographic characteristics were also surveyed, including working women, young male vocational students and working men. These low-risk groups were not included in the third wave because in the first two waves they were not found to practice high-risk behaviors.

### Subpopulation Definitions

#### Brothel-based female sex workers (FSWs)

Brothel-based females engaging in sex in exchange for remuneration

#### Police and military men

In urban areas

#### Beer promoters

Women working for beer companies promoting beer in restaurants and bars and often working as indirect sex workers

#### Moto drivers

Male moto-taxi and cyclo-taxi drivers

#### Working women

Women ages of 18-30 working in low-paid professions, such as factory, hotel, and restaurant work, and low-level government jobs; sampled in 1997 and 1998

#### Young male vocational students

Sampled in 1997 and 1998

## Study sites

Urban areas were selected as BSS sites because they are areas where high-risk behaviors occur most frequently and where behavior change programs may be most effective. The first three waves of the Cambodian BSS were conducted in five major cities in five different provinces: Phnom Penh, Battambang, Siem Reap, Sihanouk ville, and Kampong Cham. Each site was also chosen because of the social context facilitating certain risk behaviors (e.g., both Battambang and Sihanouk ville have a large military presence).

### **Sample size**

The number of respondents for each group was determined based on the estimated level of key risk behaviors (such as percentage using condoms in commercial sex) and the degree of confidence required to detect a significant change in behavior over time. Table 1 shows the sample sizes by risk group for each survey wave. The number of FSWs surveyed in BSS one is considerably lower than in BSS two because data on FSWs were collected only in Phnom Penh and Siem Reap in 1997. In BSS two and three, all five sites were sampled.

**Table 1. Subpopulations and Sample Sizes from Each Survey Wave**

<b>Subpopulations</b>	<b>BSS 1</b>	<b>BSS 2</b>	<b>BSS 3</b>
FSWs	245*	804	792
Police/Military	407	745	1483
Beer Promoters	581	406	379
Moto Drivers	570	756	746
Working Women	1370	1011	N/A
Vocational Students/ Working Men	1183	553	N/A
Total	4356	4275	3400

\* FSWs sampled from Phnom Penh and Siem Reap only.

### **Sample design**

A cluster-based design was used to sample each targeted subpopulation. Naturally occurring cluster units, such as brothels and military battalions, were identified for each of these subpopulations. All clusters were listed, and the number of individuals was noted for each cluster, where available. Clusters were then randomly selected from the list, and members of each selected cluster were interviewed until the target sample size was reached for that group. Data entry was done in EXCEL and analysis was done in STATA.

### **Questionnaire**

The BSS questionnaire averaged 15 to 20 minutes and included demographic information (age, marital

status, education, number of living children), perceptions of peer behavior, STD treatment-seeking behavior, number and types of sex partners, and condom use. Certain parts of the questionnaire were the same for all subpopulations, while other segments were specific to subpopulations. All questionnaires were pretested. Based on results of the pretests, men from vocational schools were given self-administered questionnaires, while all other groups participated in face-to-face interviews. All three surveys were based on the same questionnaire, with few modifications after each wave.

## **Results**

### ***Sociodemographic characteristics***

The population surveyed in the BSS was a relatively young, urban population. Relevant demographic data collected from the population surveyed included age, marital status, and education levels.

#### **Age**

In general, the population sampled was a young population, and the mean age for each risk group did not vary much over the waves. The military, police, and moto-drivers consistently had the highest mean age of the sample, between 29 and 31. FSWs had the lowest mean age for all four surveys. Their mean age ranged from 20 to 21, on average about 10 years younger than male subpopulation members.

#### **Marital Status**

The marital status of the population sampled did not vary much during the four years of surveys. Not surprisingly, the oldest populations -- military/police and moto drivers -- had the largest percentage of married individuals, ranging from 60 percent to 85 percent over the four years. FSWs had the lowest percentage of married individuals, with less than five percent being married in most years. A possible anomaly in the data appears for 1997, when 51 percent of FSWs reported being married.

#### **Education/Literacy**

A consistently high percentage of FSWs reported having no schooling, ranging from 40 percent to 61 percent across survey waves. Other females surveyed reported having more education, but were consistently less educated than the males in all targeted subpopulations.

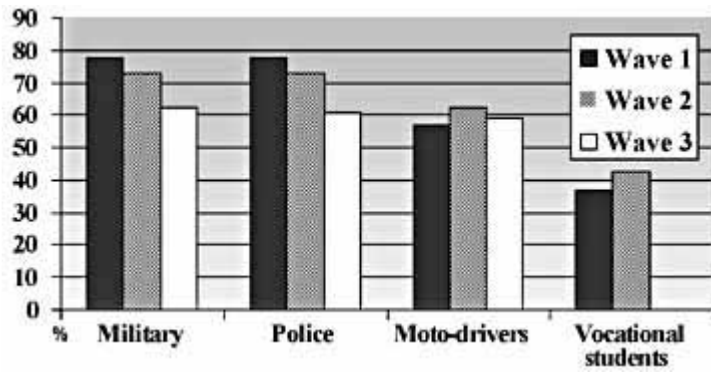
### ***Trends in BSS behavioral indicators***

#### **Commercial Sex**

##### *Sex with a commercial partner in the past year*

One approach to behavior change in STD/HIV control is to reduce the frequency of sex with high-risk partners, such as commercial sex partners. The trends in sex with a commercial partner over the four years of the survey reveal a decline in the percentage of commercial partners for military men from 77.9 percent in 1997 to 62.2 percent in 1999 and for police from 77.9 percent to 60.5 percent for the same years (figure 1).

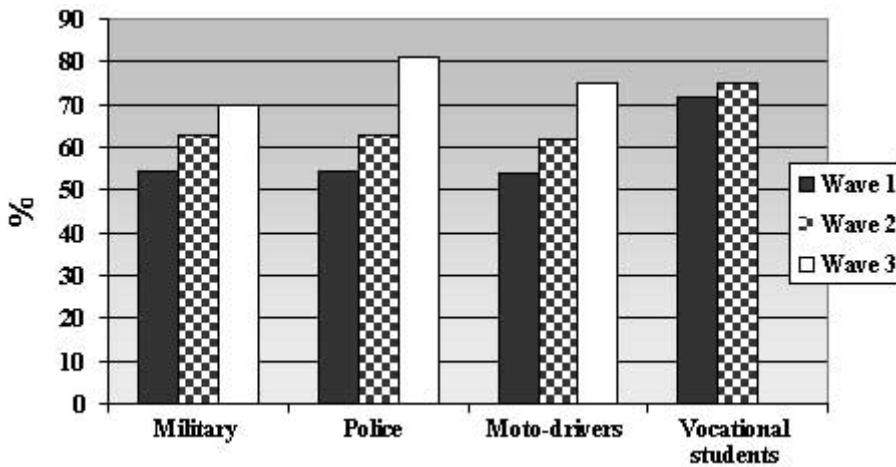
**Figure 1. Sex with a commercial partner in the past year**



*Condom use with a commercial partner*

These data are encouraging because they show an increase in consistent ("always") condom use with commercial partners across all groups (figure 2). The high-risk groups reflect the greatest change. Consistent condom use by military men increased from 54.2 percent in 1997 to 69.7 percent in 1999, while the percentage of police reporting always using a condom rose from 54.2 percent in 1997 to 81.3 percent in 1999. Moto drivers also showed an increase, from 53.8 percent in 1997 to 74.9 percent in 1999.

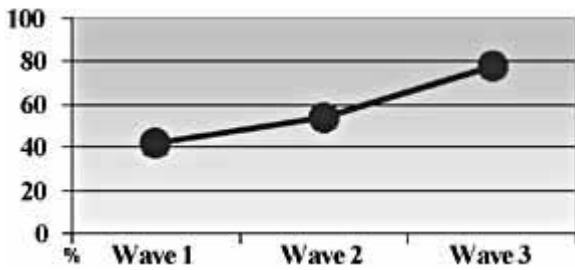
**Figure 2. Always use of condoms with a commercial partner**



*FSW always use of condoms with client*

A marked increase in FSWs who report always using condoms with commercial clients is shown between 1997, when 42 percent reported consistent condom use, and 1999, when this behavior was reported by 78.1 percent of FSWs (figure 3).

**Figure 3. Always use of condom with client**

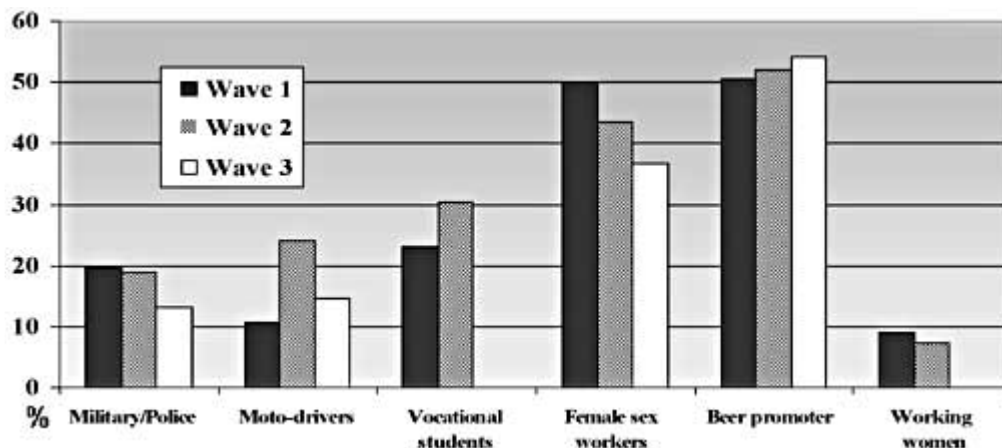


## "Sweethearts"

*Percentage who had a "sweetheart" relationship within the last year*

In Cambodia, the term "sweetheart" is used to refer to a variety of relationships, and accordingly is defined differently by members of each subpopulation included in the BSS. Sweetheart relationships may involve sexual intercourse between partners, or may be platonic, just as those involving sexual relationships may or may not include the exchange of money or gifts as payment for sex. In any case, it is hypothesized that sweetheart relationships may be contributing to the transmission of HIV across and among subpopulations. Consequently, sweetheart relationships were included as a risk behavior meriting investigation through the BSS. Given these qualifications, particular care must be taken to interpret findings concerning sweetheart relationships within the sociocultural context of Cambodian society.

**Figure 4. Percentage with "sweetheart" relationship in the past year**



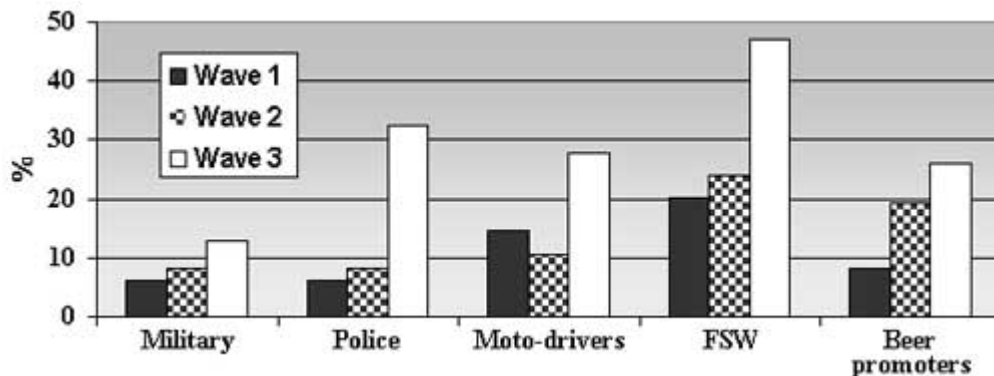
In 1997, FSWs were shown as having the highest percentage of subpopulation respondents reporting having had a sweetheart relationship in the past twelve months. However, this percentage decreased from 50.6 percent in 1997 to 36.6 percent in 1999. The percentage of military men and police having a sweetheart relationship also dropped between 1997 and 1999, from 19.6 percent to 13 percent. By contrast, in the bridging group, moto-drivers showed a considerable increase in the percentage having a sweetheart relationship, from 10.8 percent in 1997 to 24 percent in 1998, although this percentage declined in 1999. In the low-risk populations, vocational students showed an increase from 23 percent to 30.3 percent, while all other groups showed little change.

*Condom use with a sweetheart at last sex*

The data show a marked increase in the use of condoms with sweethearts over the past four years in all subpopulations. The greatest increases were among the highest-risk groups: the military, police, and

FSWs. The percentage of FSWs who reported always using a condom with sweethearts increased from 20.3 percent in 1997 to 47.2 percent in 1999. Consistent condom use with sweethearts rose from six percent in 1997 to 12.8 percent in 1999 among military men and from six percent in 1997 to 32.4 percent in 1999 among police. Beer promoters also showed an increase in condom use with sweethearts, from 8.2 percent in 1997 to 26.1 percent in 1999.

**Figure 5. Always use of condoms with a "sweetheart"**



## Conclusion

- Condom use during commercial sex has increased across all groups.
- The data reveal a decrease in those having commercial partners across all risk groups, particularly among the high-risk male groups. This is significant because reducing the frequency of sex with high-risk partners is one strategy for preventing transmission of HIV.
- Since 1997, the highest increase in condom use has been among beer promoters. Despite this change, this group continues to report the lowest levels of condom use.
- Condom use with "sweethearts" has increased.

## Technical Guidelines

For more information, see the following technical guidelines:

### **UNAIDS and Family Health International, May 1998. Meeting the Behavioural Data Collection Needs of National HIV/AIDS and STD Programmes.**

Discusses behavioral data collection needs by different epidemic state. Reflects recent thinking about the best use of resources in behavioral data collection in the context of second generation surveillance.

### **Family Health International, June 2000. Behavioral Surveillance Surveys (BSS): Guidelines for Repeated Behavioral Surveys in Populations at Risk for HIV.**

Provides how-to information that includes identifying priority subpopulations, developing sampling frameworks and approaches, and suggesting analysis and dissemination strategies. Also includes sample questionnaires.

### **UNAIDS and WHO, 2000. Guidelines for Second Generation HIV Surveillance.**

Provides an overview of the principal issues that need to be considered in strengthening surveillance systems and increasing their utility. Suggests priority approaches for the various epidemic states.

### **Acknowledgments**

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Cambodian Disease Control and Health Development Project (1999)\*

\* Since 1999 these surveys have been conducted by NCHADS under the Cambodian Disease Control and Health Development Project of the Ministry of Health, which is supported by a World Bank loan.

#### **This executive summary is based on the following reports:**

The Cambodian Behavioral Surveillance Survey First Round: 1997.  
BSS II -- 1998 & Changes in Sexual Behavior and Commercial Sex in Cambodia: 1997-1998.  
Cambodia's Behavioral Surveillance Survey 1999 (BSS I-III).