

Indonesia Behavioral Surveillance Surveys

This document presents valuable data about HIV/AIDS-related knowledge, attitudes, and behaviors, based on the behavioral surveillance surveys conducted in Indonesia in 1996, 1997 and 1998.

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 disease (STD) serologic surveillance methods, BSS consist of repeated cross-sectional surveys conducted systematically to monitor changes in HIV/STD 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 priority 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 Indonesia BSS

The growing number of HIV/AIDS cases in Indonesia has challenged policy makers to take urgent steps to implement the National AIDS Strategy. More people within government of Indonesia (GOI) agencies and the public at large are now active, both independently and jointly, in efforts against the epidemic. In the continued absence of vaccines and effective, affordable drugs for preventing or treating HIV infection, the GOI promotes culturally and religiously appropriate educational efforts aimed to promote abstinence, encourage people to have fewer sex partners, and increase the use of condoms.

Since 1996 the GOI has collaborated with Family Health International (FHI), USAID, and non-governmental organizations in seaport cities of Indonesia (notably, North Jakarta, Surabaya, and Manado) to implement the HIV/AIDS Prevention Project (HAPP). The HAPP is an intensive project that promotes behavior change, policy reform, improved STD diagnostic and treatment services, and increased access to protective devices for those at greatest risk of infection.

The Indonesia Behavioral Surveillance Surveys (BSS), which have been carried out since 1996, serve as a tool to help measure the progress of HAPP interventions. This report highlights findings from the first through the third waves of the Indonesia BSS, conducted in 1996, 1997, and 1998. The report for the fourth wave of BSS, carried out in 1999, will be available for distribution in 2000.

Study Design and Methodology

All waves of the BSS, from the initial wave in 1996 through 1998, followed the same methodology,

described below.

Study population

The BSS were designed to enable measurement of behavior change over time among specific subpopulations. Data on high-risk groups provide valuable information on the segments of the population having the greatest impact on the HIV and STD epidemics. Therefore, many of the groups included in the BSS were those at highest risk of infection and transmission, such as female sex workers (FSWs). In addition to the high-risk groups, the BSS included other subpopulations that are considered "bridge" groups, consisting of individuals who have significant sexual contact with both high- and low-risk groups. Bridge groups for these surveys included sailors/seaport laborers (S/SLs), truck drivers and their assistants (TD/As), and male factory workers (MFWs). Low-risk groups typically are more broadly defined groups within the general population representing varying socio-demographic characteristics. For the purpose of the Indonesian BSS, women in the general population -- female factory workers (FFWs) and male and female high school seniors -- represented the low-risk groups.

Subpopulation Definitions
Location-based Sex Workers (LSWs)
Females engaging in sex in exchange for remuneration in a formalized setting for commercial sex, such as a brothel
Non Location-based Sex Workers (NLSWs)
Females having sex in exchange for remuneration in an informal setting, such as a street or bar
Sailors and Seaport Laborers (S/SLs)
Truckers (TD/As)
Truck drivers and drivers' assistants
Male Factor Workers (MFWs)
Female Factory Workers (FFWs)
Male Students
Male senior high school students
Female Students
Female senior high school students

Due to practical considerations and logistical issues that arose during data collection, particular groups were, at times, selected in one city but not others, and data were not collected from all subpopulations for

all survey waves.

Study sites

The HAPP intervention sites of North Jakarta, Surabaya, and Manado, were selected as the sites for the BSS. Besides being major entry ports for the country, these three cities have cosmopolitan and urban characteristics, with active sex industries. Table 1 shows study sites with the corresponding subpopulations for wave one through three.

Table 1. Survey Populations with Study Sites and Sample Sizes, BSS 1, 2 & 3 (1996-1998)

Survey Populations	North Jakarta			Surabaya			Manado		
	BSS 1	BSS 2	BSS 3	BSS 1	BSS 2	BSS 3	BSS 1	BSS 2	BSS 3
	Location-based Sex Workers (LSWs)	200	200	200	201	200	200	-	-
Non Location-based Sex Workers (NLSWs)	199	200	198	200	203	201	200	200	201
Sailors and seaport laborers (S/SLs)	399	400	400	200	200	200	400	400	403
Male factory workers (MFWs)	-	-	-	401	-	400	-	-	-
Truck drivers/assistants (TD/As)	-	-	-	200	200	200	-	-	-
Female factory workers (FFWs)	-	-	-	400	-	401	-	-	-
Male senior high school students (MS)	-	400	-	-	400	-	400	-	400
Female senior high school students (FS)	-	-	-	-	401	-	400	-	400
Totals	798	1200	798	1602	1604	1602	1400	600	1404

Sample size

Sample size was determined in each group and in each city on the basis of specific behavioral parameters, the behavior change to be detected, the degree of confidence in such a change, statistical power and design effect. With these parameters, sample sizes of 200 to 400 respondents were required for each subpopulation group in each city.

Sample design

A two-stage cluster design was employed with each group. During the first stage, clusters were selected by probability proportional to size from a complete list of sites. Respondents were selected from the selected clusters during the second stage.

A sampling frame was initially prepared to provide the basis for selecting clusters. Brothel complexes were used as clusters for LSWs, while areas such as brothel houses, streets, massage houses, hotels, and discotheques, bars, and nightclubs were used for NLSW clusters. Seaport areas were used as clusters for sampling sailors and seaport laborers, factory areas were used for male and female factory workers, and schools were used for students. Information regarding clusters, such as city, population group, geography,

and the estimated number of individuals per cluster, was recorded.

Questionnaire

The questionnaires were developed in stages parallel to the field preparation. In-depth interviews were conducted to assist in the development of questionnaires. Separate questionnaires were developed for FSWs, female respondents, and male respondents.

Questionnaires were pretested to ensure that the questions and the interviewing techniques were appropriate. Pretest results were also used as a means of validating the survey data. Questionnaires used in wave 2 and wave 3 were modeled on the wave 1 questionnaires.

Results

Sociodemographic characteristics

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

Age

Except for students, whose ages ranged from 16 to 20 years, respondents' ages were concentrated in the range of 25 to 30 years, and this varied little over the survey years. FSW age varied from 14 to 53 years. While there were few people in the extremes, FSWs had the lowest mean age of all other groups except students. Between 40 percent and 58 percent of S/SLs and TD/As were older than 29. Male respondents were generally older than female respondents.

Marital Status

The marital status of the population sampled did not vary much during the survey years, except among S/SLs, where the marriage rate dropped from 60 percent in wave one to 30 percent in wave three. The marriage rate among FSWs remained low throughout the survey years, while the divorce rate averaged more than 50 percent in all years and study sites. Most of the NLSWs in Manado had never married, and their divorce rate was lower than those of all other FSWs. The majority of male respondents were married.

Education

In general, male respondents had a higher level of education than female respondents. Among the female respondents, factory workers had higher education levels than sex workers, and NLSWs tended to have more education than LSWs. Among male respondents (except students), MFWs had attained higher education levels than any other group, with more than half reporting having finished high school.

Trends in BSS indicators

Knowledge Indicators

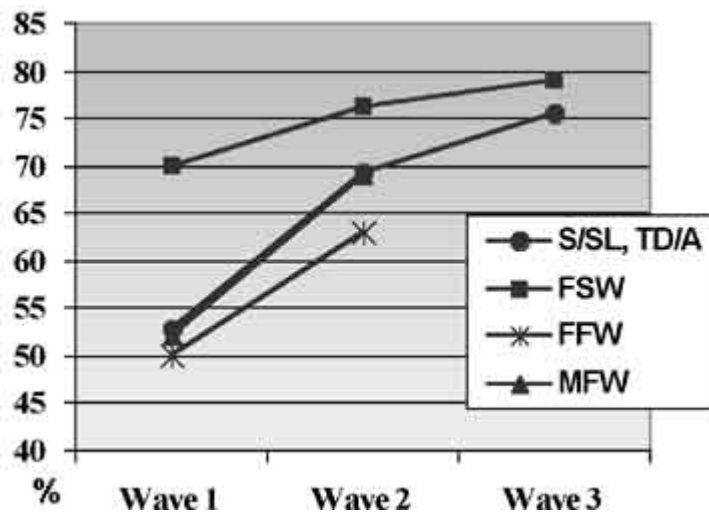
Knowledge of HIV/AIDS

In wave 1 most respondents reported having heard of HIV/AIDS (more than 80 percent), and 60 percent to 80 percent of respondents could correctly recognize at least one of three correct ways to prevent HIV transmission. However, only 50 to 60 percent of those surveyed responded correctly regarding misconceptions about how to prevent transmission.

Students, in particular, indicated a relatively good understanding of HIV prevention. In the first wave of data collection, more than 70 percent of students were able to identify two appropriate prevention strategies. Student knowledge of HIV improved in Manado between waves one and three.

Respondents showed increased knowledge of appropriate ways to prevent HIV from wave one through wave three in all study sites. Specifically, when asked about ways to prevent HIV, an increasing percentage of respondents knew that condom use during sex can prevent HIV transmission. Figure 1 shows an increased trend in knowledge among all groups from wave one to wave three.

Figure 1. Percentage knowing that always using a condom is a way to prevent HIV



Many men, however, still maintain misconceptions about HIV transmission. From wave one to wave three, for example, an increasing number of S/SLs incorrectly believed that avoiding eating with or using the same toilet as a person living with HIV/AIDS were effective prevention methods.

In wave one, LSWs had the least knowledge of appropriate ways to prevent HIV transmission and the highest levels of misconceptions about ways HIV is transmitted. As depicted in Figure 2, knowledge of ways to prevent HIV/AIDS rose steadily among sex workers from wave one through wave three; however, this increase was mostly due to an increase in knowledge among LSWs in Jakarta and NLSWs in Surabaya.

Figure 2. FSW knowledge of two ways to prevent HIV/AIDS

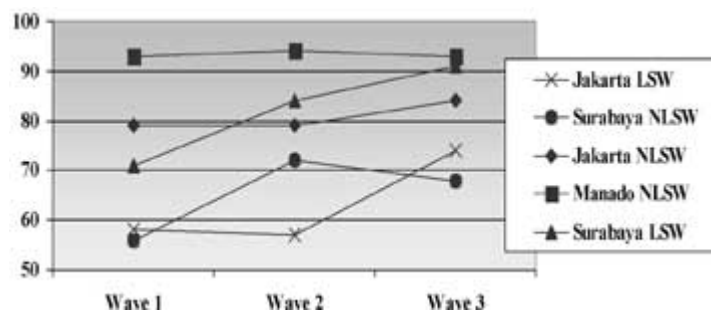
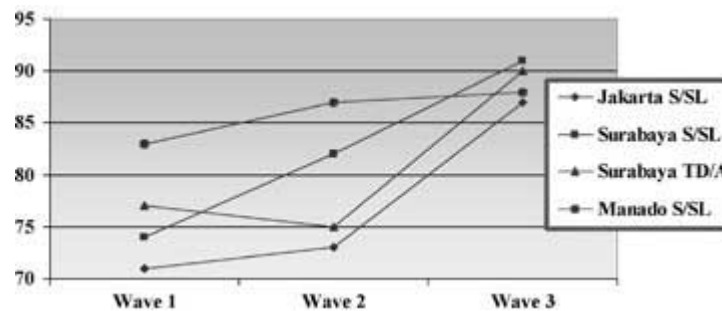


Figure 3 shows that a greater proportion of S/SLs and TD/As knew of two ways to prevent HIV transmission in wave three than in wave one. This increase was due to increases in knowledge levels among both groups in all three study sites.

S/SL and TD/A knowledge of HIV/AIDS improved markedly between waves one and three. For example, whereas in wave one approximately 75 percent of S/SLs in Jakarta and Surabaya knew that avoiding shared needles reduces HIV transmission, by wave three up to 90 percent of respondents knew that this was an appropriate prevention strategy. Overall, a greater proportion of factory workers responded correctly to appropriate ways of preventing HIV/AIDS than did other groups, except students. Younger and more educated respondents had a better understanding of HIV/AIDS.

Figure 3. Males' knowledge of two ways to prevent HIV/AIDS



Knowledge of condoms

The majority of respondents knew about condoms in wave one. Levels of knowledge increased slightly -- particularly among male respondents and female factory workers -- over the survey years. More than 90 percent of sex workers were able to recognize a condom in wave one, and this percentage increased slightly over the survey years, in some cases to 100 percent. Most FSWs also knew that the purpose of a condom was to avoid STDs, including HIV or pregnancy. FFWs displayed the least knowledge about the purpose of a condom. Fewer than half knew that condom use could prevent STDs, whereas more than 60 percent of MFWs, S/SLs, and TD/As knew this.

Knowledge related to STDs

All the data revealed that respondents' knowledge of STDs remained limited throughout the survey years. Respondents were able to name only the "popular" types of STD, such as syphilis, gonorrhea, and HIV/AIDS, with syphilis being the best known. This knowledge changed minimally over the survey years, with the percentage of those who could name HIV/AIDS as an STD increasing among male respondents in wave two but then falling again in wave three.

Behavioral Indicators

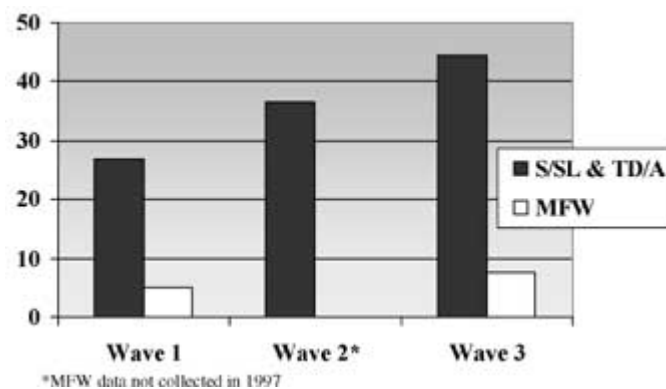
Analysis of trends in behavioral indicators measured through the BSS has helped to demonstrate that risk behaviors have been slow to change, despite targeted interventions.

Sexual behavior among non-FSW respondents

For the majority of respondents, first sexual intercourse -- both marital and premarital -- took place between 15 and 24 years of age. Many of the male students who reported having had sexual intercourse said their first experience with sexual intercourse took place before they were 15 years of age. In Jakarta, the proportion of S/SLs who reported having sex at a young age (15 to 19 years old) increased from wave one to wave three, while the percentage of TD/As reporting early sexual initiation decreased.

Approximately one out of four respondents, particularly S/SLs and TD/As in Jakarta and Surabaya, reported that an FSW was their first sexual partner. S/SLs and TD/As reported a much higher level of sexual contact with FSWs than other male groups. Figure 4 shows that the percentage of S/SLs and TD/As who reported having had sex with an FSW in the past year increased from wave one to wave three. A slight increase in commercial sex patronage also occurred among MFWs.

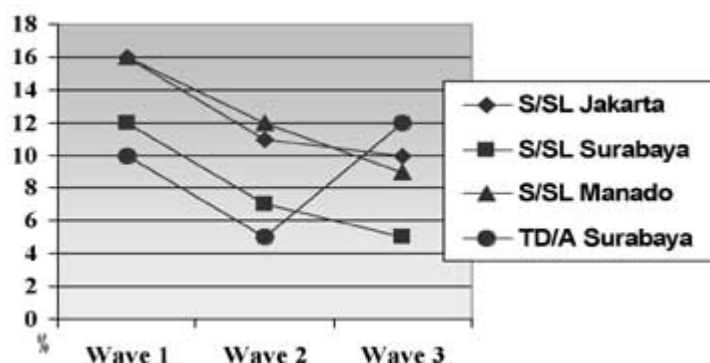
Figure 4. S/SLs, TD/As and MFWs reporting sexual intercourse with an FSW in the past year



Condom use among non-FSWs

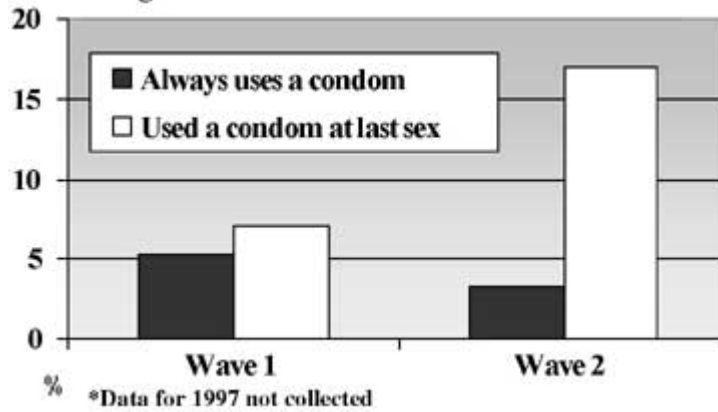
Condom use among both male and female respondents who reported having had sex remained low throughout all survey years. It ranged from 0 to 9.4 percent, except among male and female students in Surabaya, where use was reported to be 15.6 percent and 25 percent, respectively.

Figure 5. S/SLs and TD/As having used a condom with last commercial partner, in all study sites



Although the proportion of male respondents who reported having sex with FSWs was high, (between 50 and 70 percent in the study years in all sites), condom use with FSWs was low (5 to 15 percent). With the exception of TD/As in Surabaya, it decreased over the three waves.

Figure 6. MFW condom use with FSWs



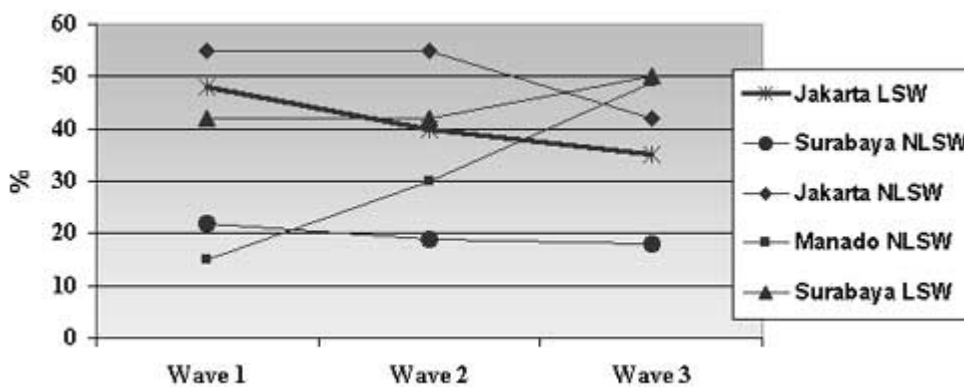
The percentage of MFWs who had used a condom in their last sex encounter with an FSW increased from seven percent in wave one to nearly 17 percent in wave three. However, the percentage of MFWs reporting consistent condom use with FSWs dropped slightly, from five percent in wave one to 3.3 percent in wave three.

Sexual behavior and condom use among FSWs

The mean reported age at first sexual contact among all the FSW respondents was about 17 years. As shown in Figure 7, in wave only about one-third (36.3 percent) of all FSWs surveyed reported using a condom in their last sexual engagement with a client, and this percentage remained nearly constant across the study waves.

Of the FSWs interviewed, about 40 percent stated that they had had a boyfriend (non-client) in the last six months. Of these, however, only 17 percent reported using a condom in their last sex with a boyfriend. This percentage did not change measurably over the survey years.

Figure 7. Percentage of FSWs using a condom at last commercial



sex

Summary of Findings

Analysis of trends across the three waves of data collection supports the following conclusions:

- High percentages of respondents in all subpopulations had heard of HIV/AIDS.

- Respondents in all study sites showed increased knowledge of appropriate ways to prevent HIV transmission between waves one and three.
- Knowledge of condoms increased for respondents during the survey years.
- Knowledge of STDs remained relatively low throughout the survey years.
- The percentage of male respondents (S/SLs and TD/As) who reported having sex with an FSW increased from wave one to wave three.
- Condom use with FSWs among male respondents (S/SLs and TD/As) decreased between wave one and wave three.
- FSW condom use with clients remained constant between wave one and wave three.

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 states. 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.

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- Baseline STD/HIV Risk Behavioral Surveillance Survey 1996: Results from the cities of North Jakarta, Surabaya, and Manado.
- STD/HIV Risk Behavioral Surveillance Surveys 1996, 1997, and 1998: Results from cities of Jakarta, Surabaya, and Manado.