What drives HIV in Asia?

A Summary of Trends in Sexual and Drug-Taking Behaviours

USAID
Family Health International
Impact Implementing AIDS Prevention and Care Project
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The data summarised in this document come from many different sources. Large numbers of people have been involved in every stage of these surveys, from building the political commitment to allowing the surveys to happen, to carrying out fieldwork, to analysing data and making it available for the information of partners in prevention and a wider public. National government bodies including Ministries of Health and AIDS Control Programmes in most participating countries have been critical to enabling these data to be collected. Some government bodies have been responsible for data collection, and some for financing others to undertake the data collection, sometimes through loans from international development banks. National institutions involved in building up behavioural and serological surveillance systems include the National AIDS/STD Programme and the International Centre for Diaorrheal Disease Research in Bangladesh; the National Centre for HIV/AIDS, Dermatology and STDs, the United Nations Children's Fund in Cambodia; the State AIDS Control Societies, Impact Assessment Project, the West Bengal Sexual Health Project, AIDS Prevention and Control Project and Voluntary Health Services in India; the Directorate for Communicable Disease Control and Environmental Health, the Centre for Health Research, University of Indonesia in Indonesia; the National Committee for the Control of AIDS Bureau, Office of the Population Technical Assistance Team and the Lao PDR HIV/AIDS Trust in Laos; New Era in Nepal and in Vietnam, the National AIDS Standing Bureau, with technical support from the National Institute for Hygiene and Epidemiology.

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Several international organisations have also contributed, particularly by providing technical assistance. Family Health International has been actively involved in every one of the surveys summarised in this report, while the United Nations Joint Programme on HIV/AIDS, the World Health Organisation and the University of California Los Angeles have also been involved.

Finally, greatest thanks go to the men and women who gave their time to answer behavioural surveillance field workers' questions about their sex lives and drug taking habits. It is hoped that by sharing the information they entrusted to us as widely as possible, the HIV prevention community can improve the reach, quality and effectiveness of prevention and care efforts to help them and their colleagues to face safer futures.

This Summary report was prepared by Elizabeth Pisani and Boonyaruk Winitthama

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Executive summary

Throughout the 1980s and 1990s, the spread of HIV in Asia was relatively slow, compared with other regions such as Africa and the Caribbean. However several countries have witnessed rapid increases in infection rates in the last few years. There is much debate about the future of the epidemic in this region, which is home to more than half of the world's people.

Current trends in the sexual and drug-taking behaviours that spread HIV can help predict future trends in HIV infection. A few Asian nations have been collecting systematic information on trends in HIV-related behaviours for several years, and several more have started recently. Indeed behavioural trend data collected through Behavioural Surveillance Surveys (or BSS) are increasingly being integrated into core HIV surveillance activities in the region. They act as an early warning of potential risk for HIV, can help explain trends in HIV prevalence in sub-populations at high risk of infection, and reflect the success of HIV prevention programmes over time.

BSS generally focuses on measuring behaviours among groups at especially high risk for HIV. In the Asian context that includes men who buy sex and the women who sell it, men who have sex with other men, and, increasingly, injecting drug users. Almost all countries in this report have measured risk behaviour in commercial sex, and a growing number are also including drug injectors and men who have sex with men in their behavioural surveillance systems. In addition, some countries occasionally monitor sexual behaviour among groups thought to be at low risk for HIV, such as students or factory workers.

This document gathers together the results of BSS collected by a number of countries and states with technical assistance from Family Health International. The findings are extremely diverse, and hard to compress into a few paragraphs. In several countries and states in Asia, condom use in commercial sex has risen sharply over time. Over seven out of 10 encounters between sex workers and clients are protected by condoms in some countries. However this success is by no means universal. In a number of countries where almost all sex workers and clients know that condoms protect them against HIV, consistent condom use in paid sex still lags well below 10 percent.

One of the most interesting findings of recent BSS work is that risk populations tend to overlap quite a bit. In other words a substantial proportion of sex workers inject drugs, while many male drug injectors regularly buy sex. Many men who have sex with other men also have sex with women, and this is true of male sex workers as well as of their clients. Clients of female sex workers may have numerous partners ranging from the sex workers to girlfriends, and a majority in several sites report also being married. Condom use with each of these partner types varies, and the potential for HIV to spread from high into lower risk populations can be clearly seen. On the other hand, the few BSS rounds that look at general populations tend to confirm that risky behaviour in the general population is not very widespread.

When data from BSS and data from biological surveillance systems are combined, they strongly suggest that HIV prevention programmes in some parts of Asia – notably Thailand and Cambodia – are succeeding. In other countries, the failure of BSS to register any significant change in risky behaviour means much remains to be done.

Table of key indicators

Table 1 : Key indicators from the most recent round of behavioural surveillance, various countries and states

(Note that time reference periods and population groups are not always directly comparable between countries.)
For more detailed informations, see Appendix 1.

	Bangladesh	Cambodia	India Maharashtra	India Andhra Pradesh	India Gujarat	India Kerela	India Orissa	India Tamil Nadu	India West Bengal	Indonesia	Laos	Nepal	Vietnam
% direct sex workers using condom with last client	21	N/A	77.4	79.8	93	89	71	N/A	92.1	41.3	91.4	67	94.7
% direct sex workers using condom with all recent clients	0.5	78.1	73.9	62.2	73	52	51	N/A	75.9	12.1	72.7	40.3	64.8
% clients using condom at last commercial sex	22.2	N/A	91.9	62.2	75	91	50	76.9	51.2	22.9	86	81	85
% clients using condom in all recent commercial sex	3.9	69.7	72.2	28*	56*	41*	40.5*	N/A	43.8	11.9	74.2	51	72.9
% men using condoms in last anal sex with a man, commercial	41.6	N/A	58.4	N/A	N/A	N/A	N/A	N/A	79.1	59.9	N/A	N/A	N/A
% men using condoms in last anal sex with a man, non-commercial	3.5	N/A	61.6	N/A	N/A	N/A	N/A	N/A	59.8	24.2	N/A	N/A	N/A
% drug users recently sharing injecting equipment	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	81.3	N/A	N/A	35.8

**In this study, clients of sex workers were also sampled directly as a group, however to be comparative with other studies, this indicator has been measured among those men from occupational groups who visited the sex workers in the last 12 months*

Introduction

HIV is a complex epidemic, spreading at different speeds through different populations. Africa is worst affected to date, but the epidemic is progressing rapidly in other parts of the world, too. This raises several questions. Is it just a matter of time before other parts of the world catch up, or do patterns of behaviour in other parts of the world lead inevitably to different levels of epidemic? Can we rest assured that countries where HIV prevalence is low today will still have low prevalence next year or a decade from now? Are existing prevention programmes succeeding in promoting safe behaviours? What more must prevention programmes do to ensure that HIV prevalence is contained at current levels and that new infections are avoided?

In trying to answer these questions, many countries have been engaged in an effort to improve surveillance of the HIV virus and the behaviours that spread it. For all the complexity of the epidemic, HIV is, after all, spread only by a limited set of behaviours: unprotected sex and the use of unsterile needles or contaminated blood products. If we can measure levels and trends in these risk behaviours, we can have a better understanding of the possibilities for the spread of HIV in different areas.

The measurement of risky sexual and drug-taking behaviours has become an important part of efforts to track the HIV epidemic. This is especially true in areas – including much of Asia — where the virus itself is not yet well-established in the general population. In these situations, efforts to measure risky behaviour should concentrate on quantifying levels of risk in sub-populations with high risk behaviour, on identifying links to other populations and on tracking trends over time. These activities can help to plan appropriate prevention programmes and indicate how well they are working, long before the epidemic gets out of hand.

Asia has been the pioneer for measurement of HIV-related risk. It was in this region that methods for reliably measuring trends in risk behaviour over time were first developed. These methods, now known as behavioural surveillance surveys — BSS for short — are based on the principles of disease surveillance. They aim to measure sexual and drug-taking behaviour in sub-populations most likely to be exposed to HIV, recording levels of risky behaviour and, more importantly, changes over time.

Many countries in Asia are now using BSS as a routine part of their HIV surveillance systems. Family Health International, a non-profit organisation dedicated to improving sexual health in developing countries, has helped governments and other partners to establish these systems in several countries. This document brings together some of the key results of BSS in those countries over the past decade or so. It gives an overall picture of risk behaviour in several Asian countries, and discusses what these data mean for the future of the epidemic.

How does BSS contribute to comprehensive HIV surveillance systems?

The many uses of BSS

Over the past few years, it has become clear that the HIV surveillance systems developed in the 1980s are no longer adequate to explain trends in an increasingly complex epidemic. There has therefore been a global effort to develop what are known as "Second Generation Surveillance Systems". These systems go beyond the simple testing of blood samples from pregnant women and STI patients, concentrating HIV surveillance in the groups most relevant to a local epidemic. These systems use behavioural surveillance to help identify which groups are most at risk, and to help explain trends observed in serological surveillance. Analysed together, behavioural and serological surveillance can build up a picture of the national epidemic and the national response.

The most important function of behavioural surveillance is to track trends in HIV-related behaviours over time. But the information collected through BSS can also contribute to HIV prevention and care efforts in other ways. These data can help:

- Quantify the level of risk behaviour in sub-populations vulnerable to HIV infection
- Identify links between populations with high risk behaviour and other groups who may not consider themselves to be at risk for HIV
- Contribute to projections about the future of the HIV epidemic
- Guide national programmes in deciding where to focus prevention efforts and funds
- Give a broad idea of potential gaps in prevention efforts so that programmes can be improved
- Evaluate national efforts at HIV prevention
- Help explain trends in HIV prevalence

The following sections of this report will use data gathered through BSS in seven countries in Asia over the last six years to illustrate these various uses.

How does BSS work?

BSS methodology in a nutshell

HIV spreads most rapidly in populations that have a high turnover of sexual partners, or where the same needle is shared between a large number of people. Other factors are also known to increase risk: anal sex is riskier than vaginal sex, for example, while HIV spreads more rapidly when other sexually transmitted infections or STIs are present. Two decades in to the global HIV pandemic, it is clear that the sub-populations initially most vulnerable to infection are sex workers and the men who buy their services, men who have anal sex with other men, and men and women who inject drugs.

Since these behaviours may be relatively rare in the general population, BSS seeks to generate the maximum amount of useful information by sampling groups known to engage in risk behaviours. Different countries have different approaches, but in most, brothel-based sex workers are included in the groups chosen for surveillance. Sex workers who work on the street and those who work "indirectly" out of karaoke bars, nightclubs and massage parlours may also be included. In addition, groups of men in occupations that keep them away from home and provide ready cash are often included, in the belief that these men are more likely to buy sex than other groups. Transport workers, deep-sea fishermen, and the police or military are commonly included as male groups. Some countries have also included injecting drug users and groups of men who have sex with men in their BSS. Occasionally, BSS has been conducted to quantify risk among groups drawn from households or general population groups such as young people or students.Table 2 summarises where different countries have chosen to focus their BSS activities.

In general, sample frames of sites where risk populations can be found are constructed - for example all brothels in a city are listed and mapped — and then a random sample of sites are selected, and respondents are again drawn at random from those sites. In this way, samples are broadly representative of those included in the sample frame. When the same sampling approach is used at each BSS round, results can reliably be compared across time.[1]

Once selected, respondents are asked a series of questions about their sexual and drug-taking behaviour, from a structured questionnaire. While questionnaires vary across population groups and are often adapted for local circumstances, the same questionnaire should be used year after year in the same population group, so that no bias is introduced into the measurement of trends because of changing questions. Most questionnaires allow for the construction of internationally standardised measures of risk behaviour.

[1].Occasionally it is so hard to access a representative sample of a sub-population that other less representative sampling methods such as snowball sampling must be used. This is particularly the case with injecting drug users. Again, as long as the methods used are carefully recorded and repeated over time, they can be used to give an idea of changes in behaviour over time. However when non-representative sampling methods are used, meaningful statistical tests can not be performed.

Table 2 : BSS populations in various countries, with dates and survey populations*

Country	Direct Female Sex Worker	Other Female Sex Worker	High Risk Men	General Population	IDU	MSM
Bangladesh 1998-1999, 2000	Brothel based sex worker Street based sex workers		Truck drivers 1998-1999 Rickshaw pullers 2000		IDU	Male sex workers Hijra sex workers
Cambodia 1997-2000	Sex workers 1997-1999	Beer Promoters 1997-1999	Police 1997-1999 Military 1997-1999 Moto drivers 1997-1999	Working Men 1997-1998 Working Women 1997-1998 Male vocational students 1997-1998 Household male 2000		
India Tamil Nadu 1996-2000	Sex workers		Truck drivers and assistants Patients attending STD clinic	Male students 1996-1997, 2000 Female students 1996-1997, 2000 Male youth in slums 2000 Male factory workers Female factory workers		
India Andhra Pradesh, Gujarat, Kerala, Orissa 1999	Sex workers		Clients of sex workers Plantation workers Auto rickshaw drivers Diamond workers Industry workers Fishing industry workers Migrant workers Miners	Male university students Working female slum dwellers Male slum dwellers Female vendors/labourers Female tobacco industry workers Females in fishing industry		
India Healthy Highways Project 1999	Sex workers		Truck drivers and assistants Male stationary workers			

* *These surveys are those undertaken with technical assistance from Family Health International. Other BSS in different groups or years may have been carried out by other partners.*

BSS methodology in a nutshell

Country	Direct Female Sex Worker	Other Female Sex Worker	High Risk Men	General Population	IDU	MSM
India West Bengal 1998-1999	Brothel or fixed location sex workers Freelance sex workers		Clients of sex workers Male labourers	Female labourers/vendors		MSM
India Maharashtra 2000	Brothel based female sex workers Non-Brothel based female sex workers		Local transport workers	Single male slum youth 15-19 yrs. Single male slum youth 20-24 yrs.		MSM
Indochina Border area 1999	Cambodian commercial sex workers		Thai truck drivers Thai military Cambodian military Cambodian migrant workers Cambodian transportation workers	Cambodian fishery crews Thai Youth Cambodian youth migrant workers		
Indonesia 1996-2000	Sex workers brothel complexes Sex workers, other locations		Sailors and seaport workers /laborers Truckers and assistants Factory workers 1996 and 1998	Female factory workers 1996 and 1998 Male senior high school students 1996-1999 Female senior high school students 1996-1999	IDU 2000	Transves-tites 2000
Laos 2000		Service Women	Military Police Truck drivers	Female factory workers Male seasonal migrant workers Female seasonal migrant workers		
Nepal 1999-2000	Sex workers		Transport workers Laborers (Industrial workers, police and rickshawalas)			
Thailand 1993-1996	Brothel-based sex workers	Indirect sex workers	Clients of STD clinics 1993-1996	Male factory workers Female factory workers Male vocational students Female vocational students Female antenatal clinic attenders 1993-1996		
Vietnam 2000	Street based sex workers	Karaoke based sex workers	Long distance truck drivers Migrant construction workers/porters/seafarers		IDUs	

How much risky behaviour? Quantifying known risk behaviours

Ultimately, the real purpose of BSS, as with any surveillance system, is to measure trends over time. However it obviously takes a few years to establish trend data, so the first visible task accomplished by BSS is simply to quantify levels of risk behaviour in different populations.

It is important to note that because definitions of risk groups and criteria for inclusion in BSS vary from country to country, indicators are unlikely to be exactly comparable across countries. In addition, combining information from several respondent groups (such as different occupational groups selected to represent “high risk” men) or from several sites in the same state or country may obscure important differences. Extreme caution is therefore necessary when comparing data across countries.

This section of the report highlights one or two interesting points recorded while quantifying risk behaviour in each of the BSS population groups. For a comprehensive list of key indicators in each risk group, please refer to the tables in Appendix 1. More detailed information for each country can be found in the full country reports, listed in the bibliography. Many of these reports are available through the FHI website at www.fhi.org.

Sex workers and their clients

The most common risk behaviour for HIV across the Asian continent is the trading of sex for money. Substantial proportions of men in many countries regularly buy sex, and hundreds of thousands of women across the region make a living by supplying the demand.

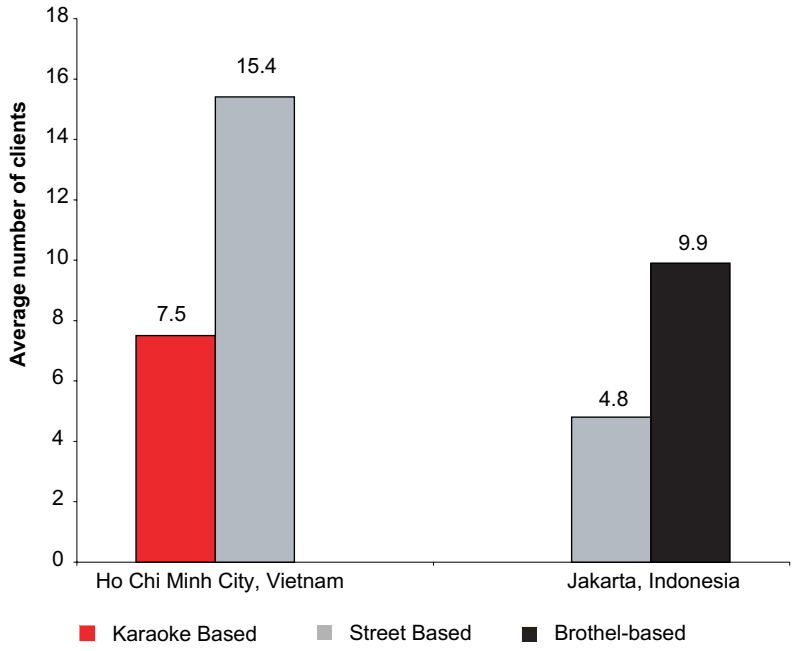
To understand how behavioural data is collected from sex workers and their clients, as well as to understand what it means, it is important to know something about the complexities of the Asian sex industry. In most countries in Asia, many women operate out of brothel houses or even large brothel complexes. This trade is controlled to an extent by brothel-owners, pimps and madams, and most clients negotiate with one of these people before having sex with one of the women in the establishment. Most countries also have a thriving freelance sex trade, where women based on the street in certain areas of town sell sex either through a pimp or directly to a client. Both brothel and street-based sex workers are often referred to as “direct sex workers”.

However there are many other sub-populations within the sex industry. Other entertainment venues such as night clubs, karaoke bars and massage parlours can provide a place for clients to meet women from whom they can buy sex. Some specific groups, such as women promoting brands of

beer or working at drinks stalls, also sell sex on the side. Not all women who work in these locations sell sex; most are paid a salary for their work as salesgirls and only a proportion supplement their income through the sale of sex. Those that do are generally known as "indirect sex workers". The risk behaviour of all these groups differs, even within the same city. As Figure 1 illustrates, brothel-based sex workers tend to have a higher turnover of clients than street-based sex workers within a given country, and they in turn have more clients than women working out of karaoke bars or restaurants in that country.

parlours. However, direct sex workers were, at the start of this period, 50 percent more likely to use condoms than indirect sex workers. This means that overall, despite far higher client turnover, a brothel-based sex worker was only slightly more likely to be having unprotected sex with a client as a sex worker based in a bar. This fact, revealed by Thailand's BSS – one of the first such systems in the world — had clear implications for HIV prevention programmes. Condom promotion campaigns could not afford to concentrate only on condom use in brothels. A push to increase condom use with indirect

Figure 1: Average number of clients per week among female sex workers, by location of sex work, 2000



However this does not mean that brothel-based sex workers always have higher overall levels of risk, because condom use among these women is usually higher than in any other group. In Thailand, for example, sex workers in brothels averaged around 35 clients a week throughout the early 1990s, compared with around seven per week for girls working out of bars and massage

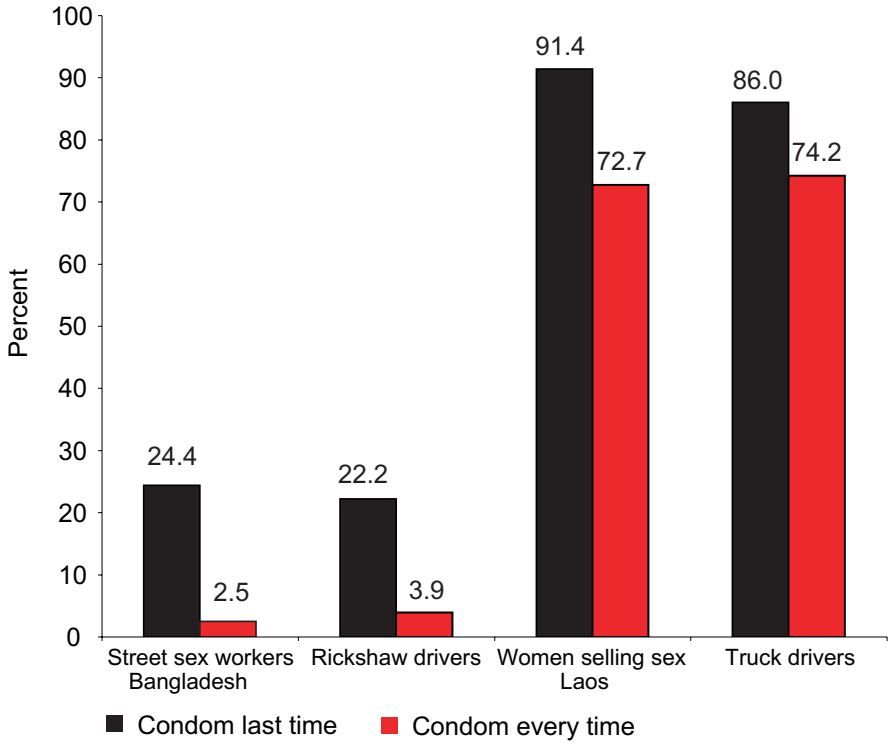
sex workers began, and by 1996 nine out of 10 indirect sex workers reported consistently using condoms with their clients – a rate nearly as high as that reported by brothel-based sex workers.

These rates of condom use in commercial sex seem very high, yet they are matched by data from many Asian countries, as the tables

in Appendix 1 show. In 11 out of 15 countries or Indian states whose recent BSS results are summarised in this report, over two thirds of sex workers report using a condom with their last client. In a third of locations, an astonishingly high nine out of 10 women report using condoms with their last client. Consistent use is also reported to be high in many states and countries. Over half of sex workers say they have used condoms with every recent client in every state or country except Indonesia, Bangladesh and Nepal. These data suggest that high levels of condom use can be achieved in commercial sex: indeed, condom use with sex workers appears to be something of a norm in Asia.

All this information is reported by women themselves: maybe they are over-reporting condom use because they know from HIV prevention campaigns that they "ought to" be using condoms? While that is possible, data from male groups show a good fit between what sex workers say and what their clients say. The numbers never match exactly, partly because the men interviewed may be having sex with women working in different locations not included in the sex worker sample, and partly because of the differences in partner numbers between sex workers and their

Figure 2: Percentage of sex workers and clients who used a condom last time they bought or sold sex, and percentage who used one with every recent commercial partner, 2000



clients. Overall, however, as Figure 2 illustrates, the places where women report high levels of condom use are also the places where male groups report high levels of condom use, while the places where little condom use is reported among women are also those where little is reported among men.

Overall BSS has recorded very high levels of occasional condom use, and surprisingly high levels of consistent use have been achieved in many countries and states in Asia: a significant achievement for public health initiatives and a continuing challenge for those places which are mired in low levels of safe behaviour.

Injecting drug users

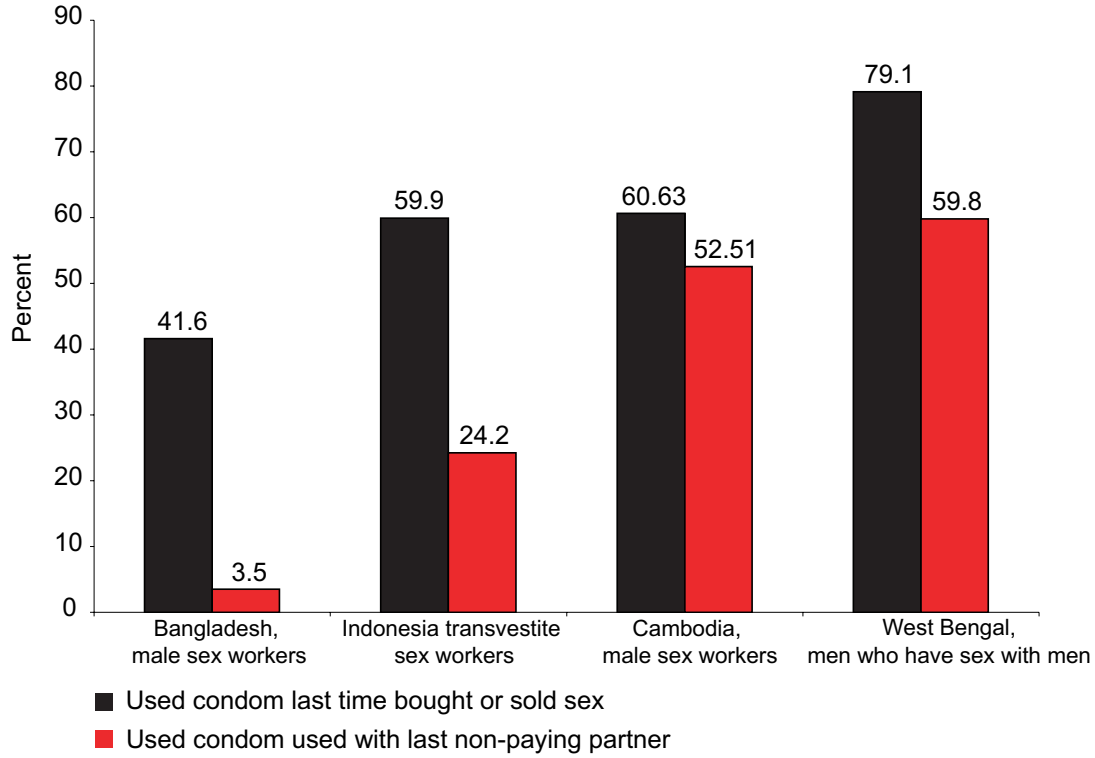
In many countries in Asia, injecting drug use is only now emerging as a vector for the spread of HIV. Relatively few countries have conducted behavioural surveillance among drug users – only three with support from FHI in Asia — and none has good information in trends over time in this group. Because of the emerging importance of injecting drug use as a means of spreading HIV in some Asian countries, efforts to improve both serological and behavioural surveillance among drug users are badly needed. Sharing injecting equipment with other drug users is a very efficient way of spreading blood-borne diseases, including HIV. Indeed HIV prevalence can rise from virtually nothing to levels of between 20 and 50 percent in a matter of months in this group. Prevention programmes in this group seek to reduce the proportion of users sharing needles, syringes and other equipment. They have apparently got a long way to go. A third of injectors in Vietnam said they recently shared needles with other users, while 55 percent of male drug injectors in northern Bangladesh and fully 75 percent in the central region reported sharing injecting equipment at least once in the last week. In Jakarta, over half of injectors reported ever having shared needles or syringes.

Men who have sex with men

Men who have sex with men are an exceptionally hard group to define in the Asian context. However in several countries there is an active industry of men - sometimes transvestites - selling sex to other men. BSS has only recently begun in these populations. It is revealing a complex web of relationships — some commercial, some casual and some permanent - a web that includes wives and girlfriends as well as male clients and male partners.

Anal sex carries a particularly high risk of micro-lesions and tissue trauma, which in turn greatly facilitates HIV transmission. Reaching high levels of condom use in sex between men is therefore important, regardless of partner type. In general, men who sell sex to other men report quite high levels of condom use in anal sex in several countries. This is even true in some countries, such as Indonesia, where overall levels of condom use are low. And yet BSS results among men who have sex with men reveal that condom use differs greatly according to how men classify their partners, as Figure 3 shows. Men who buy or sell anal sex with other men are more likely to use a condom with paying partners than they are with casual partners or others who don't pay.

Figure 3: Percent of men using condoms at last anal sex with another man, by partner type, various countries, 2000



** In West Bengal, the figure for non-paying partners refers to long-term or steady partners*

Young people and the general population

Most countries in Asia have focused their behavioural surveillance resources on the groups with highest likelihood of exposure to HIV infection such as those discussed above. A few countries have included youth groups because young people's sexual activity is thought to represent the "future" of the HIV epidemic. In fact youth groups selected either in an academic setting or in geographical locations have reported very low levels of risk. In a first round of BSS in Maharashtra, for example, a survey among 20-24 year old men in the slums found that only a third had ever had sex, and that fewer than five per-cent had had sex with more than one partner in the previous year. Close to nine in 10 of the small proportion that reported commercial sex said they had used a condom last time.

Similarly low rates of sexual activity were recorded among students in Indonesia, Cambodia and Tamil Nadu state in India. In all these sites, reported sexual activity in these groups was so limited that young people were dropped from BSS after one or two rounds. Monitoring behaviour in populations with very low levels of risk is an expensive business because huge samples are needed reliably to track changes in risk behaviour over time.

Unexpected risks

Clearly, respondents to structured questionnaires will only talk about the behaviours about which they are asked. This creates something of a tension. Since BSS is a routine surveillance tool, questionnaires need to be kept as short and to the point as possible. This means eliminating questions which give data that it would be "nice to know" but which may not be directly related to HIV risk, or which may yield information that is difficult to interpret.[2]

One way to resolve this tension is to conduct thorough formative research before BSS begins, and to include in the questionnaire the behaviours which are most locally relevant. Countries which went through this process have collected information on behaviours that are not generally considered "mainstream" but that may contribute significantly to the epidemic. Several examples come from Bangladesh. As many as 22 percent of street-based sex workers in one central city reported selling blood for cash, for example, with obviously worrying implications for the safety of the blood supply. Another surprising finding in Bangladesh were the very high levels of anal sex reported by female sex workers. Some 38.5 percent of street-based sex workers reported having anal sex with a client in the last week, and the overwhelming majority of them - some 95 percent - said that at least some of it was unprotected. Since anal sex carries a higher risk of abrasion and therefore of HIV transmission than vaginal sex, these findings reflect a clear need for more focus on condom use in anal sex between men and women in Bangladesh.

[2]. Questionnaires cannot be made too short, however. It is necessary to have a minimum of "neutral" social and demographic questions to help establish rapport before beginning on more sensitive questions about sexual behaviour or drug taking.

Who's next? Identifying links between different sub-populations

What determines whether or not an HIV epidemic spreads outside the groups of people with highest risk behaviour? Principally, the sexual links between the populations with highest risk behaviour and any population that has a generally lower level of risk. Behavioural surveillance can help to identify these sexual networks. This information can in turn be used in models to help estimate the future shape of the HIV epidemic in a country, and to gauge the potential effectiveness of different prevention approaches.

The interface between sex and drugs

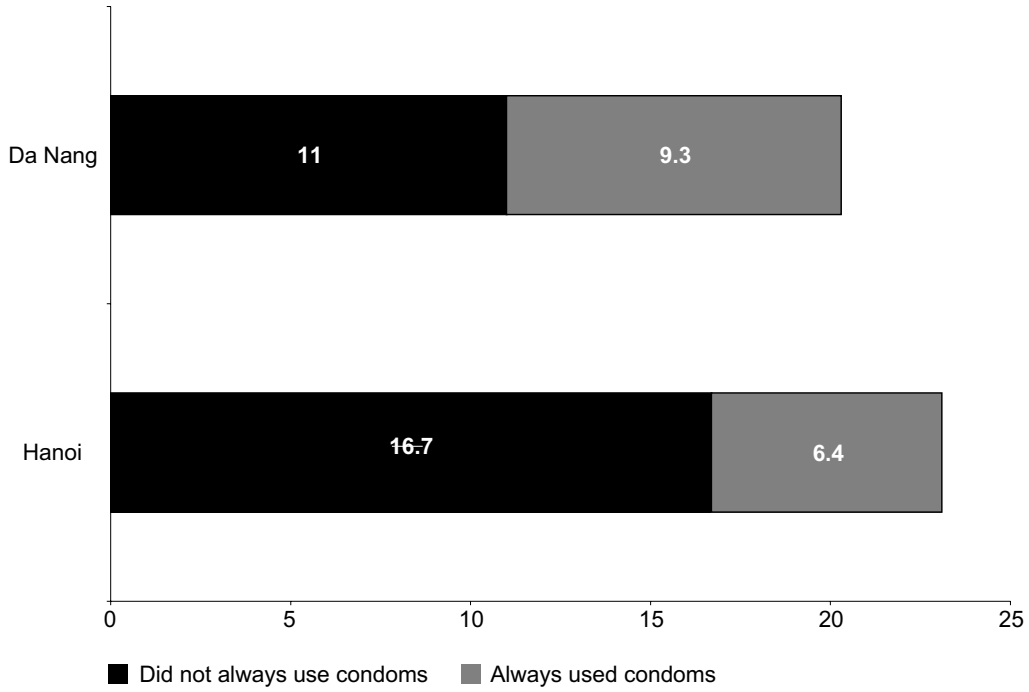
As has been mentioned, sharing injecting equipment is one of the most effective ways of spreading an HIV epidemic. There is no shortage of risky behaviour among drug injectors in the few countries in Asia where this has been measured. We know effective interventions are possible in this group, yet drug injectors are frequently neglected in prevention programmes. There is a widespread perception that HIV epidemics among drug users are "self-contained", and since many also believe there are no votes to be gained in helping drug addicts, there is little political will to promote HIV prevention for drug using communities.

In countries with long-established epidemics of injecting drug use, where most addicts have been using for many years and where many are in their 30s or above, sexual activity among injecting drug users may be relatively limited. This is certainly does not appear to be the case in many Asian epidemics. Indeed, BSS data record substantial sexual links between drug users and other communities. In the first place, male and female drug injectors sometimes sell sex, and some male drug injectors are regular clients of sex workers. If these individuals are infected with HIV while sharing needles with other drug injectors, there is every chance that they will go on to infect sex workers and clients who have nothing to do with the world of injectors.

In Vietnam's two largest cities, Hanoi and Ho Chi Minh City, for example, a significant minority of street-based sex workers said they had taken drugs. In Hanoi, one sex worker in five reported recent drug injection, while in Ho Chi Minh City, 16 percent reported injecting. Over a third of street-based sex workers did not consistently use condoms in both cities, and rates of condom use with regular clients and non-paying partners were predictably much lower.

Drug users buy sex as well as sell it. Figure 4 shows the proportion of drug injectors who had sex with a sex worker in the last year. Nearly a quarter of IDUs in Hanoi and over a fifth in Da Nang said they had bought sex in the past year. And as the dark part of the bar shows, most did not use condoms. In other words, a total of 17 percent of male drug injectors in some Vietnamese cities have had recent unprotected sex with a sex worker. Since HIV prevalence in this group has

Figure 4: Percentage of drug injectors who bought sex in the last year, by consistency of condom use, Vietnam, 2000



recently been recorded at above 60 percent in some cities in Vietnam, this clearly represents worrying potential for the wider spread of the virus.

The situation was not dissimilar in Bangladesh. Some 14 percent of female sex workers based on the streets of one southern city said they had injected drugs, and in brothels, six percent said they were injectors. Compared with Vietnam, far higher proportions of injectors in Bangladesh were consumers of sex: between half and three quarters of male drug injectors in different cities had bought sex from women in the past year, and close to one in 10 also bought sex from men or transvestites. Less than a quarter of these injectors reported using a condom the last time they paid for sex.

Drug injectors also have non-commercial sex partners. In the Indonesian capital Jakarta, over a third of sexually active respondents said they had paid for sex in the last year, but fully 59 percent said they had casual sex with multiple non-commercial partners in that time. Condom use in all of these relationships is limited. Only half of the drug injectors buying or selling sex used a condom with their most recent commercial partner in 2000, and less than a quarter used one in their most recent casual encounter. Predictably, consistent condom use was even lower. A very low proportion of the male injectors in the Indonesian BSS reported that either their regular or their non-regular sex partners were also drug injectors. It is therefore likely that those women and their infants are at risk for HIV principally because of the injecting behaviour of their male partners.

These behavioural data suggest that the theory of a “self-contained epidemic” among drug injectors does not hold true for Asia.

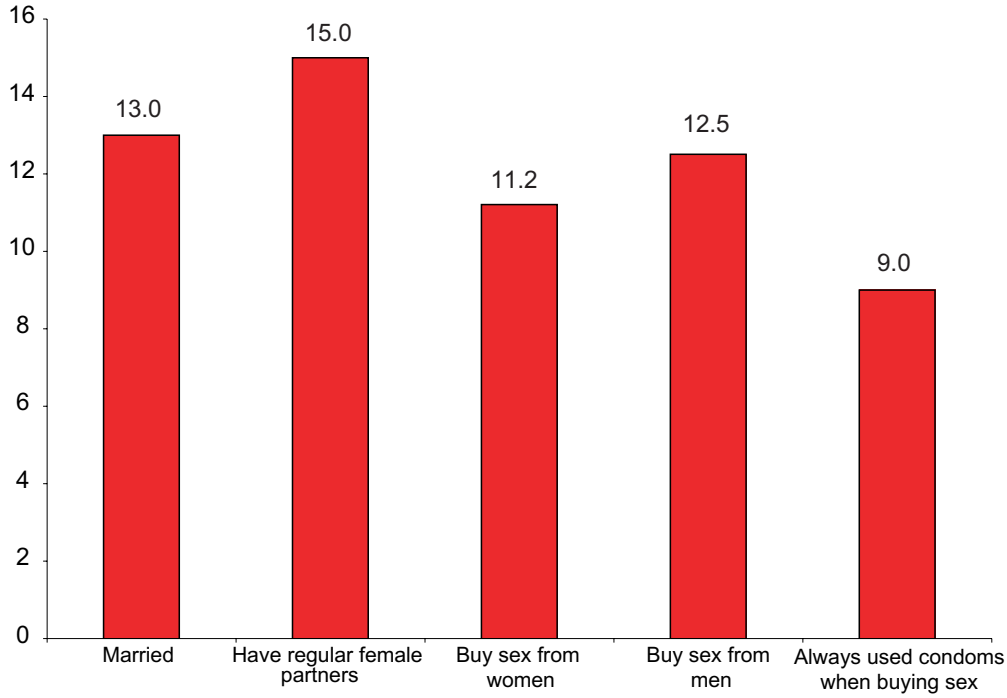
Men who have sex with men and women

The idea that epidemics can be self-contained within risk groups is sometimes extended also to HIV epidemics among men who have sex with men. Again, it does not seem to be supported by the data.

While communities self-identified as "gay" are found throughout Asia, they co-exist with a more extensive practice of sex between men who interact with many different types of partners, as was discussed on page 16. In some countries, transvestites and transsexuals sell anal sex to men who identify themselves as heterosexual. These transvestites are often culturally well defined (for example waria in Indonesia, eunuchs or hijra in Bangladesh and India, katoey in Thailand), and high proportions are active in commercial sex. But by no means all male sex workers are transvestites. Sex workers who identify clearly as men sell sex to men and to women, and many also have sex with people of both sexes who are not their clients.

Figure 5 illustrates some of the complexities of these relationships among male sex workers in Bangladesh. These men are not transvestites, and all of them sell sex to male clients in addition to having other, non-professional relationships.

Figure 5: Sexual relations with men and women who are not their clients, among men who sell sex to men, Bangladesh 2000



In Indonesia, transvestites were not asked specifically about sex with women. But over half of them reported a regular non-commercial partnership with another man, and 15 percent of these partners were married.

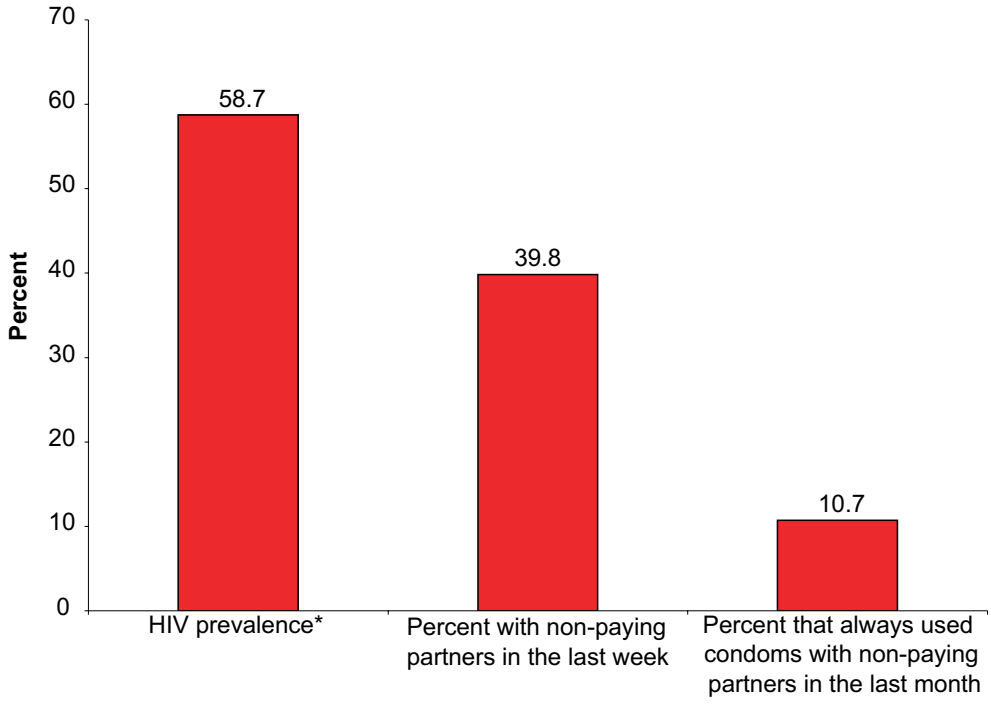
In Cambodia, the potential for men who have high risk sex with men to act as "bridges" through which HIV infection can pass to a wider population is even more evident. Fully 40 percent of men interviewed because they have sex with other men said they had had penetrative sex with both men and women in the last month. A high proportion of these men regularly sold sex to other men, putting them — and through them their female partners — at especially high risk of exposure to HIV.

Sex workers in their non-professional lives

Sex work as a profession does not preclude other, non-professional partnerships. Many female sex workers have husbands or other live-in partners, and many have boyfriends with whom they have emotional relationships, distinct from regular clients.

Nearly two thirds of female street-based sex workers in the Indian state of Maharashtra were married or living with a partner, for example. Some 30 percent of women working in brothels were also married, a proportion similar to that recorded in Nepal.

Figure 6: **Sex and condom use with non-paying partners among street-based sex workers in Mumbai and Thane, and HIV prevalence in Mumbai sex workers, 2000**



** HIV prevalence from sentinel surveillance: brothel-based sex workers*

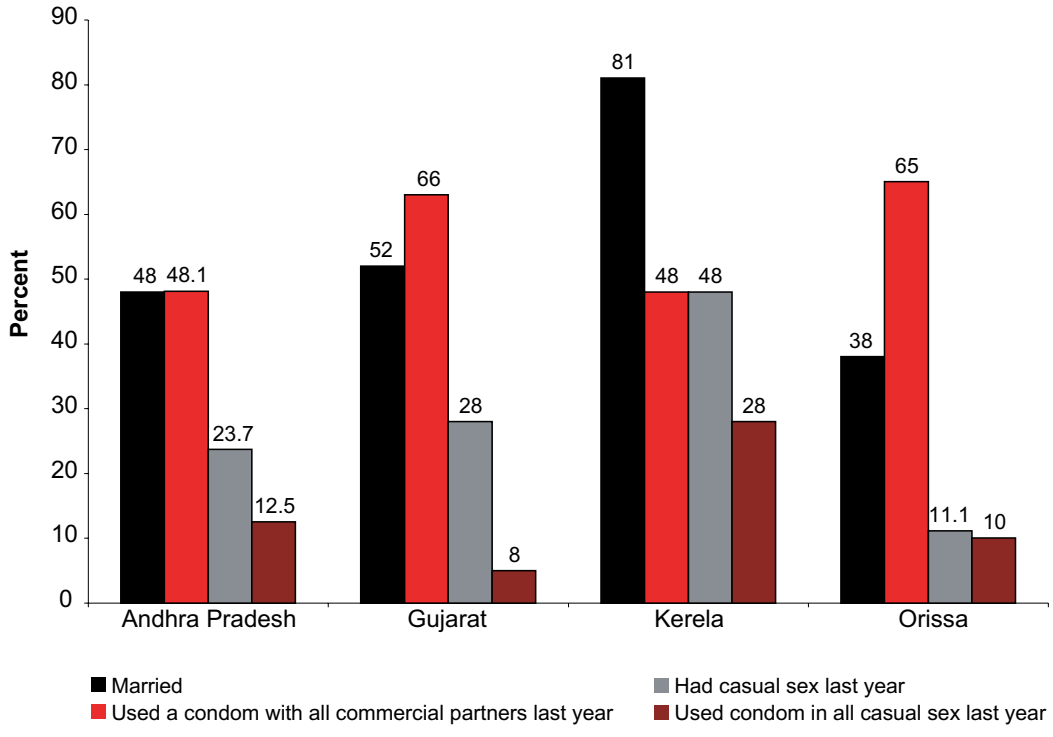
Sex workers rarely use condoms with husbands or boyfriends, perhaps in part to distinguish these personal partnerships from their professional relations. Among street-based sex workers in Maharashtra, only one woman in five reported always using a condom with her non-paying partners in the last month: less than a third of the proportion who reported using condoms with all their paying clients. In Nepal, just seven percent of sex workers reported always using condoms with their husbands.

Figure 6 compares the behavioural data for street-based sex workers in the Maharashtra cities of Mumbai and Thane in 2000 with the results of HIV sentinel surveillance among sex workers in the city of Mumbai the same year. It is clear that substantial numbers of men are likely to be exposed to HIV infection because of their regular partners' professional activities.

One man, many partner types

In Asian epidemics, the group that most commonly carries HIV between populations with high risk behaviour and those with no particularly risky behaviours is the men who buy sex from sex workers. Many of these men have wives and regular girlfriends, and some also have casual partners whom they do not pay for sex. Men discriminate between these different partner types when they decide whether or not to use condoms. Figure 7, for example, shows condom use with different partner types in various states in India. All of these men were clients of sex workers, and high proportions were also married. Information on condom use with wives (or regular non-commercial partners) is not available, but it is almost certainly lower than condom use with casual partners. The

Figure 7: Marital status of clients of sex workers and condom use with different partner types, four Indian states, 1999



net result is that men who are exposing themselves to HIV by buying sex may also be exposing their wives and casual partners to the virus.

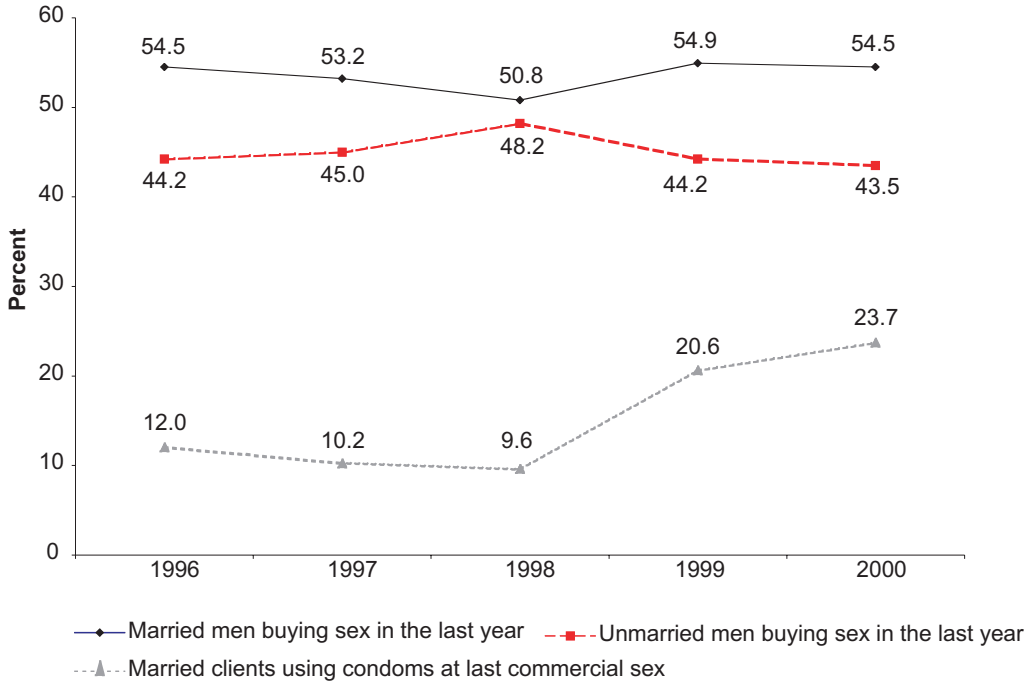
These data from India are by no means unusual. In Bangladesh, where rickshaw drivers were asked about their consumption of commercial sex, it was found that married men were almost as likely to visit sex workers as single men. Indeed two thirds of all married rickshaw pullers said they has sex with their wives and with a sex workers in the last week, and fewer than a quarter said they had used a condom the last time they had sex with a sex worker.

Two thirds of the men in mobile male groups (truckers and seafarers) included in BSS Indonesia were married, and married men were consistently more likely to report buying sex in the last year than unmarried men, as Figure 8 shows. The low levels of condom use in commercial sex also shown in the figure once again suggest that men are exposing both themselves and their wives to the risk of sexually transmitted infections, including HIV.

It should be noted that these groups are included in BSS precisely because they are thought to be likely to have risk behaviour. But high levels of risk in these selected groups does not automatically translate into high levels of risk in the population as a whole, since it is possible that only a small proportion of the population belong to these or similar groups. In these situations the only way to ascertain levels of risk in the population as a whole is to ask a sample of men in the general population about their risk behaviour.

Population-based surveillance is a significant undertaking, and it is unlikely that it can be carried out as regularly as surveillance

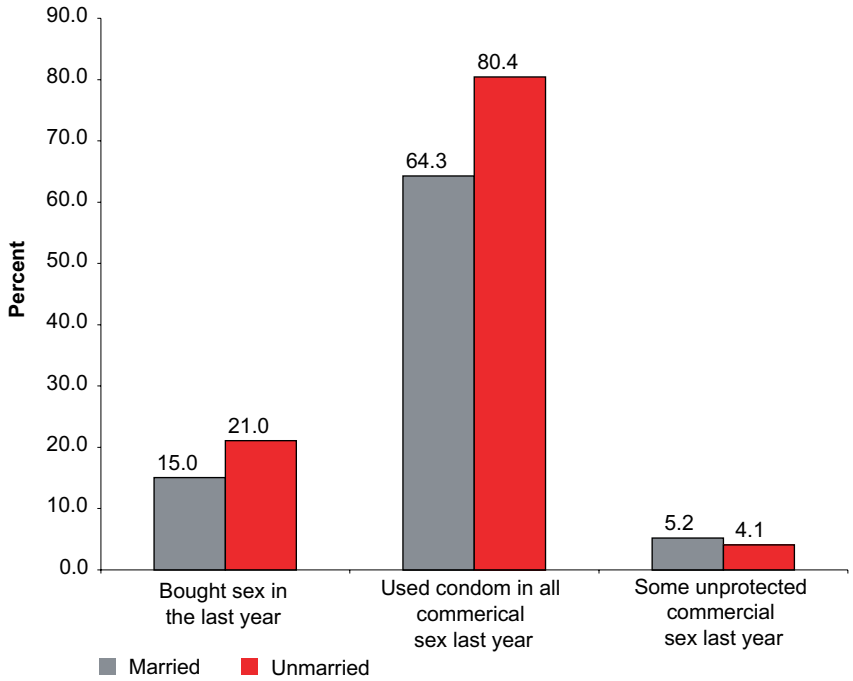
Figure 8: Percentage of transport and port workers buying sex by marital status, three Indonesian cities, 1996-2000



focused on particular sub-populations. Household based surveys of risk behaviour have, however, recently been undertaken in at least two countries in the Asian region, the Philippines and Cambodia. These countries are at different ends of the spectrum as far as HIV prevalence is concerned: one Cambodian adult in 35 was estimated to be infected with HIV in 2000, compared with fewer than one in 1,000 in the Philippines. In BSS, deep sea fishermen in the Philippines reported higher levels of risk than military or transport workers in Cambodia.[3] And yet the general population surveys of risk behaviour showed that overall, men in Cambodia were far more likely to visit sex workers than men in the Philippines. Over a quarter of single men and nearly a fifth of married men in Cambodia reported buying sex in the last year: times as many as in the Philippines. Condom use with sex workers in Cambodia is relatively high, but as Figure 9 shows, a minimum of five percent of males in the general population have had at least some unprotected commercial sex with a sex worker in the last year.

Unfortunately, the Philippines survey did not report standard indicators of condom use by partner type, but in the BSS data, 36 percent of men reported using a condom with their last non-regular partner.[4] If we look at data from risk group surveys and population-based surveys together, the risk profile suggested by risk group surveys alone changes. In the Philippines, "high risk" men reported more commercial sex and less condom use than in Cambodia. But from general population data

Figure 9: Commercial sex and condom use among married and unmarried men in the general population, Cambodia, 2000



[3]. The Philippines BSS data is drawn from a summary published by the World Health Organisation. It is not clear whether this BSS uses the same methodology as the other behavioural surveillance surveys reported in this document.

[4]. This appears to include casual partnerships that are not commercial, so probably understates the extent of condom use with sex workers.

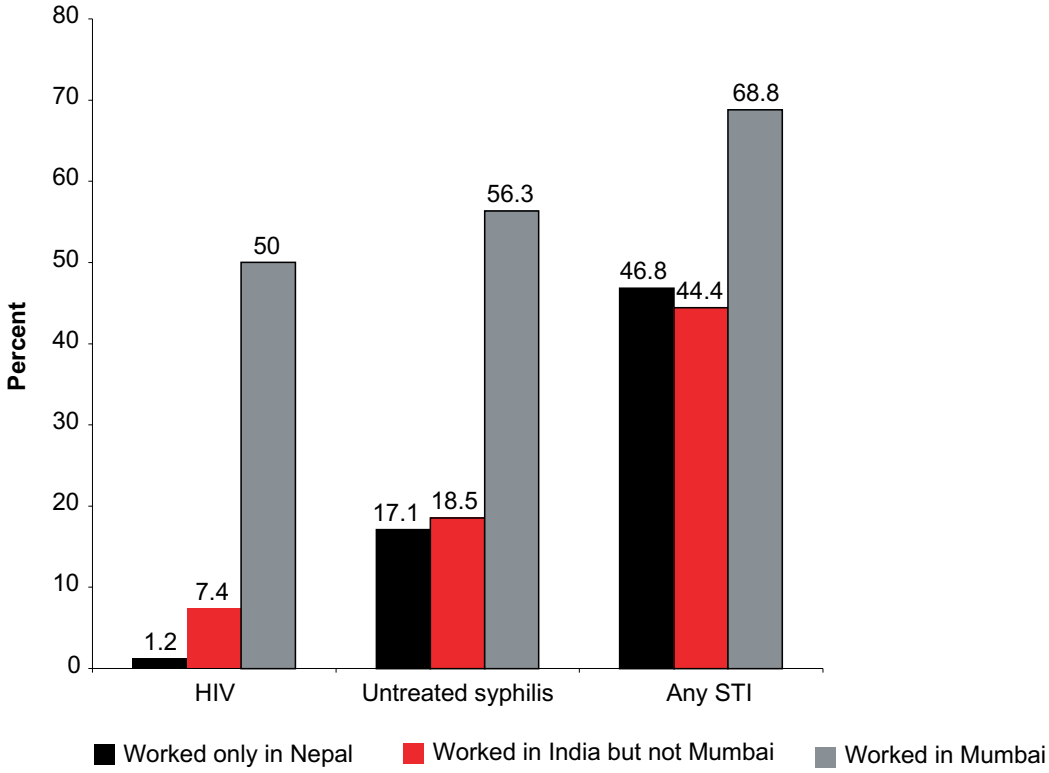
it is clear that a smaller proportion of men in the Philippines fall into the “high risk” category than in Cambodia. Taken together, the data suggest that actual levels of risk in the overall population are at least as high in Cambodia as in the Philippines.

Transporting the virus: Populations on the move

Mixing between population groups with different levels of risk behaviour is the most important determinant of the spread of HIV in Asian countries. However, physical movement can also be a contributing factor. If people have unprotected sex or share needles in areas where HIV prevalence is high, and then repeat that risky behaviour in areas where prevalence is still low, they can help drive the epidemic from one region to another.

Many of the populations included in BSS in Asia report being highly mobile. Data from three cities in Indonesia, for example, show that 44 percent of clients of sex workers have paid for sex in two or more cities in the last 12 months, while sex workers themselves only work in one place for around a year before moving on to another location. The same is true in other countries. Of over 1,000 brothel-based sex workers interviewed in Maharashtra state in India, just 13 percent came from the state itself, and a fifth had worked as sex workers elsewhere before arriving at their present city of work. Street-based sex workers were far more likely to be local, but even then fully 55 percent came from outside the state.

Figure 10: Prevalence of HIV and other STIs among sex workers in Nepal, by history of sex work in India



Perhaps the most striking illustration of the possible consequences of mobility come from Nepal, where behavioural data combined with HIV and STI data clearly show how the virus uses human carriers to insinuate itself from one population into another. Overall levels of STIs were high among sex workers in Nepal, and overall HIV prevalence was 3.9 percent. However as Figure 10 shows, the prevalence of both was far higher among women who had worked in India and — most particularly — in the high-prevalence city of Mumbai.

These striking data raise an important question: what can be done to reduce the risk of HIV infection in Nepali women working in India, and to prevent them introducing the virus into the relatively low-prevalence environment of sex-work in Nepal once they return?

This brings us to the subject of the next section of this document, the use of BSS data in planning interventions and in deciding whether interventions are on the right track.

How can we improve the response?
Planning interventions that meet current needs

As we have seen, BSS can give an indication of overall levels of risk behaviours, and their distribution in different populations. This can help to identify programme priorities by answering questions such as the following: which population groups most need access to information and services to enable them to reduce their exposure to HIV? Which behaviours contribute most to the risk of a wider HIV epidemic? In which geographic areas is risk behaviour currently concentrated?

BSS can help to identify gaps in prevention programmes. By tracking changes in behaviour over time, BSS can help to indicate which aspects of prevention efforts are making a difference, and which are having little apparent effect. While BSS is not designed to attribute specific changes in behaviour to specific prevention programmes, it can help also to give general measures of programme coverage, indicating the areas where larger-scale efforts are needed.

These different aspects of planning, evaluation and programme improvement are discussed in this section.

Identifying programme needs

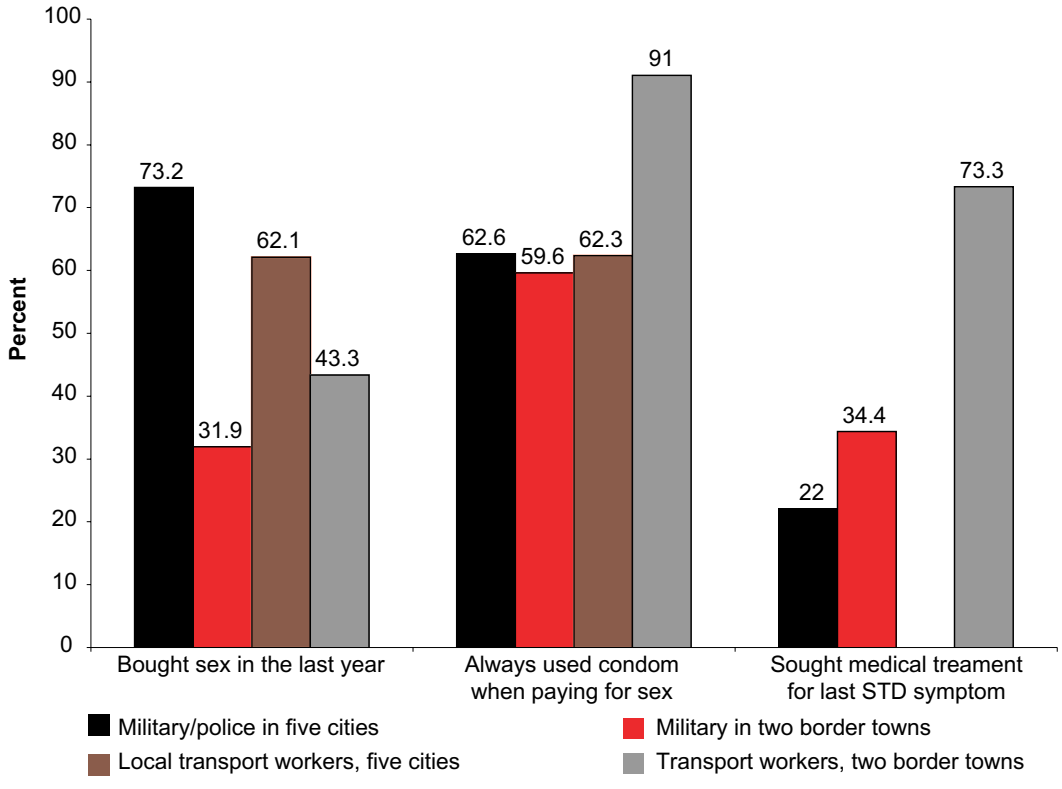
By quantifying different risk behaviours and mapping their distribution, BSS data can help to determine which particular behaviours are putting people at risk in different populations or in different locations. In Andhra Pradesh state in India, for example, BSS recorded wide differences in HIV-related knowledge. Only 19 percent of fishermen knew that condoms could prevent AIDS, but knowledge among factory workers was three times as high. While knowledge is by no means sufficient to ensure safe behaviour (see below), it is a precursor to reducing risk for HIV. These data suggest that the basic work of information and education has yet to be done among fishermen in this part of India.

Even among the same sub-population, there can be wide regional differences. In one southern city of Bangladesh, a third of women reported never using a condom at all in the last week: a rate ten times higher than in a central city in the same country. These differences were reflected in condoms on hand: a quarter of sex workers could show their condoms to interviewers in the central city, while in the southern city only 15 percent could do so. While more needs to be done to allow more women and their clients to use condoms throughout the nation, extra efforts may be needed to reduce barriers to use in the southern region.

BSS responses can help to identify appropriate populations for expanded interventions. In Laos, long-distance truck drivers were chosen as a "high risk" population for behavioural surveillance. But when women who sold sex were asked what their clients did for a living, businessmen and government employees were the most commonly-named professions. This information pointed to populations which were not originally thought of as "high risk" but which should be relatively easy to reach with prevention programmes.

BSS data may also be used to challenge assumptions about vulnerability made before data were available. As was discussed earlier, population mobility can be an important factor in carrying HIV between high and low risk areas. It might be assumed that mobile populations gathered in border areas have higher risk behaviour than general populations in other parts of the country, in part because people are away from home and family, in an unfamiliar environment, may not speak the local language etc. They may therefore be more likely to buy sex, and may find it harder to buy condoms or negotiate their use. They may also find it harder to access adequate care for STIs. In part in order to quantify these risks, a first round of BSS was conducted in towns along the Thai-Cambodian border. The BSS focused on mobile populations including transport workers and the military from both countries, together with Cambodian migrant workers and fishery workers. Figure 11 compares the data collected among military/police and transport workers in this study with data from military/police and transport workers gathered using the same methodology in regular national BSS elsewhere in Cambodia in the

Figure 11: HIV risk behaviour and STI treatment seeking in border and non-border groups, Cambodia, 1999



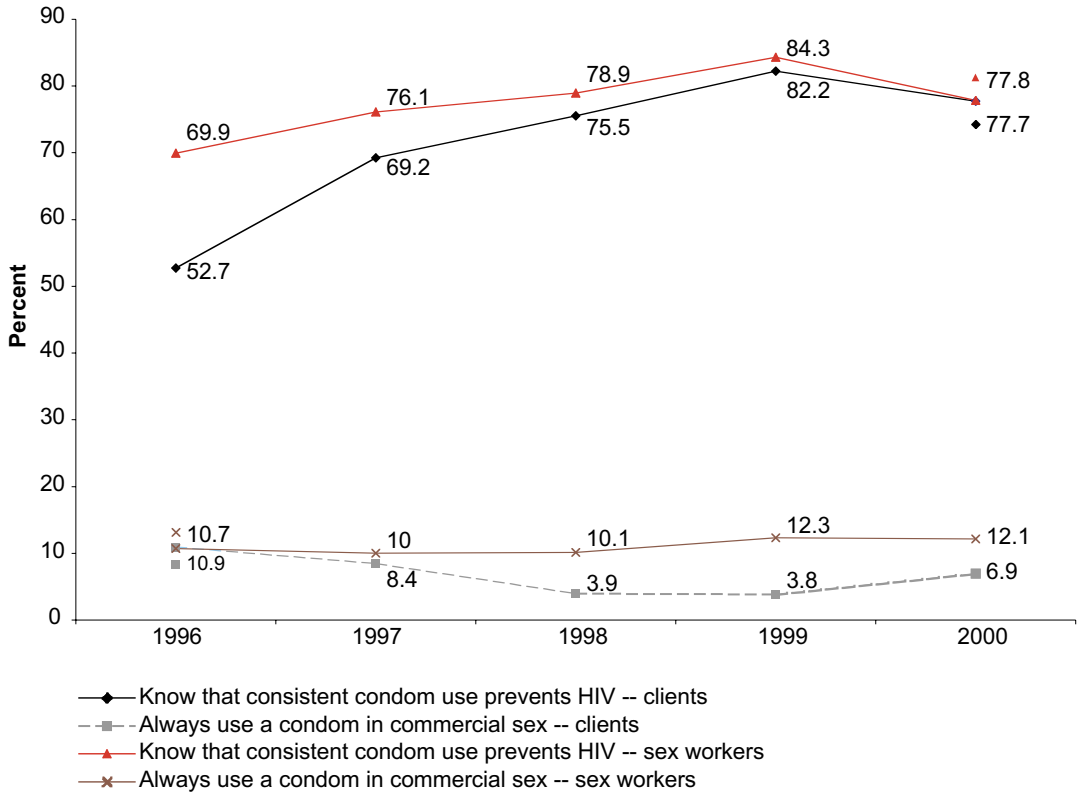
same year, 1999. Surprisingly, risk behaviour was no higher in migrant populations in border areas than in similar groups elsewhere, nor did access to services appear to be lower. Some of this may be the result of the success of HIV prevention programmes for mobile populations in these areas. But in any case, it is apparent that by the end of the 1990s, risk behaviour in this region was not linked with border locations per se. This finding raises the need for a better understanding of the dynamics of mobility: are people at risk because they are away from home, or are they actually less likely to engage in risky behaviour in unfamiliar surroundings? Should prevention programmes target locations through which many migrants pass, or should they rather try to concentrate scarce resources on reaching groups of potential migrants before they leave home, or actual migrants once they arrive at their "destination"?

These questions, raised by BSS results which challenge popular assumptions about the straightforward links between mobility and risky behaviour, must be answered by research methods other than BSS, so that programmes can be redesigned to meet changing needs.

Tracking changes in behaviour over time to identifying what is working and what is not

BSS can also help identify what is working and what is not in prevention programming. Many HIV prevention programmes concentrate much of their early resources on "IEC", AIDS industry jargon for informing people about the risks of HIV and the best ways to avoid it. This is in part because IEC is the least controversial aspect of HIV prevention, and in part because without information about the virus and how to avoid it, people cannot chose deliberately to adopt behaviours that will protect them from infection.

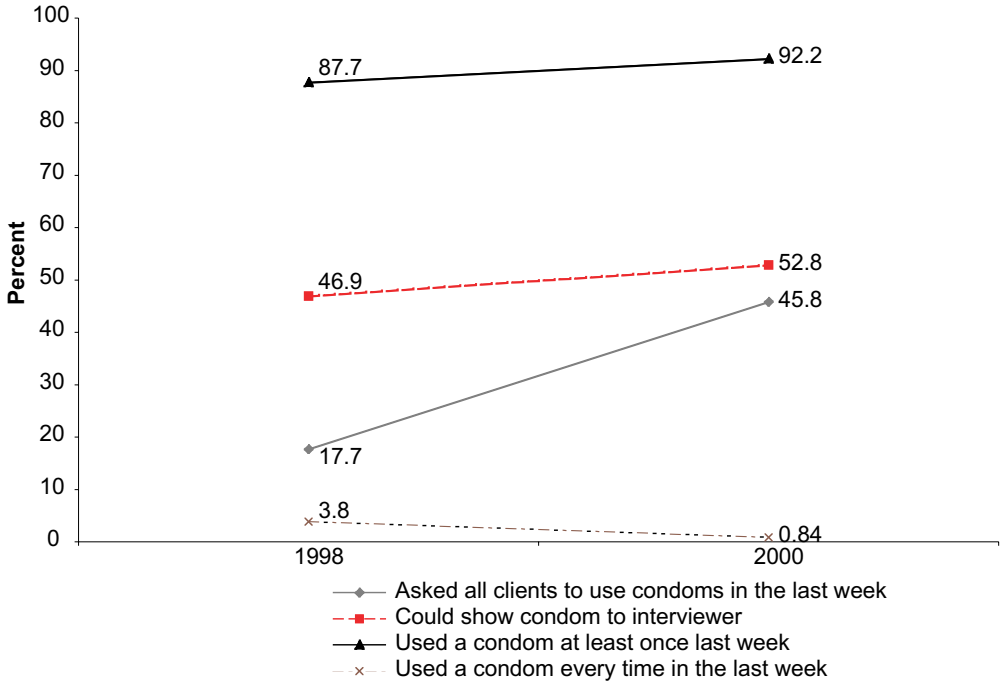
Figure 12: Knowledge about the protective effects of condoms and consistent condom use in commercial sex, sex workers and clients in three Indonesian cities, 1996-2000



Countries with information over many years such as Indonesia have registered a marked rise in HIV-associated knowledge. But as Figure 12 shows, this does not seem to be reflected in a reduction of risk behaviour based on that knowledge. Among sex workers this is often excused by the fact that sex workers are not in control of the decision of whether or not to use a condom. But the same excuse can certainly not be made for their clients, a group that recorded an even greater gap between knowledge and behaviour.

These data make it very clear that Indonesia's HIV prevention programmes in high risk groups need to go beyond messages that promote knowledge about the virus and how to prevent it, and focus on services that will both persuade people to act on their knowledge and make it easier for them to do so. Indeed these data provide another good example of how BSS has been used to improve programming. Prevention programmes existed in the three Indonesian cities included in the BSS. Without these data, it is likely that the programmes would have continued in their existing form indefinitely. But when it became clear that existing prevention efforts (which focused largely on passing out information about AIDS) were having no impact on behaviour, Indonesia's HIV prevention community went

Figure 13: Percent of brothel-based sex workers in Bangladesh who asked all clients to use condoms, had condoms on hand, and used condoms in the last week, 1998-2000

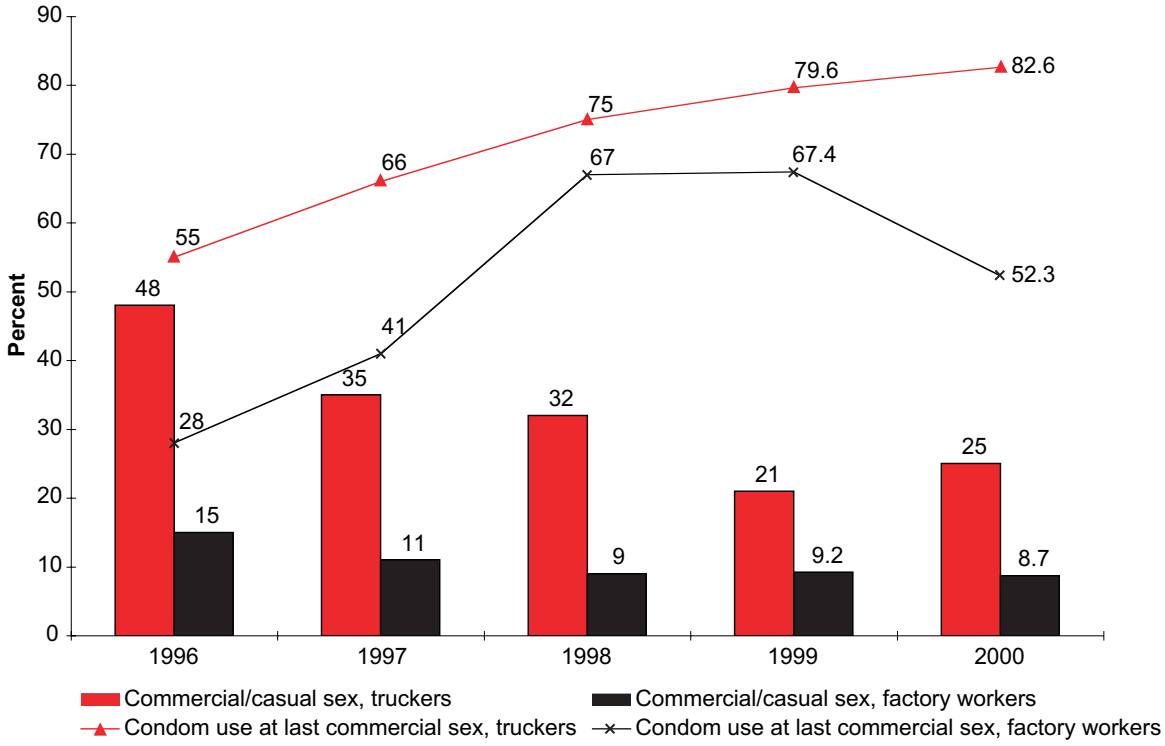


through a major rethink. New prevention efforts now focus on providing services and a supportive environment that will help individuals to act on their knowledge.

HIV prevention programmes in Bangladesh have gone beyond just changing knowledge, but survey results suggest they have not yet gone far enough. Prevention programmes focusing on helping sex workers to organise and increase their negotiating skills, together with active condom distribution programmes, appear to have encouraged sex workers to request their clients to use condoms. In just two years, the proportion of brothel-based sex workers reporting that they asked all of their clients to use condoms shot from 18 to 46 percent. This eagerness to use condoms was supported by condom availability: over half of all respondents had condoms on hand and could show them to the interviewer. There was a small rise in the proportion of women who used a condom at least once in the last week between the two surveys. However as Figure 13 shows, this increase had no effect on the proportion who actually used condoms all the time. In fact this figure fell to under one percent from close to four percent two years earlier. This reinforces the idea that ultimately the clients are in control of decisions about condom use in commercial sex, and suggests that in the Bangladesh situation, distributing condoms and leaving it up to sex workers to initiate use is insufficient to increase consistent use. Other aspects, such as condom promotion among clients and a supporting structure from pimps and brothel owners may be needed.

By tracking trends over time, routine surveillance systems such as BSS can identify plateaus or reversals in programme success. Tamil Nadu state in India has for several years operated a consistent, high quality behavioural surveillance system. And for several years, this system recorded reductions in risk behaviour which reflected the success of the state's comprehensive HIV prevention programme. By measuring the success, BSS systems provided ammunition to local policy-makers who wanted to sustain and expand HIV prevention efforts. As Figure 14 shows, however, there are worrying signs in the last two survey rounds that initial gains in condom use among factory workers have not been sustained. Condom use appears to have plateaued at around two thirds of paid encounters in this group, and may be on the wane. This may suggest "message fatigue", and argues for the need for fresh prevention efforts using a variety of approaches.

Figure 14: Percent of truckers and factory workers buying sex in the last year and using condoms at last commercial sex, Tamil Nadu, 1996-2000



Information about programme reach

The knowledge and risk behaviours measured by BSS are affected by many different factors, including national and local HIV prevention efforts. BSS itself is not able to attribute specific changes to specific programme or project efforts. Having said that, the system can be used to give some idea of the success of specific programme elements. And a few questions may be added to regular BSS questionnaires to assess exposure to particular interventions. In Nepal, for example, sex workers were asked if they knew of Dhaaley Dai, a cartoon condom character who fights with AIDS and is a highly visible part of the country's condom promotion efforts. The percentage recognising the character rose significantly, from 41 to 65 percent between survey rounds one and two.

Similarly, respondents in Laos who had ever used condoms were asked about the brands they used. Very high proportions reported using Number 1 condoms, a high quality brand which is promoted through a huge marketing campaign and which is sold at subsidised prices. Sales figures for Number 1 corroborate the BSS reports that the brand has achieved extensive recognition and reach. Between April 1999 and January 2001 over 3.6 million Number 1 branded condoms were sold in the pharmacies, beer shops and guesthouses of Laos, a nation of just five million people.

BSS among drug injectors in Bangladesh raised interesting questions about programme coverage. In the northern region of Bangladesh, 72 percent of male drug injectors reported never sharing needles in locations where needle exchange programmes existed, compared with just eight percent where there was no needle exchange. However such a difference was not seen in the central region, suggesting that the quality and structure of the programme as well as its simple existence make a difference to usage rates. BSS cannot by itself determine why the northern programme apparently had a greater impact. For that, other methods are needed.

In fact, while BSS alone can provide a great deal of useful information, it is designed to be used as part of an integrated surveillance system that includes a number of different data types and sources. These integrated systems are discussed further in the next section of the document.

Other tools in the surveillance tool box

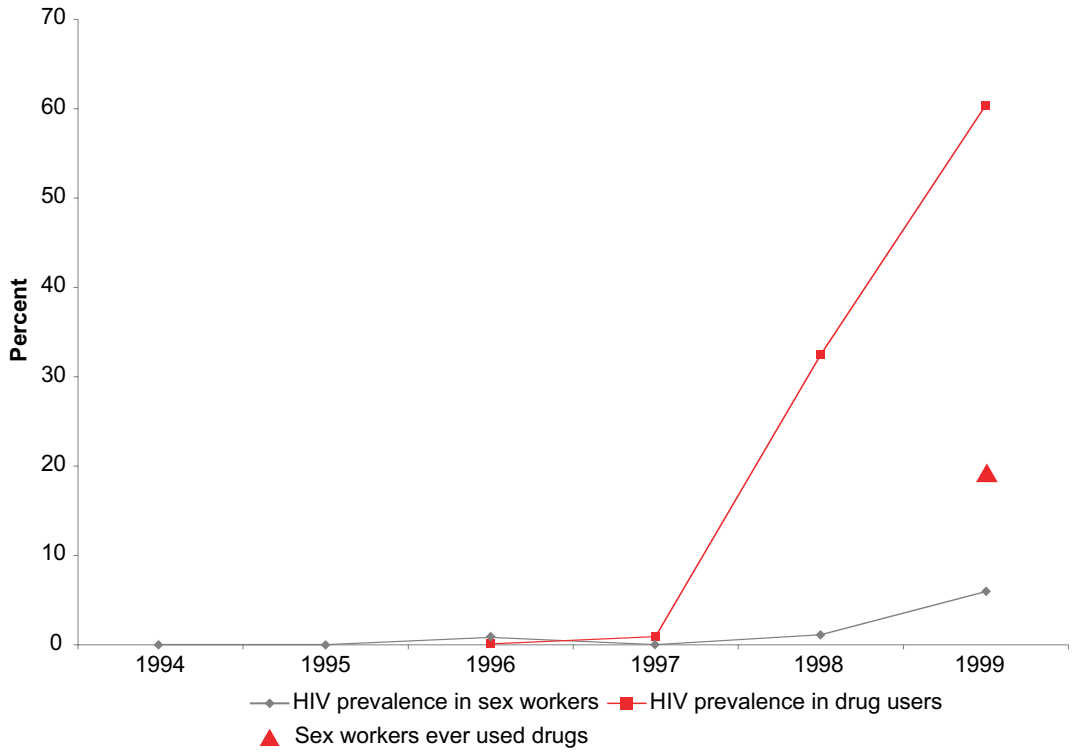
Using integrated data systems to identify emerging risks

Figure 10 on page 22, showing HIV prevalence in Nepali sex workers who have worked in India, demonstrated how powerful HIV and behavioural data can be when used in conjunction to identify major prevention needs.

Another example, which demonstrates the ability of integrated surveillance to act as an early warning system, comes from Vietnam. Vietnam has for some years maintained an HIV surveillance system. In 2000, the country conducted its first round of behavioural surveillance. In the BSS, sex workers were asked whether they injected drugs (see page 15).

Figure 15 shows trends in HIV prevalence among sex workers and drug users in the port city of Haiphong. While there has been a sharp rise in both populations in recent years, prevalence among sex workers remains a relatively modest six percent. However it is unlikely that this situation will remain the case

Figure 15: HIV prevalence among drug injectors and sex workers, Haiphong 1994-1999, and percent of sex workers using drugs, 1999



for long. The red triangle shows the proportion of sex workers in Haiphong who have taken drugs. Not all of these women are injectors, but data from other Vietnamese cities suggest that between half and three quarters of sex workers who have ever taken drugs are current injectors. It does not take much to see the possibilities for a continuing rapid rise of HIV prevalence among sex workers in this city.

Data such as these provide valuable inputs for new epidemic projection models being developed for the types of epidemics commonly found in Asia. By providing accurate information about the links between populations with different levels of risk behaviour and infection, integrated data systems increase the possibility of developing reliable estimates of future trends in infection.

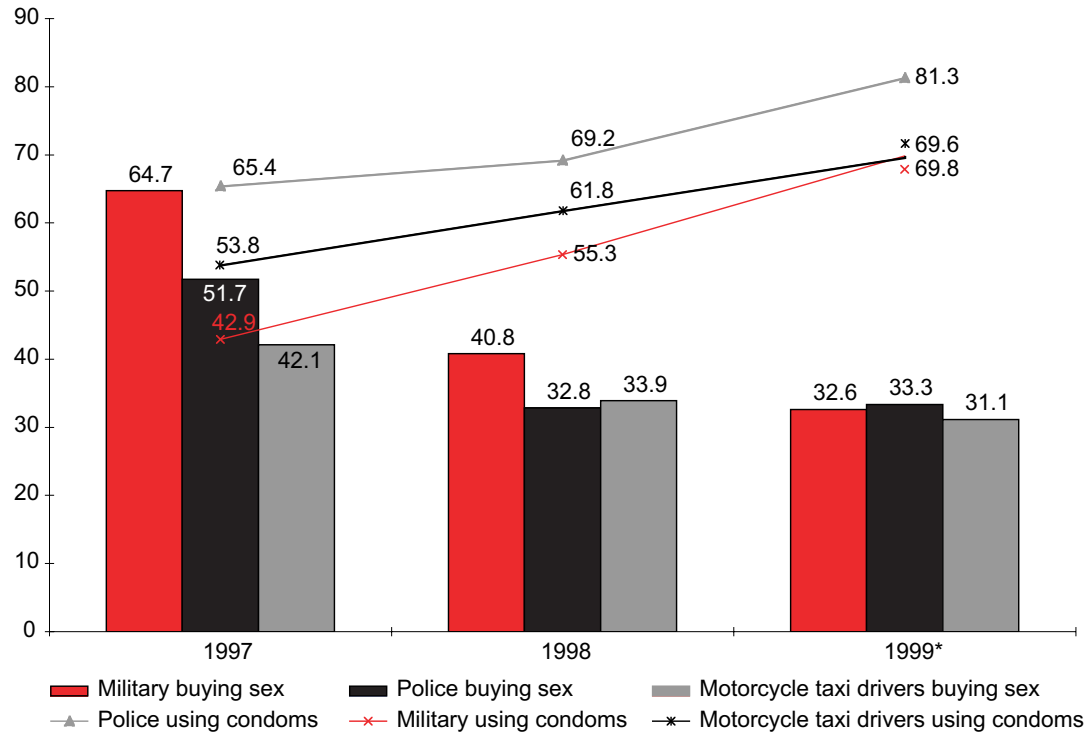
Using BSS data to help explain trends in HIV

One of the difficulties with HIV surveillance data is that it becomes increasingly hard to interpret as the epidemic progresses. Because of the long lag time between HIV infection and death, it is hard to know exactly what changes in prevalence figures mean. For example, a drop in HIV prevalence may simply mean that the epidemic has reached a point where deaths are outnumbering new infections. Rising deaths can actually conceal rising new infections, so it is not possible to conclude that falling prevalence is in any way a “victory” for prevention programmes.

Adding behavioural data to HIV surveillance makes it far easier to interpret. If HIV prevalence is falling but levels of risk behaviour remain very high, it is likely that death or biases in sampling account for the observed fall in the proportion of the population infected. But if risk behaviours for HIV are shown to be falling, and if this fall follows active HIV prevention initiatives, then it is likely that at least some of the reduction in the epidemic can be attributed to the success of the national prevention effort.

**In 1999, consistent condom use refers to last three months*

Figure 16: Percent of men buying sex in the last month, and percent consistently using condoms with sex workers, Cambodia 1997-1999



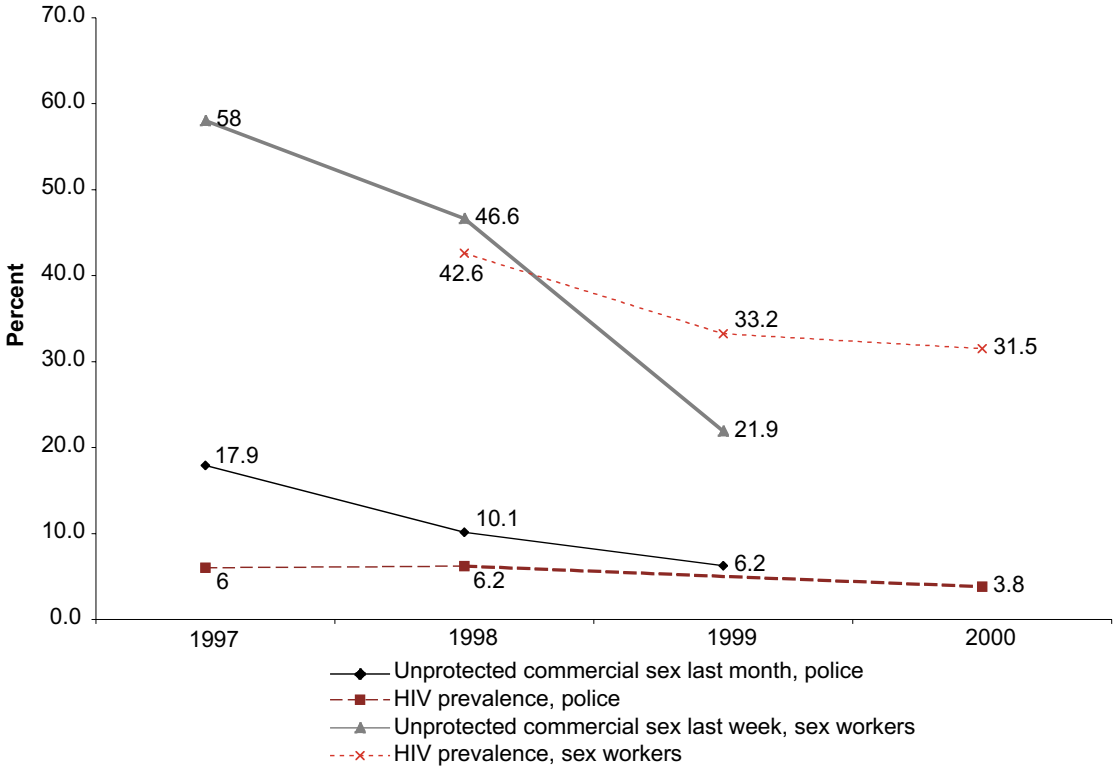
**The denominator for this indicator is all respondents, not just those who reported commercial sex.*

Figure 16 shows that risk behaviour among male groups included in BSS in Cambodia fell consistently over the late 1990s. Fewer men reported buying sex from sex workers, while condom use in these encounters rose significantly. Sex workers, too, reported steep increases in consistent condom use.

Figure 17 compares behavioural trends for police and sex workers with trends in HIV prevalence measured in the same groups. It shows that reductions in risky behaviour were accompanied by a reduction in HIV prevalence, suggesting that behaviour change is beginning to contribute to curbing the HIV epidemic in Cambodia.

The drop in risky behaviour reported by policemen is echoed in a drop in unprotected sex reported by sex workers in Cambodia. And in this population, too, HIV prevalence appears to be on the decline. Interpreting HIV surveillance data is a complex business, but these data add up to a fairly consistent picture of falling HIV prevalence following successful prevention efforts.

Figure 17:
HIV risk behaviour and prevalence among policemen and sex workers, Cambodia 1997-2000



The contribution of other data sources

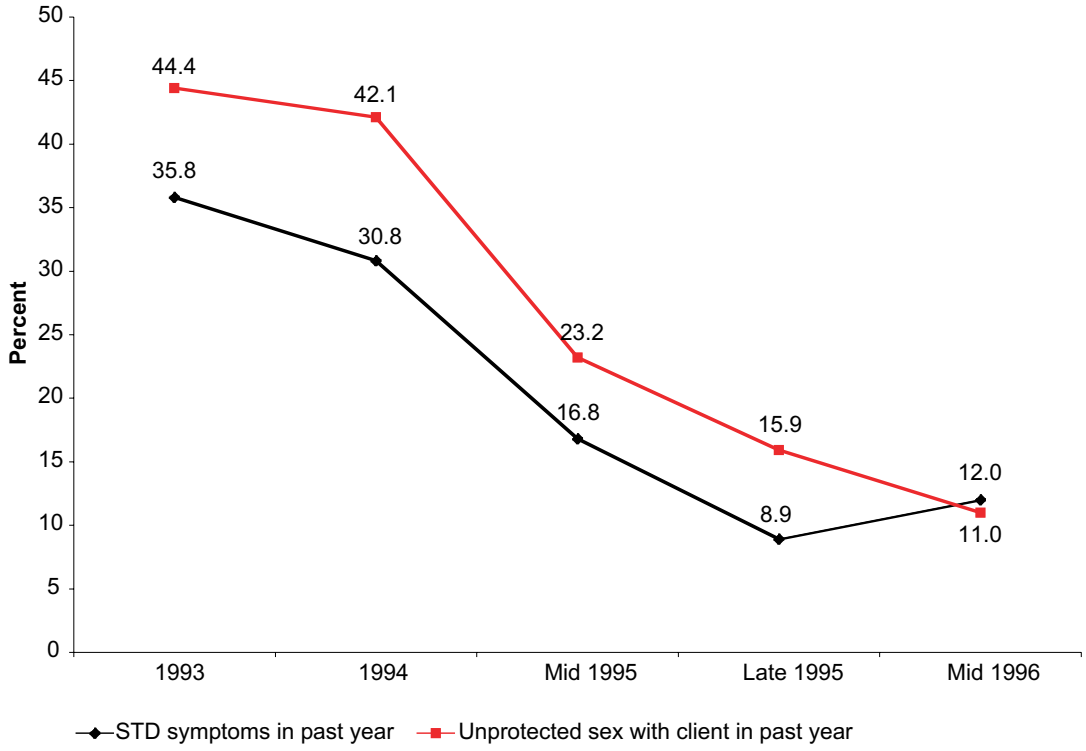
Even when HIV prevalence data and risk behaviour data are analysed together, they do not give a complete picture of the epidemic. Because many years can pass between HIV infection and death, current HIV prevalence may reflect risk behaviour that took place many years ago. This may, in part, explain why HIV prevalence rates are not falling anything like as fast as recent risk behaviour in the populations pictured in Figure 17.

There are, however, other information sources which can help confirm reported changes in risk behaviour more immediately. Because many sexually transmitted infections are curable, infection with STIs other than HIV and herpes tend to reflect recent risk behaviour.

Figure 18 shows data collected in BSS in Thailand in the early 1990s, when the now-famous 100 percent condom use campaign was underway. Indirect sex workers reported a steep fall in unprotected sex with their clients, and this was confirmed by a fall in reported STD symptoms. The number of STI cases at Thailand's well-attended network of sexual health clinics also fell dramatically over the same period, confirming that reports of a rapid rise in safer behaviour was in fact resulting in lower exposure to infection.

Information on Hepatitis B and C, which share routes of transmission with HIV, can also contribute to the overall picture of risk

Figure 18: Unprotected sex with a client and STI symptoms in the past year, indirect sex workers, Bangkok.



behaviour in a country, as can data on infections commonly associated with AIDS such as tuberculosis.

All of the data sources mentioned so far have been quantitative, that is, they answer the " how many?" or "how much?" question. These types of information can, as mentioned earlier, help identify problem areas for HIV prevention. But they can rarely provide enough information to answer the "why?" question. In Bangladesh, for example, 57 percent of brothel-based sex workers report that they have had a condom break while they were using it in the last month. Surveillance officials surmise that this is because of incorrect usage and a lack of appropriate lubricants, and that poor storage of condoms may also play a part. Any of these reasons, if confirmed, would obviously have important programme implications: logistics and distribution systems may need improving to reduce storage problems, while condoms may have to be packaged together with lubricants for use in brothels. BSS cannot by itself confirm assumptions about the cause of breakage, however. Qualitative research and/or operations research is needed to confirm these assumptions and to devise a workable solution. While these types of data collection may not form part of a regular surveillance system, they are an important tool in maximising the utility of information collected in BSS.

From information to action
Using surveillance to change policy

As this document has shown, BSS and the wider HIV surveillance systems into which they should be integrated are already providing reams of information that can be used to assess the situation, plan an effective response, and evaluate progress in reducing the spread of the virus.

The extent to which these data actually do get translated into action is debatable. Some countries, and some local areas, have dedicated considerable time and effort to reviewing the implications of the data. This document has provided examples from Thailand, Indonesia and elsewhere of the impact that reliable information about trends in risk behaviour have had on evaluating prevention efforts and redesigning them where necessary.

HIV and risk behaviour surveillance data have also been effectively used to lobby politicians, religious leaders and business leaders, and have resulted in substantial investment in HIV prevention efforts. Thailand is the best known example, but public health officials in other areas, for example Tamil Nadu state in India, Cambodia, Laos Bangladesh and Nepal have all used surveillance data effectively to secure political commitment to preventing the spread of HIV and to minimising its impact on affected communities.

The data in this report suggest that success breeds success: good information systems which can track positive changes in behaviour and falling HIV infection serve to reinforce commitment to confronting the virus.

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Annex 1

Data Tables

Bangladesh

Table 1: Female sex workers

Indicator	Group	1999-2000	N
Number of clients last week (mean)	Brothel sex workers	18.5	867
	Street sex workers	13.0	1104
Condom use at last sex with a commercial partner (%)	Brothel sex workers	21.0	
	Street sex workers	24.4	
Use condom every time with clients (%)	Brothel sex workers	0.5	
	Street sex workers	2.5	
Use condom every time with non-paying partners (%)	Brothel sex workers	2.4	
	Street sex workers	9.8	
Anal sex last week (%)	Brothel sex workers	38.5	
	Street sex workers	28.9	
Had group sex in the past month (%)	Brothel sex workers	41.2	
	Street sex workers	83.2	

Table 2: Male group

Indicator	Group	1999-2000	N
Had sex with a commercial partner in the last month (%)	Rickshaw pullers	93.2	
Condom use at last sex with a commercial partner (%)	Rickshaw pullers	22.2	
Use condom every time with commercial partners in the last week (%)	Rickshaw pullers	3.9	
Had sex with a non-regular partner in the last month (%)	Rickshaw pullers	29.8	
Condom use at last sex with a non-regular partner (%)	Rickshaw pullers	30.1	
Bisexually active in the last 12 month (%)	Rickshaw pullers	61.2	

Table 3: Men who have sex with men

Indicator	Group	1999-2000	N
Number of clients last week (mean)	Male sex workers	6.2	582
	Hijra sex workers	12.9	336
Condom use at last sex with a commercial partner (%)	Male sex workers	41.6	
	Hijra sex workers	9.4	
Use condom every time with commercial partners in the last week (%)	Male sex workers	2.7	
	Hijra sex workers	<1	
Had sex with a non-regular partner in the last month (%)	Male sex workers	80	
	Hijra sex workers	80.2	
Condom use at last sex with a non-regular partner (%)	Male sex workers	3.5	
	Hijra sex workers	0.4	
Had group sex last month (%)	Male sex workers	38.8	
	Hijra sex workers	71	

** Hijra sex worker is transgender sex worker*

Table 4: IDUs

Indicator	Group	1999-2000	N
Shared needles/syringes last week (%)	Injecting drug users	66.5	1194
Used someone else's needle/syringe last week (%)	Injecting drug users	58.7	
Had sex with a commercial partner in the last month (%)	Injecting drug users	30.4	
Condom use at last sex with a commercial partner (%)	Injecting drug users	19.3	
Had sex with a non-regular partner in the last month (%)	Injecting drug users	17.5	
Condom use at last sex with a non-regular partner (%)	Injecting drug users	18.9	
Had group sex last month(%)	Injecting drug users	9.9	
Bisexually active last year (%)	Injecting drug users	6.3	

Cambodia

Table 1: Female sex wokers

Always use condoms with clients (%)	Female Sex Workers	42	245	53.4	804	78.1	792
	Beer Promotion	9.6	581	29.7	406	38.2	379
Had sex with sweetheart in the last 12 months (%)	Female Sex Workers	50.6		44		36.6	
	Beer Promotion	51		52		54.1	
Always use condoms with sweetheart (non regular partner) (%)	Female Sex Workers	20.3		24		47.2	
	Beer Promotion	8.2		20		26.1	

Table 2: Male groups

Indicator	Group	1997	N	1998	N	1999	N	2000	N
Had sex with a sex worker in the last 12 months (%)	Military/Police	77.9	407	73.2	745	N/A			
	Military	N/A		N/A		62.2	675		
	Police	N/A		N/A		60.5	808		
	Moto	56.9		62		59			
	Rural household male							13.5	1575
	Urban household male							21.4	1591
Had sex with a sex worker last month (%)	Military	64.7		40.8		32.5			
	Police	51.8		32.8		33.2			
	Moto	42.1		33.3		31.1			
	Rural household male							6.4	
	Urban household male							9.7	

Continue

Table 2: Male groups

Indicator	Group	1997	N	1998	N	1999	N	2000	N
Always use condoms with sex workers in the last 3 months (%)	Military	42.9		55.3		69.8			
	Police	65.4		69.3		81.3			
	Moto	53.8		61.8		69.3			
	Rural household male							61	
	Urban household male							72.7	
Had sex with a sweetheart (non regular partner) in the last 12 months (%)	Military/Police					13			
	Military	20.3		21.6		13.8			
	Police	19		16.7		12.2			
	Moto	10.8		24		14.6			
	Rural household male							9.4	
	Urban household male							9.1	
Always use condom with sweetheart (non-regular partner) in the last 3 months (%)	Military/Police	6		8					
	Military	N/A		N/A		12.8			
	Police	N/A		N/A		32.4			
	Moto	15		10		28			
	Rural household male							19.6	
	Urban household male							32.6	

India: Andhra Pradesh, Gujarat, Kerala, Orissa 2000

Table 1: Female Sex Worker

Indicator	Group	Andhra Pradesh	N	Gujarat	N	Kerela	N	Orissa	N
Know that consistent condom use prevents HIV/AIDS (%)	Female sex workers	69.2	412	79	415	90	400	59	417
Condom use last sex with client (%)	Female sex workers	79.8		N/A		N/A		71	
Always use condoms with clients in the last 12 months (%)	Female sex workers	62.2		N/A		N/A		51	
Had sex with a non-paying partner (%)	Female sex workers	38.1		N/A		N/A		38.1	
Condom use last sex with non-paying partner (%)	Female sex workers	22.9		N/A		N/A		20.8	
Always use condoms with non-paying partner in the last 12 months (%)	Female sex workers	9.6		N/A		N/A		8.8	
Had sex with regular client in the last month (%)	Female sex workers	N/A		75		45		N/A	
Condom use last sex with a regular client (%)	Female sex workers	N/A		90		67		N/A	
Always use condoms with regular clients in the last 12 months (%)	Female sex workers	N/A		78		44		N/A	
Condom use last sex with a one time client (%)	Female sex workers	N/A		93		89		N/A	
Always use condoms with one time clients in the 12 months (%)	Female sex workers	N/A		73		52		N/A	

Table 2: Male clients of female sex workers

Indicator	Group	Andhra Pradesh	N	Gujarat	N	Kerela	N	Orissa	N
Know that consistent condom use prevents HIV/AIDS (%)	Clients of sex workers	68.9	405	71	414	90	400	59	451
Condom use last sex with a commercial partner (%)	Clients of sex workers	63.2		88		80		73	
Always use condoms with commercial partners in the last 12 months (%)	Clients of sex workers	48.1		66		48		65	
Had non regular, non commercial sex in the last 12 months (%)	Clients of sex workers	23.7		28		48		11	
Condom use last sex with a non commercial, non regular partner (%)	Clients of sex workers	18.8		16		41		12	
Always use condoms with non commercial, non regular (%) partner in the last 12 months(%)	Clients of sex workers	12.5		8		28		10	
Had anal sex with male partner in the last 12 months (%)	Clients of sex workers	2.2		2.4		7		0	
Condom use last anal sex with a male partner (%)	Clients of sex workers	0		20		14		0	
Always use condoms in anal sex with male partners in the last 12 months (%)	Clients of sex workers	0		20		14		0	

Table 3: Male Groups

Indicator	Group	1999	N
Know that consistent condom use prevents HIV/AIDS (%)	AP, Industry workers	59.2	2009
	AP, Fishermen	19	1999
	Gujarat, Diamond industry workers	52	1097
	Gujarat,Slum Dwellers	39	1072
	Kerela, Auto Rickshaw drivers	72	1000
	Kerela, Plantation workers	55	1200
	Orissa, Migrant worker	26	2785
	Orissa, Mining Industry workers	29	2798
Had sex with a commercial partner in the last 12 months (%)	AP, Industry workers	17.8	
	AP, Fishermen	8.9	
	Gujarat, Diamond industry workers	7	
	Gujarat,Slum Dwellers	2.4	
	Kerela, Auto Rickshaw drivers	6	
	Kerela, Plantation workers	2	
	Orissa, Migrant worker	4	
	Orissa, Mining Industry workers	1	
Condom use last sex with a commercial partner (%)	AP, Industry workers	62.2	
	AP, Fishermen	20.2	
	Gujarat, Diamond industry workers	75	
	Gujarat,Slum Dwellers	68	
	Kerela, Auto Rickshaw drivers	91	
	Kerela, Plantation workers	58	
	Orissa, Migrant worker	50	
	Orissa, Mining Industry workers	28	
Always use condoms with commercial partners (%)	AP, Industry workers	28	
	AP, Fishermen	9	
	Gujarat, Diamond industry workers	56	
	Gujarat,Slum Dwellers	58	
	Kerela, Auto Rickshaw drivers	55	
	Kerela, Plantation workers	26	
	Orissa, Migrant worker	41	
	Orissa, Mining Industry workers	19	
Had non regular, non commercial sex in the last 12 months (%)	AP, Industry workers	19.2	
	AP, Fishermen	16.8	
	Gujarat, Diamond industry workers	10	
	Gujarat,Slum Dwellers	5	
	Kerela, Auto Rickshaw drivers	10	
	Kerela, Plantation workers	4	
	Orissa, Migrant worker	10	
	Orissa, Mining Industry workers	7	

Continue

India: Andhra Pradesh, Gujarat, Kerala, Orissa 2000

Table 3: Male groups

Indicator	Group	1999	N
Condom use last sex with a non commercial, non regular partner (%)	AP, Industry workers	10.1	
	AP, Fishermen	3.3	
	Gujarat, Dimond industry workers	32	
	Gujarat,Slum Dwellers	11	
	Kerela, Auto Rickshaw drivers	44	
	Kerela, Plantation workers	26	
	Orissa, Migrant worker	17	
	Orissa, Mining Industry workers	14	
Always use condoms with non commercial, non regular partner (%)	AP, Industry workers	3.6	
	AP, Fishermen	1.2	
	Gujarat, Dimond industry workers	15	
	Gujarat,Slum Dwellers	7	
	Kerela, Auto Rickshaw drivers	24	
	Kerela, Plantation workers	14	
	Orissa, Migrant worker	4	
	Orissa, Mining Industry workers	7	
Had anal sex with male partner in the last 12 months (%)	AP, Industry workers	0.9	
	AP, Fishermen	0.7	
	Gujarat, Dimond industry workers	1	
	Gujarat,Slum Dwellers	0.2	
	Kerela, Auto Rickshaw drivers	0	
	Kerela, Plantation workers	0	
	Orissa, Migrant worker	0.3	
	Orissa, Mining Industry workers	0.1	
Condom use last anal sex with a male partner (%)	AP, Industry workers	15.8	
	AP, Fishermen	0	
	Gujarat, Dimond industry workers	0	
	Gujarat,Slum Dwellers	0	
	Kerela, Auto Rickshaw drivers	N/A	
	Kerela, Plantation workers	N/A	
	Orissa, Migrant worker	N/A	
	Orissa, Mining Industry workers	N/A	
Always use condoms in anal sex with male partners (%) in the last 12 months	AP, Industry workers	10.5	
	AP, Fishermen	0	
	Gujarat, Dimond industry workers	0	
	Gujarat,Slum Dwellers	0	
	Kerela, Auto Rickshaw drivers	N/A	
	Kerela, Plantation workers	N/A	
	Orissa, Migrant worker	N/A	
	Orissa, Mining Industry workers	N/A	

Table 4: Female groups

Indicator	Group	1999	N
Know that consistent condom use prevents HIV/AIDS (%)	AP, Tobacco industry workers	15.3	2023
	Gujarat, Slum Dwellers	4	1000
	Orissa, Fishing industry workers	25	2252
Had sex with a commercial partner in the last 12 months (%)	AP, Tobacco industry workers	15	
	Gujarat, Slum Dwellers	0.2	
	Orissa, Fishing industry workers	1	
Condom use last sex with a commercial partner (%)	AP, Tobacco industry workers	6.1	
	Gujarat, Slum Dwellers	N/A	
	Orissa, Fishing industry workers	68	
Always use condoms with commercial partners in the last 12 months (%)	AP, Tobacco industry workers	2.4	
	Gujarat, Slum Dwellers	N/A	
	Orissa, Fishing industry workers	52	
Had non regular, non commercial sex in the last 12 months (%)	AP, Tobacco industry workers	6.3	
	Gujarat, Slum Dwellers	0	
	Orissa, Fishing industry workers	0.7	
Condom use last sex with a non commercial, non regular partner (%)	AP, Tobacco industry workers	10.2	
	Gujarat, Slum Dwellers	N/A	
	Orissa, Fishing industry workers	31	
Always use condoms with non commercial, non regular partner inthe last 12 months (%)	AP, Tobacco industry workers	1.6	
	Gujarat, Slum Dwellers	N/A	
	Orissa, Fishing industry workers	25	

Table 5: Youth Group—Male university students living in hostels

Indicator	Group	Andhra Pradesh	N	Gujarat	N	Kerela	N
Know that consistent condom use prevents HIV/AIDS (%)	MUS	88	2506	75	2634	91	
Had commercial sex in the the past 6 months (%)	MUS	5.9		1		3	2500
Condom use last sex with a commercial partner (%)	MUS	74.3		71		66	
Always use condoms with commercial partners (%)	MUS	60.8		59		43	
Had non regular, non commercial sex in the last 6 months (%)	MUS	13.2		6		8	
Condom use last sex with a non commercial, non regular partner (%)	MUS	37.3		58		50	
Always use condoms with non commercial, non regular partner (%)	MUS	22.7		30		27	
Had anal sex with male partner in the last 12 months (%)	MUS	1.8		0.2		2	
Condom use last anal sex with a male partner (%)	MUS	44.4		N/A		31	
Always use condoms in anal sex with male partners (%)	MUS	40		N/A		15	

India:Tamil Nadu

Table 1: Female sex workers

Indicator	Group	1996	N	1997	N	1998	N	1999	N	2000	N
Know that condom use prevents HIV/AIDS	Commercial sex workers	89	400	97	400	96.6	400	96	403	98.2	400
Condom use last sex with client/non-regular partner in the last 12 months	Commercial sex workers	56		74		80		88.1		91.2	

Table 2: Male groups

Indicator	Group	1996	N	1997	N	1998	N	1999	N	2000	N
Know that condom use prevents HIV/AIDS	Truckers and assistants	77	689	86	864	90.8	863	95.8	833	98.8	814
	Male Factory Workers	81	1386	89	1963	93.6	1956	95.1	1804	83.4	1824
Had sex with commercial/non-regular partner in the last 12 months											
	Truckers and assistants	48		35		31.6		21		25.1	
	Male Factory Workers	15		11		9		9.2		8.7	
Condom use last sex with a commercial/ non-regular partner											
	Truckers and assistants	44		51		65.8		66.9		70.1	
	Male Factory Workers	17		25		50.3		48.2		27.8	
Condom use last sex with a commercial partner											
	Truckers and assistants	55		66		75		79.6		82.6	
	Male Factory Workers	28		41		67		67.4		52.3	
Condom use last sex with a non-regular partner											
	Truckers and assistants	19		16		43		37.6		44.2	
	Male Factory Workers	13		17		37		30		21.6	

Table 3: General Population

Indicator	Group	1996	N	1997	N	1998	N	1999	N	2000	N
Know that condom use prevents HIV/AIDS	Female Factory Workers	56	1873	63	1691	50.9	1720	51.4	1607	59.2	16.09
Had sex with a non-regular partner in the last 12 months	Female Factory Workers	3		1		1.1		1.5		2.1	
Condom use last sex with a non-regular partner	Female Factory Workers	20		13		26.3		29.2		26.4	

India: West Bengal

Table 1: Female sex workers

Indicator	Group	1999	N
condom use last sex with one time client (%)	Calcutta, Brothel or fixed location sex workers	92.1	400
	Calcutta, Freelance sex workers	87.9	400
	Non-Calcutta, Brothel or fixed location sex workers	72.2	400
	Non-Calcutta, Freelance sex workers	75.7	400
Always use condom with one time client in the last 12 months (%)	Calcutta, Brothel or fixed location sex workers	75.9	
	Calcutta, Freelance sex workers	66.1	
	Non-Calcutta, Brothel or fixed location sex workers	53.8	
	Non-Calcutta, Freelance sex workers	54.5	
Condom use last sex with regular client (%)	Calcutta, Brothel or fixed location sex workers	91.8	
	Calcutta, Freelance sex workers	87	
	Non-Calcutta, Brothel or fixed location sex workers	68.7	
	Non-Calcutta, Freelance sex workers	74.9	
Always use condoms with regular clients during the last 12 months (%)	Calcutta, Brothel or fixed location sex workers	76.3	
	Calcutta, Freelance sex workers	65.6	
	Non-Calcutta, Brothel or fixed location sex workers	52.8	
	Non-Calcutta, Freelance sex workers	53.7	
Had sex with a non paying partner in the last 12 months (%)	Calcutta, Brothel or fixed location sex workers	36.5	
	Calcutta, Freelance sex workers	12.5	
	Non-Calcutta, Brothel or fixed location sex workers	40	
	Non-Calcutta, Freelance sex workers	28.8	
Condom use last sex with non paying partner (%)	Calcutta, Brothel or fixed location sex workers	34.9	
	Calcutta, Freelance sex workers	16	
	Non-Calcutta, Brothel or fixed location sex workers	19.4	
	Non-Calcutta, Freelance sex workers	18.3	
Always use condom with non-paying partner in the last 12 months (%)	Calcutta, Brothel or fixed location sex workers	27.4	
	Calcutta, Freelance sex workers	12	
	Non-Calcutta, Brothel or fixed location sex workers	15.6	
	Non-Calcutta, Freelance sex workers	14.8	

Table 2: Male clients of sex workers

Indicator	Group	1999	N
Condom use last sex with a commercial partner (%)	Male clients of sex workers	51.2	400
Always use condoms with commercial partners in the last 12 months (%)	Male clients of sex workers	43.8	
Had sex with a non regular partner in the last 12 months (%)	Male clients of sex workers	10.8	
Condom use last sex with a non regular partner (%)	Male clients of sex workers	34.9	
Always use condoms with non regular partners in the last 12 months (%)	Male clients of sex workers	30.2	

Table 3: General population

Indicator	Group	1999	N
Had sex with a commercial partner in the last 12 months (%)	Male Labourers	30.7	1000
	Female Labourers	5.9	1000
Condom use last sex with a commercial partner (%)	Male Labourers	51.2	
	Female Labourers	13.6	
Always use condoms with commercial partners in the last 12 months (%)	Male Labourers	30.9	
	Female Labourers	5.1	
Had sex with a non regular partner in the last 12 months (%)	Male Labourers	12.8	
	Female Labourers	27	
Condom use last sex with a non regular partner (%)	Male Labourers	34.9	
	Female Labourers	11.1	
Always use condoms with non regular partners in the last 12 months (%)	Male Labourers	24.2	
	Female Labourers	11.1	

Table 4: Men having sex with men

Indicator	Group	1999	N
Had anal sex in the last 12 months (%)	Men having sex with men	65.8	400
Had anal sex with a regular/long term partner in the last 12 months (%)	Men having sex with men	50.1	
Condom use last sex with a regular/long term partner (%)	Men having sex with men	59.8	
Always use condoms with regular/long term partners in the last 12 months (%)	Men having sex with men	30.3	
Had anal sex with a non regular partner in the last 12 months (%)	Men having sex with men	71.4	
Condom use last sex with a non regular partner (%)	Men having sex with men	72.3	
Always use condoms with non regular partners in the last 12 months (%)	Men having sex with men	53.7	
Had anal sex with a commercial partner in the last 12 months (%)	Men having sex with men	25.4	
Condom use last sex with a commercial partner (%)	Men having sex with men	79.1	
Always use condoms with commercial partners in the last 12 months (%)	Men having sex with men	65.7	

India:Maharashtra

Table 1: Female sex workers

Indicator	Group	2000	N
Condom use at last sex with a commercial partner (%)	Brothel based FSWs	77.4	1072
	Non Brothel based FSWs	69.0	542
Always use condom with commercial	Brothel based FSWs	73.9	
partners in the last month (%)	Non Brothel based FSWs	64.2	
Number of clients per week (mean)	Brothel based FSWs	13.4	
	Non Brothel based FSWs	9.6	
Condom use at last sex with a non-paying partner (%)	Brothel based FSWs	70.1	
	Non Brothel based FSWs	34.3	
Use condom every time with non-paying partners (%)	Brothel based FSWs	N/A	
	Non Brothel based FSWs	21.6	

Table 2: Male group

Indicator	Group	2000	N
Had sex with a commercial partner in the last 12 months (%)	Local Transport Workers	8.4	1446
Condom use at last sex with a commercial partner (%)	Local Transport Workers	91.9	
Use condom every time with commercial partners in			
the last 12 months (%)	Local Transport Workers	72.2	
Had sex with a non-regular partner in the last 12 months (%)	Local Transport Workers	13.7	
Condom use at last sex with a non-regular partner (%)	Local Transport Workers	36.9	
Use condom every time with non-regular partners in			
the last 12 months (%)	Local Transport Workers	27.1	

Table 3: Youth groups

Indicator	Group	2000	N
Had sex with a commercial partner in the last 12 months (%)	15-19 yrs. Unmarried Slum Youth	2.5	1761
	20-24 yrs. Unmarried Slum Youth	5.9	2238
Condom use at last sex with a commercial partner (%)	15-19 yrs. Unmarried Slum Youth	88.6	
	20-24 yrs. Unmarried Slum Youth	86.9	
Alway use condoms with commercial partners in			
the last 12 months (%)	15-19 yrs. Unmarried Slum Youth	71.0	
	20-24 yrs. Unmarried Slum Youth	66.0	
Had sex with a non-commercial partner in the last 12 months (%)	15-19 yrs. Unmarried Slum Youth	6.2	
	20-24 yrs. Unmarried Slum Youth	10.5	
Condom use at last sex with a non-commercial partner (%)	15-19 yrs. Unmarried Slum Youth	42.4	
	20-24 yrs. Unmarried Slum Youth	45.4	
Alway use condoms with non-commercial partners in			
the last 12 months (%)	15-19 yrs. Unmarried Slum Youth	33.1	
	20-24 yrs. Unmarried Slum Youth	30.1	

Table 4: Men who have sex with men

Indicator	Group	2000	N
Had anal sex with more than one other man in the last month (%)	Men having sex with men	92.3	626
Condom use at last anal sex with a commercial male partner (%)	Men having sex with men	58.4	
Use condom every time in anal sex with commercial partners in			
the last 6 months (%)	Men having sex with men	33.3	
Condom use at last anal sex with a non-regular male partner (%)	Men having sex with men	61.6	
Use condom every time with non-regular male partners in			
the last 6 months (%)	Men having sex with men	36.4	

Indonesia

Table 1: Female sex workers

Indicator	Group	1996	N	1997	N	1998	N	1999	N	2000	N
Know that consistent condom use prevents HIV/AIDS (%)	Localized sex workers	65.1	401	71.8	400	81.0	400	82.1	419	71.5	599
	Non localized sex workers	73.1	599	78.9	603	77.5	600	85.8	607	81.9	903
Always use condom last week (%)	Localized sex workers	12.5		8.8		14.8		17.2		11.7	
	Non localized sex workers	9.5		10.8		7.0		9.1		12.3	
Number of clients last week (mean)	Localized sex workers	9.0		11.3		8.2		8.0		10.8	
	Non localized sex workers	8.0		7.8		5.9		5.7		5.7	
Ever had boyfriend in last 6 months (%)	Localized sex workers	35.7		38.0		36.5		37.2		42.2	
	Non localized sex workers	45.1		48.6		41.7		44.8		41.8	
Condom use at sex with boyfriend (%)	Localized sex workers	25.2		16.4		16.4		40.5		20.9	
	Non localized sex workers	11.5		13.3		18.0		18.8		14.3	
Condom use at last sex (from all respondents) (%)	Localized sex workers	45.1		40.5		43.0		59.7		43.2	
	Non localized sex workers	30.4		34.3		32.8		39.7		40	

Table 2: Male groups

Indicator	Group	1996	N	1997	N	1998	N	1999	N	2000	N
Know that consistent condom use prevents HIV/AIDS (%)	Sailor/seaport laborers	54.3	999	66.6	1000	72.9	1003	82.6	1005	80.4	1196
	Truck driver/assistants	49.5	200	72.0	200	78.5	200	80.0	200	69.8	407
Had sex with a commercial partner in the last 12 months (%)	Sailor/seaport laborers	26.1		35.0		44.7		39.1		46.5	
	Truck driver/assistants	30.5		44.0		43.5		51.0		47.9	
Condom use last sex with commercial partner (%)	Sailor/seaport laborers	14.6		10.3		9.6		15.5		22.7	
	Truck driver/assistants	9.8		4.5		11.8		15.7		20.5	
Always use condoms with commercial partners in the last 12 months (%)	Sailor/seaport laborers	12.3		9.4		3.3		4.8		6.3	
	Truck driver/assistants	4.9		4.5		4.6		0.0		7.9	

Table 3: Youth

		Manado		Jakarta, Surabaya		Manado		Jakarta, Surabaya	
		1996	N	1997	N	1998	N	1999	N
Ever had sex (%)	Male students of senior high school	20.3	400	8.4	800	14.0	400	17.1	403
	Female students of senior high school	6.0	400	1.3	801	3.0	400	4.2	410
Ever had sex with commercial partner in the last 12 months (%)	Male students of senior high school	5.2		2.0		2.8		2.2	
Ever had sex with non commercial partner in the 12 months (%)	Male students of senior high school	3.0		4.2		9.3		11.1	

Table 4: Injecting drug user

Indicator	Group	2000	N
Ever used shared needles an syringe (%)	Male IDUs	55.5	364
	Female IDUs	35.7	42
Ever used shared needles an syringe last month (%)	Male IDUs	50.3	
	Female IDUs	33.3	
Ever used shared vial, container, swab, filter/water medium when using needles and syringes in the last month (%)	Male IDUs	83.2	
	Female IDUs	64.3	
Had sex with a commercial partner last 12 months (%)	Male IDUs	12.1	
	Female IDUs	4.8	
Condom use last sex with a commercial partner (%)	Male IDUs	45.5	
	Female IDUs	50	
Always use condoms with commercial partners (%)	Male IDUs	25	
	Female IDUs	50	
Had sex with a non-regular partner last 12 months (%)	Male IDUs	19.5	
	Female IDUs	38.1	
Condom use last sex with a non commercial partner (%)	Male IDUs	14.1	
	Female IDUs	68.8	
Always use condoms with non commercial partners (%)	Male IDUs	7	
	Female IDUs	50	

Table 5: Transvestites (bisexual or trans-gender men having sex with men)

	Group	2000	N
Can cite at least two means of preventing HIV/AIDS (%)	Transvestites	95.6	202
Sold sex last month (%)	Transvestites	82.7	
Condom use at last anal sex with a commercial male partner (%)	Transvestites	59.9	
Condom use at last anal sex with a non-commercial male partner (%)	Transvestites	24.2	
Always use condoms in anal sex with commercial partners last month (%)	Transvestites	27.5	
Always use condoms in anal sex with non-commercial partners last month (%)	Transvestites	20.9	

Table 1: Service Women

Indicator	Group	2000-2001	N
Know three ways of reducing the risk of acquiring HIV (%)	Service women	64.5	764
Ever had sex (%)	Service women	84.1	
Had sex with a commercial partner in the last 12 months (%)	Service women	61.1	
Condom use at last sex with a commercial partner (%)	Service women	91.4	
Use condom every time with commercial partners (%)	Service women	72.7	
Had sex with a non-regular partner in the last 12 months (%)	Service women	24.3	
Condom use at last sex with a non-regular partner (%)	Service women	58.6	
Use condom every time with non-regular partners (%)	Service women	43.7	

Table 2: Male groups

Indicator	Group	2000-2001	N
Know three ways of reducing the risk of acquiring HIV (%)	Truck Drivers	74.2	481
	Police	75	244
	Military	74.8	242
	Male seasonal migrant workers	62	392
Had sex with a commercial partner in the last 12 months (%)	Truck Drivers	31.2	
	Police	24	
	Military	11.5	
	Male seasonal migrant workers	5.9	
Condom use at last sex with a commercial partner (%)	Truck Drivers	88	
	Police	75.7	
	Military	75	
	Male seasonal migrant workers	65.2	
Use condom every time with commercial partners (%)	Truck Drivers	74.2	
	Police	63.8	
	Military	64.3	
	Male seasonal migrant workers	65.2	
Had sex with a non-regular partner in the last 12 months (%)	Truck Drivers	20.2	
	Police	28.5	
	Military	18	
	Male seasonal migrant workers	11.7	
Condom use at last sex with a non-regular partner (%)	Truck Drivers	46.4	
	Police	46.4	
	Military	31.8	
	Male seasonal migrant workers	20	
Use condom every time with non-regular partners (%)	Truck Drivers	32	
	Police	31.9	
	Military	18.2	
	Male seasonal migrant workers	13.3	

Table 3: Female groups

Indicator	Group	2000-2001	N
Know three ways of reducing the risk of acquiring HIV (%)	Female seasonal migrant workers	58.7	436
	Factory workers	73.1	1041
Had sex with a non-regular partner in the last 12 months (%)	Female seasonal migrant workers	2.8	
	Factory workers	2.2	

Nepal: the highway route

Table 1: Female sex workers

Indicator	Group	1998	N	1999	N
Never used condom (%)	Female sex worker	22.5	400	17.8	
Condom use at last sex with a commercial partner (%)	Female sex worker	61.7	400	67	
Always use condom with clients in last 12 months (%)	Female sex worker	33	400	40.3	
Had regular clients	Female sex worker	43.3	400	64	
Always use condom with regular clients in last 12 months	Female sex worker	59.1	149	49.8	
Had non paying partner	Female sex worker	58.5	400	49.8	
Not use condom with non-paying partner	Female sex worker	60.3	234	63.8	

Table 2: Male Group

Indicator	Group	1998	N	1999	N
Had sex with a commercial partner in the last 12 months	Transport workers	51.8	400	46.5	400
	Male laborers	15.1	600	14.8	600
Condom use at last sex with a commercial partner	Transport workers	75.8	207	80.6	
	Male laborers	41.1	90	58	
Always use condom with commercial partners	Transport workers	36.2	207	50.5	
	Male laborers	23.4	90	31.8	

Table 3: Youth Group

Indicator	Group	1998	N
Ever had sex	Male students	19.8	800
Had sex with a commercial partner in the last 12 months	Male students	2.5	800
Condom use at last sex with a commercial partner	Male students	75	
Always use condom with commercial partners	Male students	55	

Vietnam

Table 1: Female sex workers

Indicator 2000	Group	Hanoi	n	Hai Phong	n	Da Nang	n	HCMC	n	Can Tho	n
Ever used drugs (%)											
	Karaoke-Based	17.3	480	1.4	504	0	449	9.3	463	0	406
	Street-Based	43.3	409	19.2	78	0.9	323	20.1	214	1.1	176
Injected drug in the past 6 months (%)											
	Karaoke-Based	5.6		N/A		N/A		4.3		N/A	
	Street-Based	21.5		N/A		N/A		15.6		N/A	
Number of clients last week (mean)											
	Karaoke-Based	5.2		22.5		2		7.5		1.3	
	Street-Based	9.7		17.2		8.3		15.4		15.2	
Condom use last sex with one time client (%)											
	Karaoke-Based	89.6		95.1		97.5		81.8		96	
	Street-Based	93.5		90.5		99.7		91.9		94.8	
Condom use last sex with regular client (%)											
	Karaoke-Based	78.3		85.5		94		64.3		93.3	
	Street-Based	75.9		82.1		95.3		79.1		79.5	
Condom use last sex with non-paying partner (%)											
	Karaoke-Based	33.5		46.8		71.9		14.6		76.3	
	Street-Based	34.3		34.3		29.1		36.6		23.6	
Always use condoms with one time clients (%)											
	Karaoke-Based	37.9		75.6		75.7		31.5		76.4	
	Street-Based	59.3		68.9		79		55.2		66.5	
Always use condoms with regular clients (%)											
	Karaoke-Based	29.4		59		68.5		14.7		81.7	
	Street-Based	40.1		47.3		61.5		42.9		58.3	
Always use condoms with non-paying partners (%)											
	Karaoke-Based	15.5		19.7		48.1		4		66.9	
	Street-Based	22.4		26.5		11.7		24.6		20	

Table 2: Male groups

Indicator 2000	Group	Hanoi	N	Hai Phong	N	Da Nang	N	HCMC	N	Can Tho	N
Had sex with a commercial partner last year (%)	Long Distance Truck Drivers	33	500	35.1	500	22.8	452	27.2	422	39.1	463
	Migrant Workers	16.2	487	20	514	13.3	453	13.1	506	6.7	506
Condom use last sex with a commercial partner (%)	Long Distance Truck Drivers	91.7		98.4		99.1		91.1		94.4	
	Migrant Workers	77.2		90.8		93.7		73.5		73.9	
Always use condoms with commercial partners (%)	Long Distance Truck Drivers	53.4		82.8		84.5		76.3		70	
	Migrant Workers	57		75.3		66.1		50		62.1	
Had sex with a non-regular parter last year (%)	Long Distance Truck Drivers	27.7		29.1		6.2		15.2		21.6	
	Migrant Workers	10.3		9.4		8.4		5.9		6.1	
Condom use last sex with a non regular partner (%)	Long Distance Truck Drivers	69.7		78.1		46.4		57.4		55.6	
	Migrant Workers	51		69.4		63.2		43.3		26.7	
Always use condoms with non-regular partners (%)	Long Distance Truck Drivers	38.7		47.2		21.4		36.2		23.2	
	Migrant Workers	19.6		19.1		31.6		30		13.3	

Table 3: Injection drug users

Indicator 2000	Group	Hanoi	N	Hai Phong	N	Da Nang	N	HCMC	N	Can Tho	N
Shared needles or syringes in the last 6 months (%)	IDUs	31.9	360	24.2	326	30.7	297	44.3	420	7.6	384
Had sex with a sex workers last year (%)	IDUs	23.3		15.1		20.4		8.0		5.7	
Condom use last sex with a commercial partner (%)	IDUs	82.4		83.7		69		59.5		57.1	
Condom use last sex with a non-regular partner (%)	IDUs	41.2		77.3		62.3		28		25	
Always use condoms with commercial partners (%)	IDUs	27.9		56		45.8		45.2		38.1	
Always use condoms with non-regular partners (%)	IDUs	21.1		26.7		34.4		17.7		9.1	

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