

2005 Integrated HIV Behavioral and Serologic Surveillance Findings

National Epidemiology Center, Department of Health, Philippines

Summary Report

Background

The Department of Health initiated HIV behavioral and biological surveillance in the Philippines in 1993, one of the first such systems in Asia. Since that time, surveillance data has been collected yearly to provide the HIV and risk behavior prevalence data that is necessary to enable the country to monitor and respond to its epidemic. Over the past decade, methods for sampling and surveying surveillance populations in low prevalence epidemics, such as the one in the Philippines, have advanced greatly. In 2004, the National Epidemiology Center of the Department of Health and Family Health International undertook an evaluation of the current HIV surveillance system and made recommendations for adopting new methodologies and questionnaires to improve the capacity of the system to detect emerging localized epidemics and measure behaviors that put populations at risk for HIV transmission. The recommendations were accepted and the revised Integrated HIV Behavioral and Serologic Surveillance (IHBSS) system was implemented in 2005.

Objectives and Methodology

The overall purpose of the Philippines integrated HIV and behavioral surveillance system is to provide data to improve the country response to the epidemic with the following specific objectives:

- Quantifying the magnitude of HIV infection
- Understanding how HIV is spreading – or might potentially spread
- Assisting in HIV/AIDS program planning
- Advocating for prevention and care services
- Aiding in program evaluation

The Philippines has a low level HIV epidemic, meaning a significant prevalence of HIV has not yet been detected even in the highest risk groups. The surveillance populations chosen are those most vulnerable to HIV transmission in an emerging epidemic, namely populations with high risk behaviors including sharing needles and syringes when injecting drugs and unprotected sex with multiple partners. Additional population selection criteria were that the groups had to be accessible to study teams and there should be interventions either being implemented or planned for the groups.

The groups selected for surveillance, total sample sizes, and sampling methodology were the following:

- **Female sex workers (FSW):** Women who sold sex in the past month, including both registered and unregistered (formerly known as freelancers) sex workers. Approximately 450 were selected using Time-Location sampling (TLS) in each of the 10 sites with a total sample size of 6,371.
- **Men who have sex with men (MSM):** Men who reported oral or anal sex with another man in the past year. Approximately 300 were selected using Time-Location sampling in each of the 10 sites with a total sample size of 1,673.
- **Men at STI clinics (MSTIs):** Men who were consulted or seen at STI clinics either for treatment or diagnostic purposes. Approximately 250 were selected in each of the 9 sites with a total sample size of 888.
- **Injection drug uses (IDU):** Men or women who had injected drugs in the past 6 months. One site (Cebu City) was included and participants were selected using purposive sampling with a total sample size of 243.
- **Occupational cohorts of men (OCM):** Men defined by their occupation who were known to be frequent clients of sex workers. Approximately 300 were selected using simple random sampling in each of the 10 sites with a total sample size of 3,328.

Surveillance sites were selected based on the size of the surveillance population in each city, the presence of an accredited laboratory to perform serological tests for HIV and syphilis, the geographic representativeness of the site, and the willingness of on-site staff to conduct regular IHBSS. The final surveillance sites included Angeles City, Baguio City, Cagayan de Oro City, Cebu City, Davao City, General Santos City, Iloilo City, Pasay City, Quezon City, and Zamboanga City.

Figure 1: Surveillance sites, Philippines, 2005

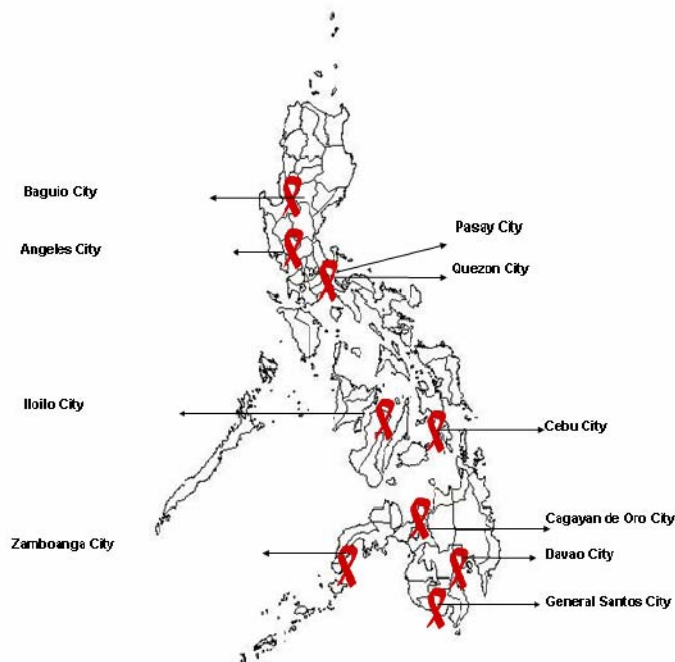


Table 1: Populations and sites included in IHBSS, Philippines, 2005

Site	Surveillance Groups				
	FSW	MSM	IDU	OCM	MSTD
Baguio	✓			✓ [*]	✓
Angeles	✓	✓ [*]		✓ [*]	✓
Pasay	✓			✓ [*]	✓
Quezon	✓			✓ [*]	✓
Cebu	✓	✓	✓	✓ [*]	✓
Iloilo	✓	✓ [*]		✓ [*]	
Cagayan de Oro	✓			✓ [*]	✓
Davao	✓	✓ [*]		✓ [*]	✓
General Santos	✓	✓		✓	✓
Zamboanga	✓	✓ [*]		✓ [*]	✓

**Did not include biologic testing for HIV and syphilis.*

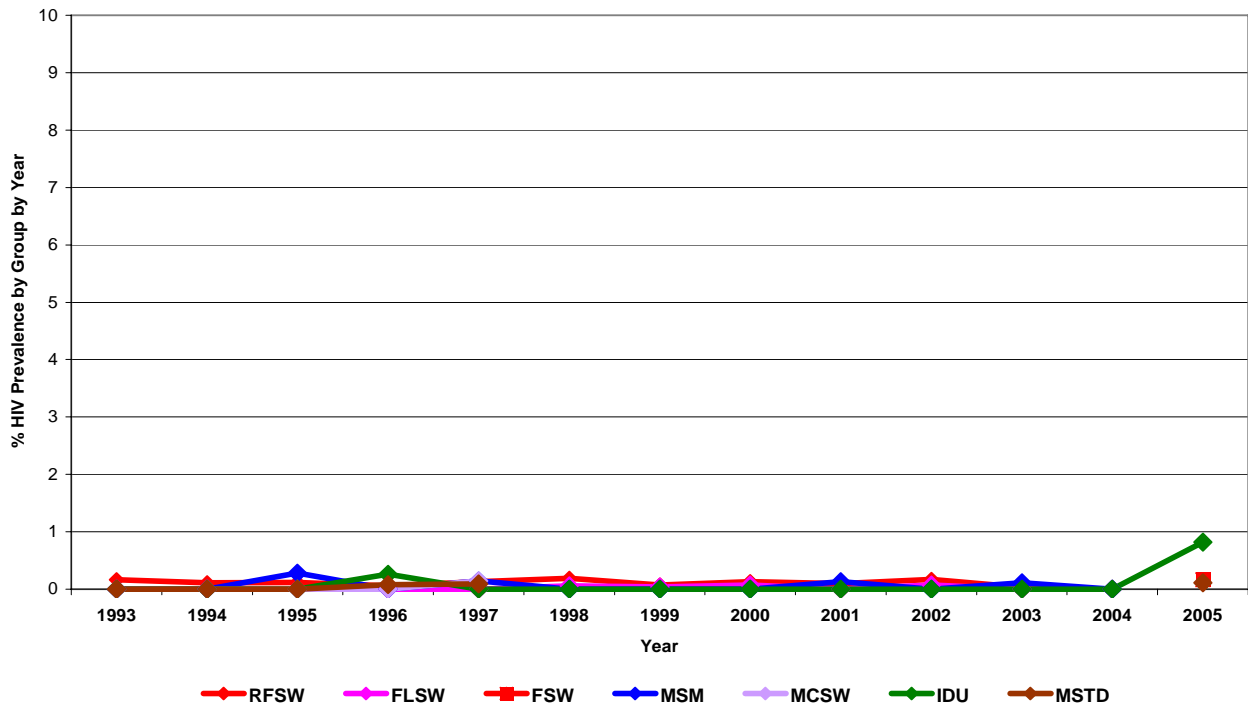
The redesigned Philippines IHBSS included several innovations. The first was to conduct the behavioral and biological components in tandem instead of separately as was done before. Questionnaires were revised to include more sensitive questions to measure behavioral risk. The criteria for interviewer selection was revised and program implementers were no longer qualified. This was done in order to minimize the bias introduced when people recognized as HIV prevention workers ask questions about sexual and drug taking behaviors. HIV testing was centralized, testing using ELISA was introduced, and all HIV tests were unlinked and anonymous. A new group, occupational cohorts of men, was introduced as a proxy for measuring the behaviors of clients of sex workers. Finally, the sampling methodology was revised. Sampling was previously conducted using convenience sample (a non-probability sampling method) and Time-Location Sampling was used in 2005 (a probability sampling method allowing for the selection of a representative sample which can be reproduced in order to measure trends over time).

Data collection took place over 2 months between March and May, 2005. The Department of Health and Family Health International supervised and monitored the teams. Data entry and management was done by the DOH, FHI, the Regional Epidemiology and Surveillance Units, and the City Health Office using EpiInfo 6.0. Data analysis was done by the DOH and FHI using STATA 9.0.

Results

Since data collection began in 1993, the Philippines has not identified an HIV epidemic in any of the populations that will likely be the first affected if HIV does enter the country in a significant way. The country's low prevalence status continues to hold true. However, for the first time since 1996, HIV has been detected among IDU. In Cebu City, 1% of IDU were positive for HIV. HIV spreads very efficiently through needles and syringes, and HIV epidemics among injectors can take off rapidly, making this an important population to closely monitor.

Figure 2: HIV prevalence by population, Philippines 1993-2005

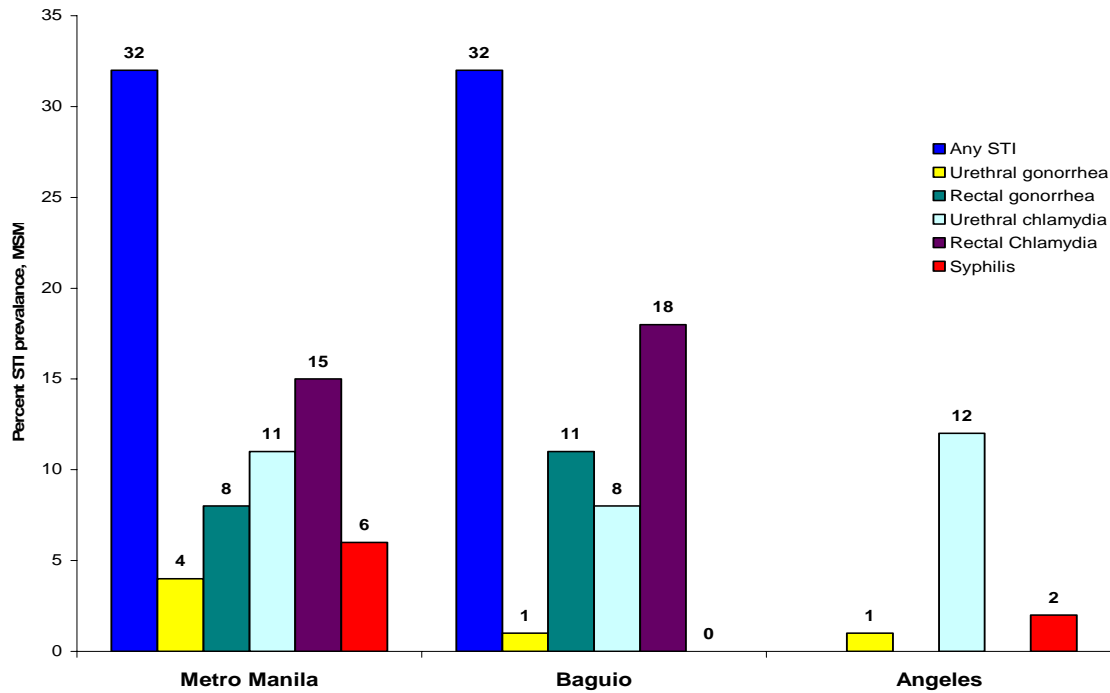


Despite the continued low prevalence of HIV in the Philippines, sexually transmitted infections (STIs) remain high. STIs are important to measure not only because they are a serious public health concern but also because they are a co-factor for HIV transmission. STIs also provide evidence that a route for HIV exists through unprotected sex and needle sharing.

Surveys conducted among MSM by Family Health International in Metro Manila and Baguio in 2004 found high prevalence of both rectal and urethral chlamydial and gonococcal infection, as well as 6% syphilis prevalence in Manila. One third of MSM in both cities were currently infected with at least one STI (Figure 3).

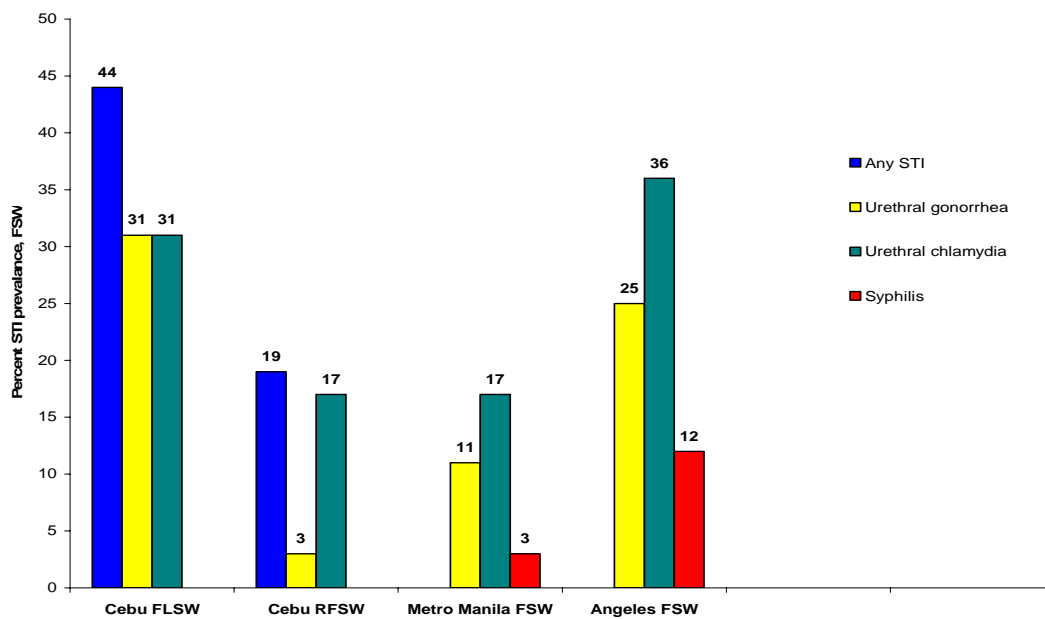
Surveys of female sex workers also identified high prevalence of STIs in Cebu City, Metro Manila and Angeles City. In Cebu, 44% of freelance sex workers and 19% of establishment based sex workers were infected by at least one STI. A 1999 survey in Angeles found 12% syphilis among female sex workers (Figure 4).

Figure 3: STI prevalence among MSM in Metro Manila, Baguio City and Angeles City, Philippines, 2004 and 1999.



Sources: Roquero LB, Hernardly LI, et al, *HIV/AIDS behavioral and biological assessment of men who have sex with men in the Philippines: Metro Manila and Baguio City*, Family Health International, 2004 (not yet published)
 Ramos ER, Roces MC, Wi TE, et al, *Prevalence of sexually transmitted diseases among females sex workers and their clients and men who have sex with men in Angeles City*, Family Health International, December 1999

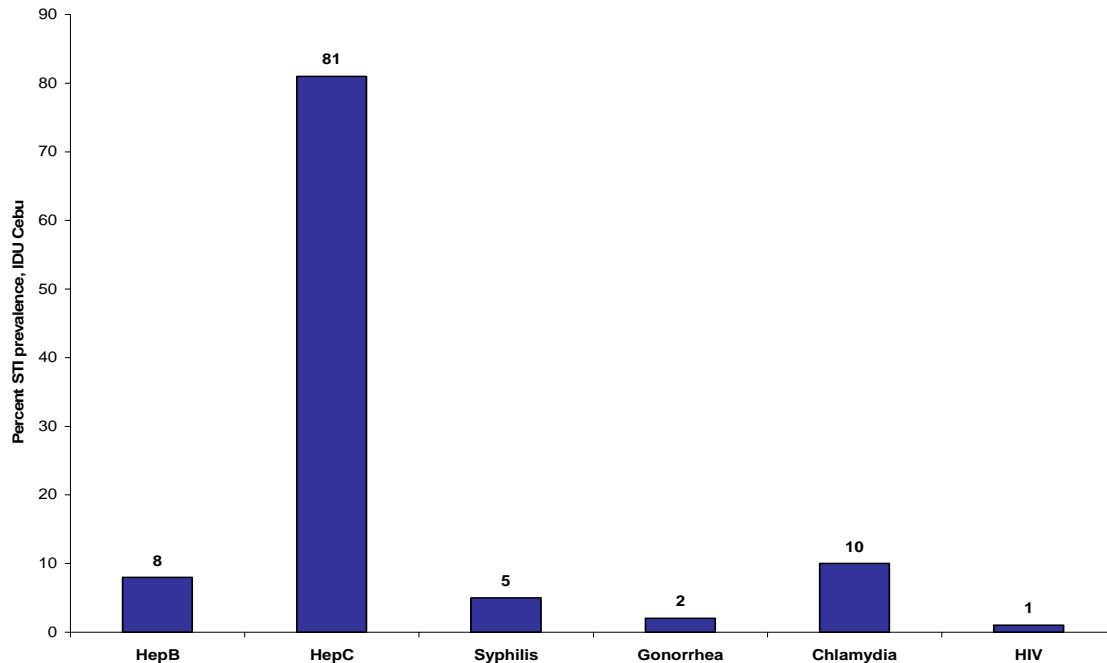
Figure 4: STI prevalence among FSW in Cebu City, Metro Manila, and Angeles City, Philippines, 2004, 1999 and 1994.



Sources: Ramos ER, Roces MC, Wi TE, et al, *Prevalence of sexually transmitted diseases among females sex workers and their clients and men who have sex with men in Angeles City*, Family Health International, December 1999
 Tac-an IA, Wi TE, Ramos ER, et al, *Enhanced sexually transmitted infection control: An evaluation of Presumptive Treatment in Cebu City, Philippines*, Family Health International, January 2004
 Metro Manila, Survey of STI infection among sex workers, Family Health International, 1994

As well as measuring HIV and behavioral risk among IDU in Cebu City, the 2005 IHBSS also measured the prevalence of STIs in this population. The survey revealed that 81% of the IDU in Cebu had Hepatitis C. The very high prevalence of Hepatitis C indicates that there is widespread needle and syringe sharing in the population, a behavior that also facilitates HIV transmission. In addition to Hepatitis C, the survey found 8% prevalence of Hepatitis B, 5% syphilis, 10% Chlamydia, and as previously mention, 1% HIV (Figure 5).

Figure 5: STI prevalence among IDU in Cebu City, Philippines, 2005

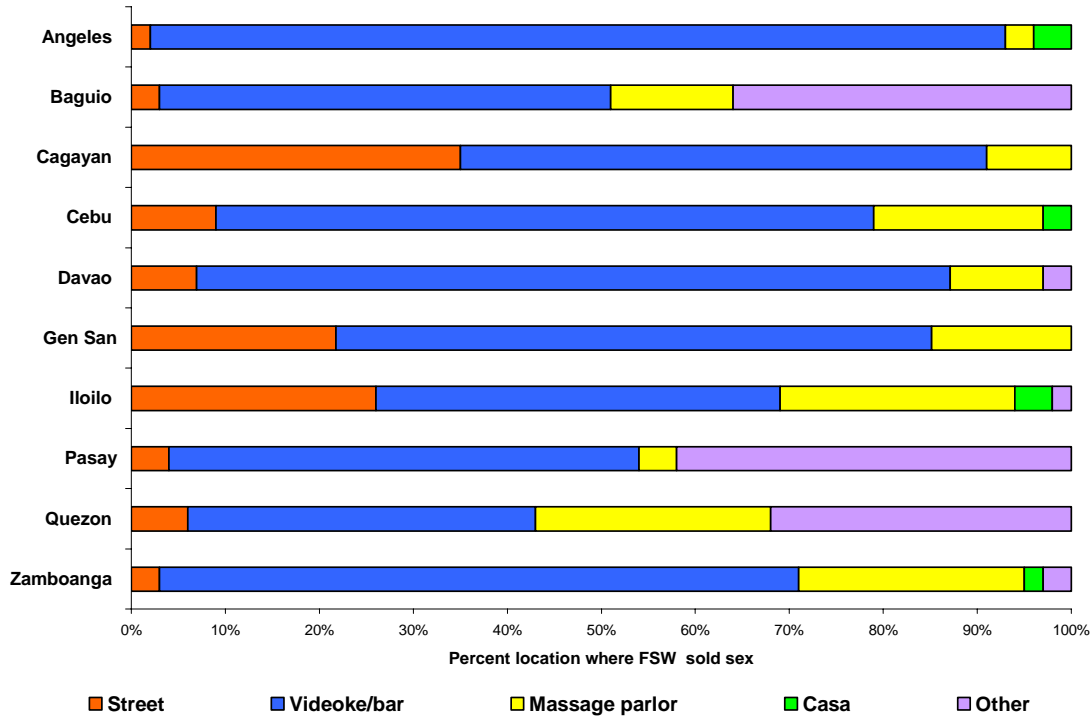


Source: IHBSS and STI prevalence survey in Cebu City, DOH Philippines, 2005

In additional to monitoring HIV and STI prevalence, in low level epidemics it is critical to monitor the behaviors of the highest risk populations in order to identify where HIV might first emerge, how and to whom the virus might spread, and to implement targeted interventions to mitigate transmission.

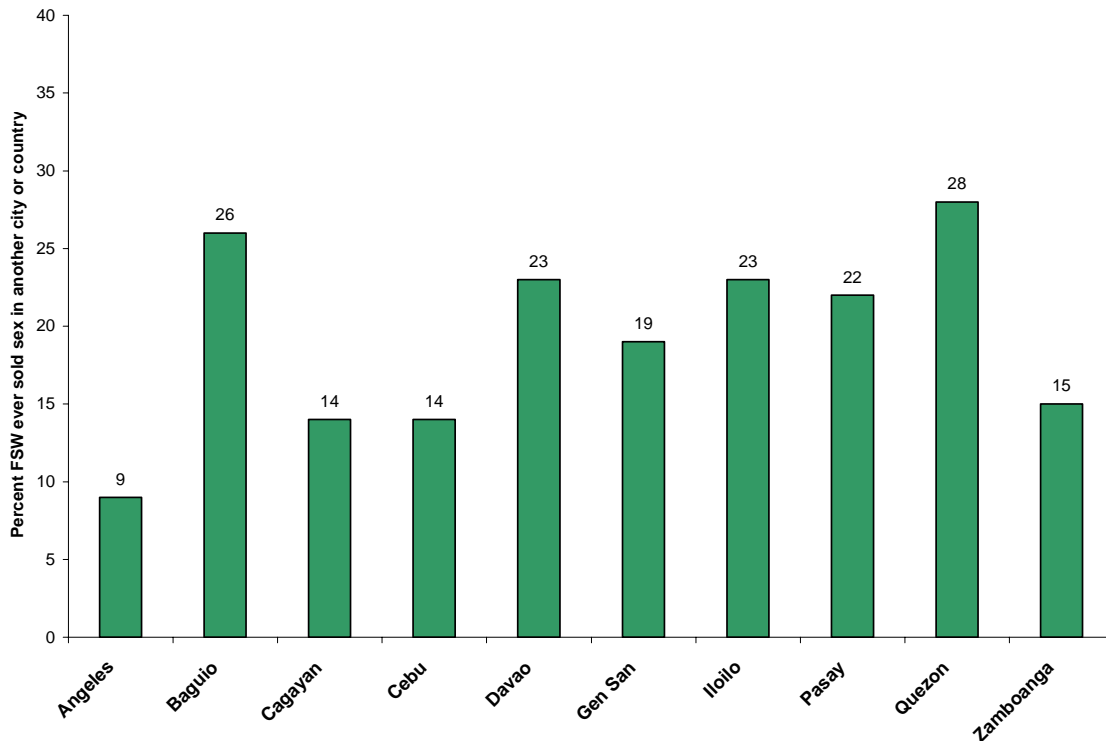
Because of their multiple sex partners and potential for HIV transmission through unprotected sex, female sex workers are considered one of the highest risk groups for HIV. The IHBSS found that female sex workers had been selling sex for an average of two years and had median of two clients per week. They worked in diverse locations, most commonly in videoke and bars, followed by the street and massage parlors. There were more street sex workers in Cagayan de Oro, Iloilo and General Santos than in the other cities surveyed (Figure 6).

Figure 6: Locations where sex workers sold sex by city, Philippines, 2005



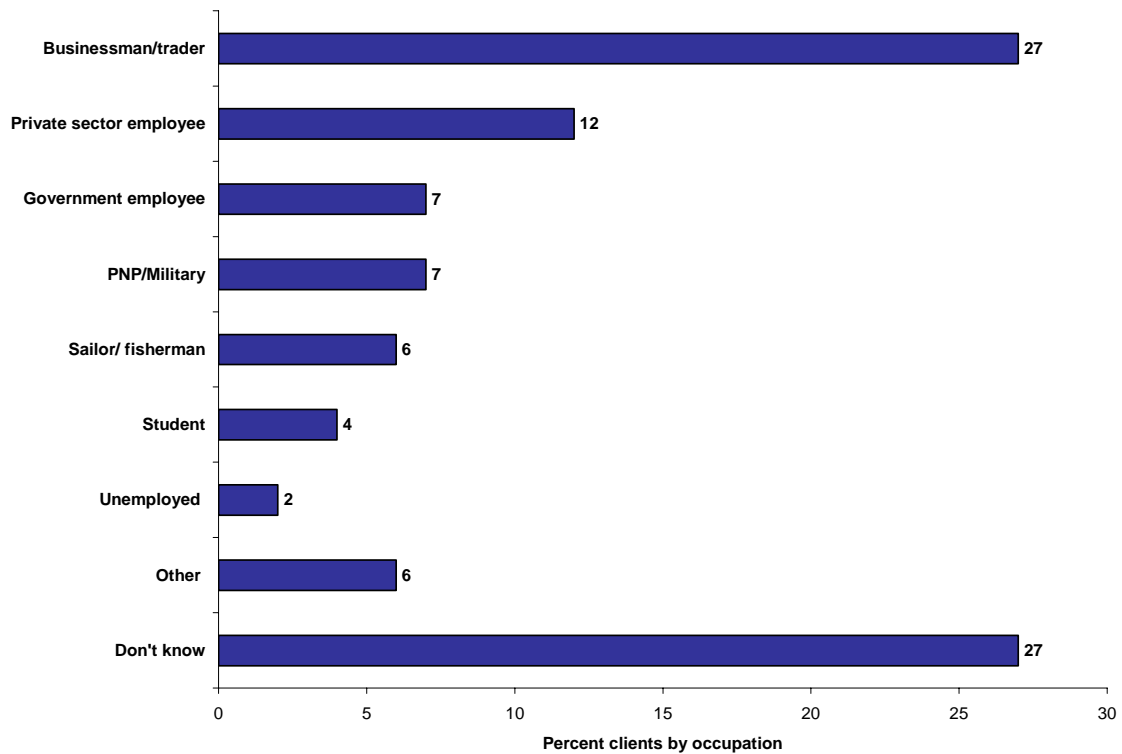
Up to one quarter of all FSW had sold sex in another city besides where they were interviewed, most often Cebu City and Metro Manila. Selling sex in Japan was frequently reported by FSW in Baguio, Davao, Pasay, and Quezon (Figure 7).

Figure 7: FSW who sold sex in another city or country, Philippines, 2005



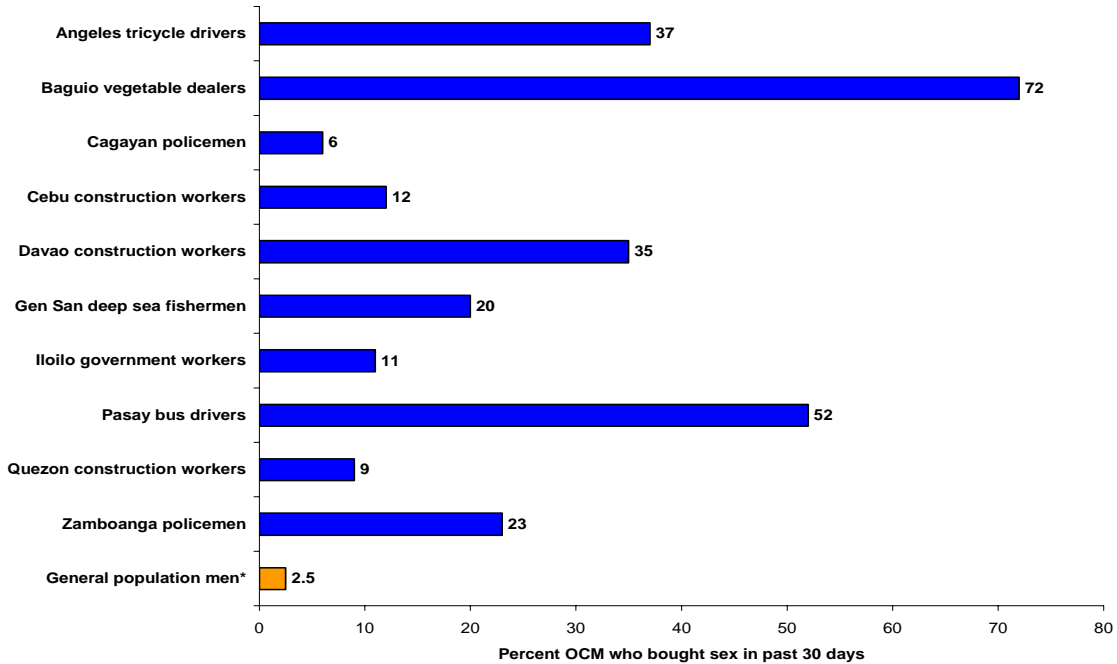
Female sex workers reported that a majority of their clients were businessmen, traders, or private sector employees (Figure 8).

Figure 8: Clients of female sex workers by occupation, as reported by FSW, Philippines, 2005



The proportion of men among the OCM surveyed who reported that they had bought sex in the past 30 days varied considerably across populations and cities. The highest prevalence of clients was found among the vegetable dealers in Baguio (72%), bus drivers in Pasay (52%), tricycle drivers in Angeles (37%) and construction workers in Davao (35%). The national Demographic and Health Survey conducted in 2003 found that an estimated 2.5% of general population men reported purchasing sex in the past year. All male populations surveyed in the IHBSS reported a higher prevalence of sex with a sex worker than did general population men (Figure 9).

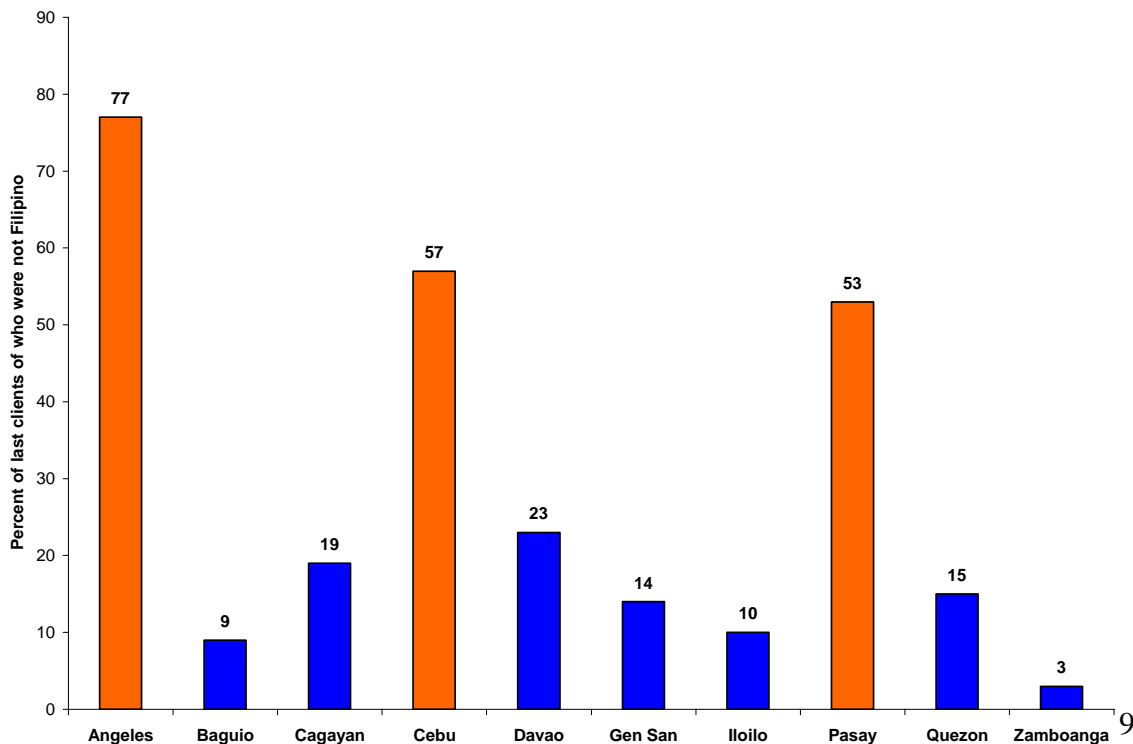
Figure 9: Occupational cohorts of men who bought sex in the past 30 days, Philippines, 2005



* General population men = past 12 months Source: Demographic and Health Survey, 2003

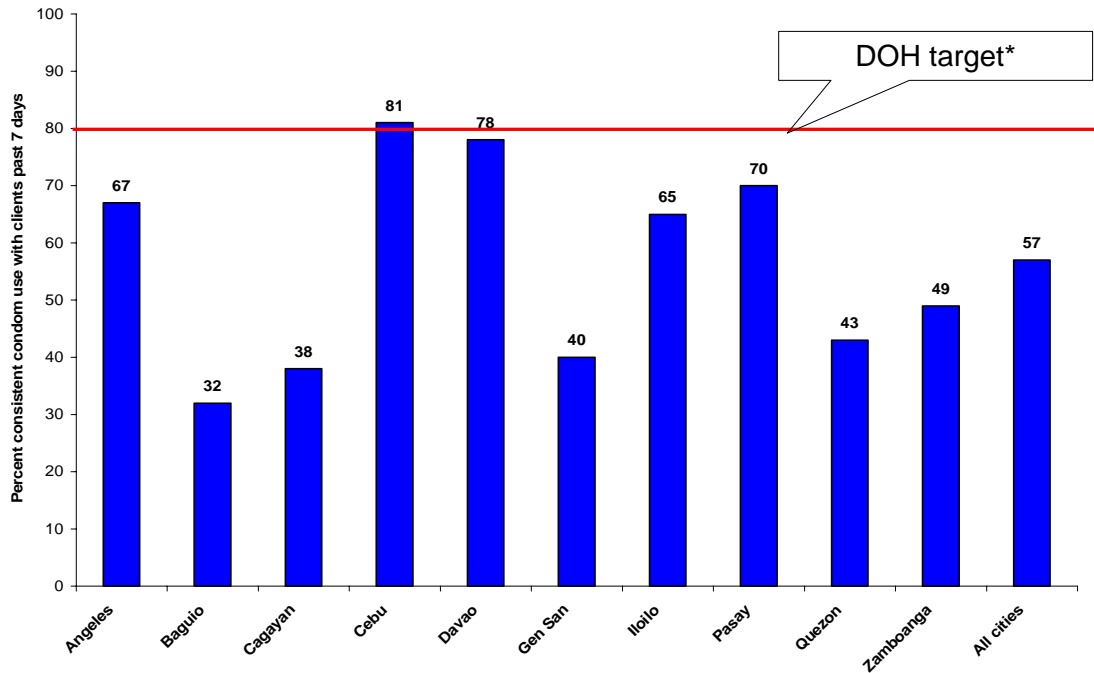
In order to better understand the composition of the male client population, sex workers were asked if their last client was Filipino. In Angeles, 77% of sex workers reported that their last client was not Filipino. More than half of sex workers in Cebu and Pasay also reported that their last client was a foreigner (Figure 10).

Figure 10: Last client of sex worker was not a Filipino, Philippines, 2005



There were significant differences between cities in reported consistent condom use among female sex workers with their clients. Consistent condom use in Cebu and Davao reached 80%, the Department of Health target for 2005-2010. However, condom use in five cities (Baguio, Cagayan de Oro, General Santos, Quezon and Zamboanga) was below 50%. The average consistent condom use across all cities was 57% (Figure 11).

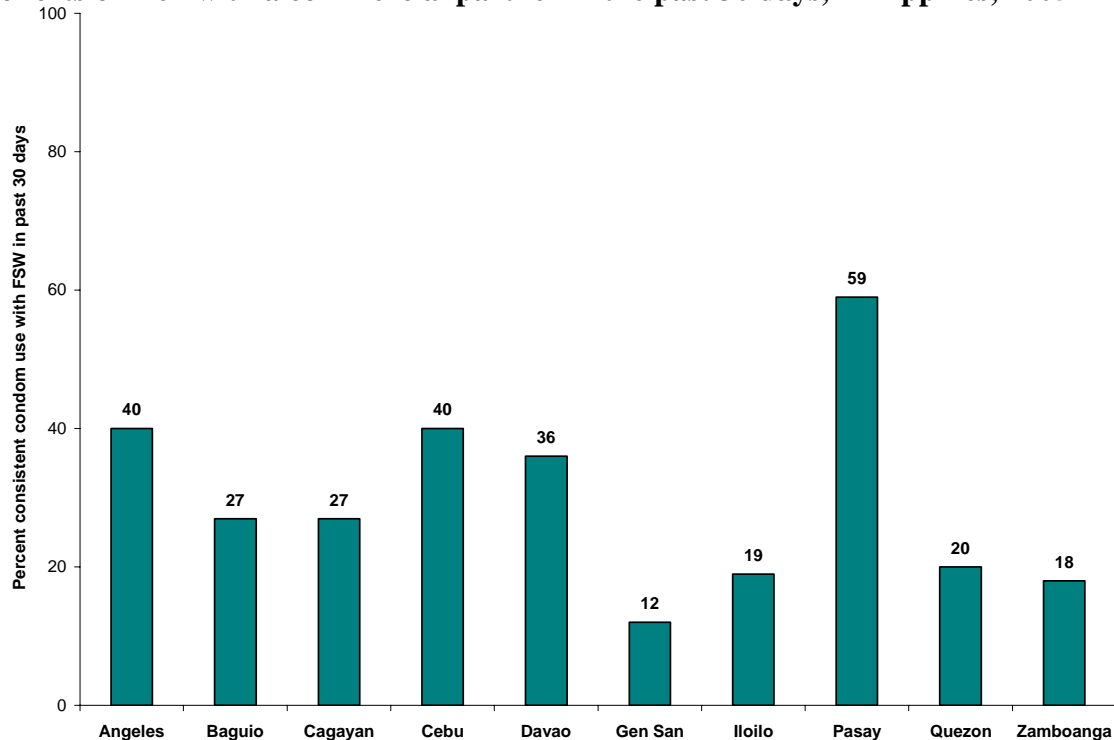
Figure 11: Consistent condom use with clients, female sex workers, Philippines, 2005



* 2005-2010 National Objectives for Health Indicators

Among the OCM who reported having sex with a sex worker in the past 30 days, consistent condom use with all commercial partners was well below 50% in all cities except Pasay (Figure 12).

Figure 12: Consistent condom use with all female sex workers among occupational cohorts of men with a commercial partner in the past 30 days, Philippines, 2005

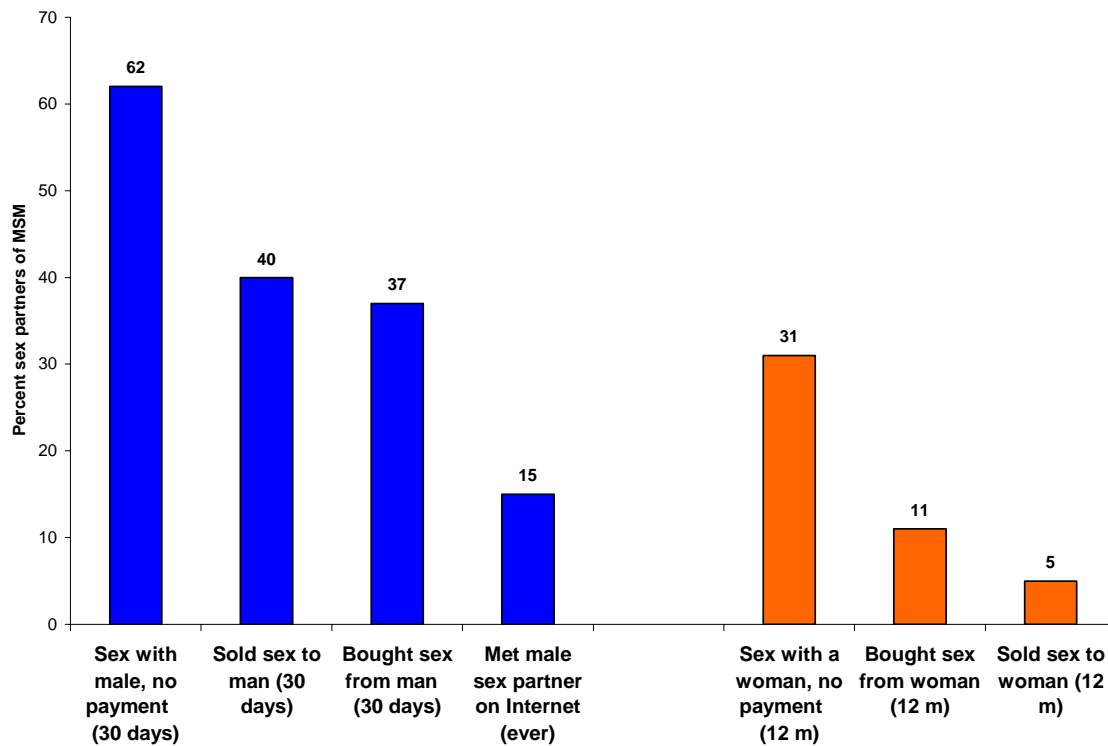


The men who have sex with men reached by IHBSS were those who congregated in bars, parks and other cruising areas and are representative of MSM that group in these meeting areas. A majority of the MSM were not married. Their mean age of sexual debut was 16 years old. Two thirds of their first sexual encounters were consensual sex with another man, and one third was with a wife or girlfriend. All MSM had sex in the past year with another man, and 75% had male-to-male sex in the past month.

The sex partners of MSM were many and varied. Two thirds had sex with a man in the past 30 days where no payment was exchanged. In the past month, 40% of MSM had sold sex to another man and 37% had bought sex from a man. In addition, 15% of MSM reported that they had met a sex partner on the Internet.

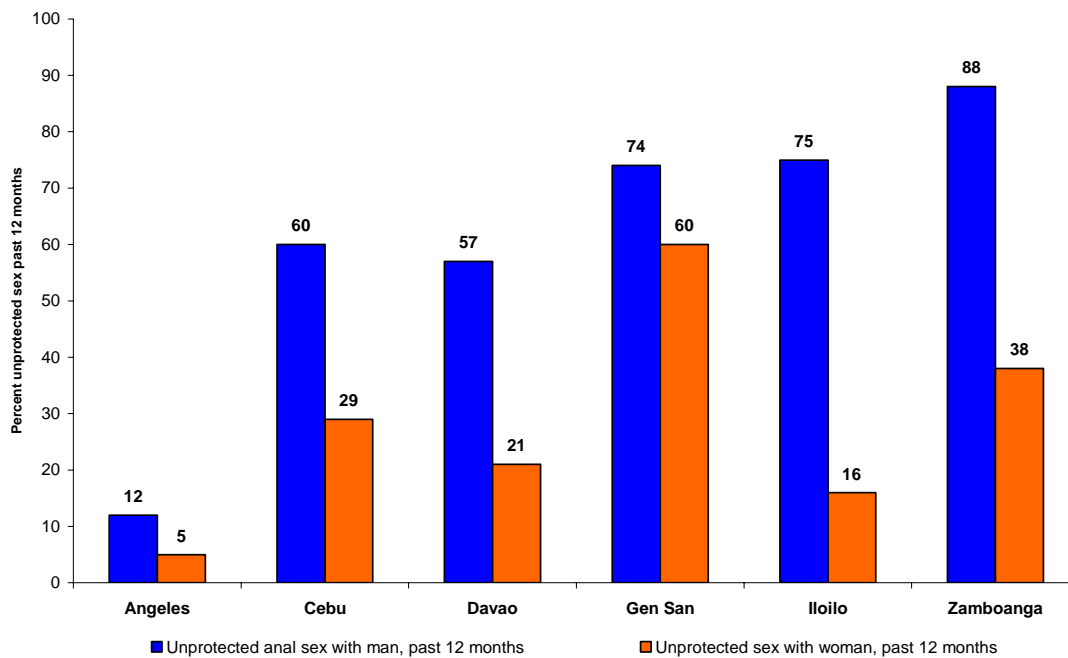
Men who have sex with men also reported having sex with women. One third had a female sex partner, 11% had bought sex from a woman and 5% had sold sex to a woman in the past 12 months.

Figure 13: Sex partners of men who have sex with men, Philippines, 2005



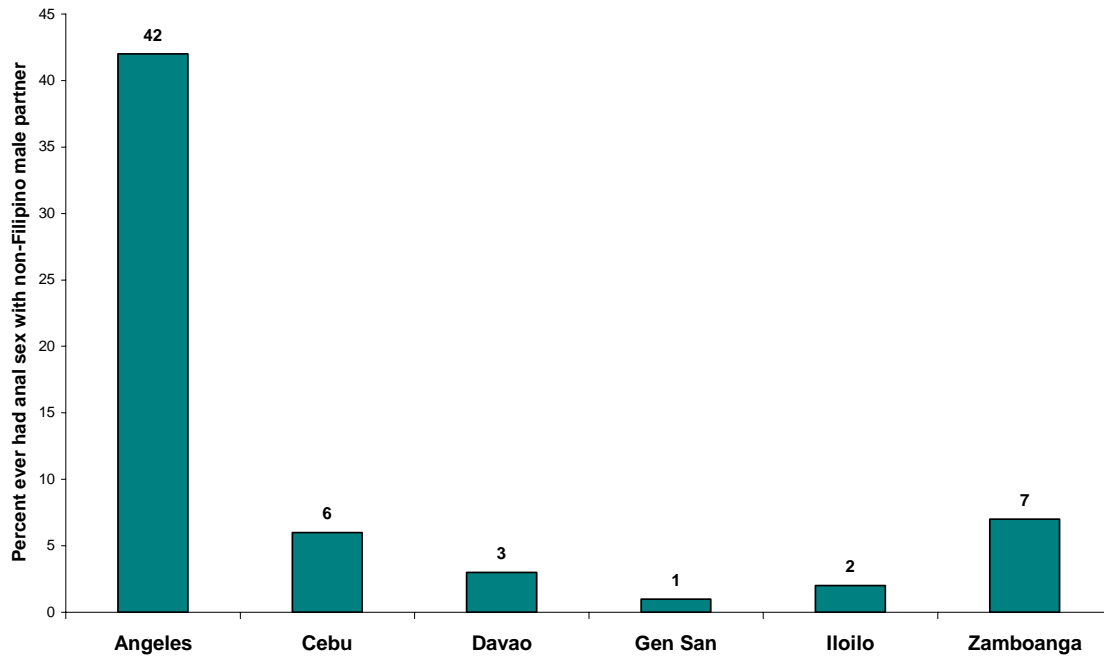
A majority of the MSM in all cities except Angeles reported unprotected sex with a man – and frequently also a women – in the past 12 months.

Figure 14: Unprotected sex among MSM by partner type, Philippines, 2005



For the most part, the male sex partners of MSM were Filipino. Only in Angeles City did a large proportion of MSM report ever having anal sex with a non-Filipino male (42%). Angeles is the same city with the lowest prevalence of reported unprotected sex.

Figure 15: Ever had anal sex with a non-Filipino man among MSM, Philippines, 2005

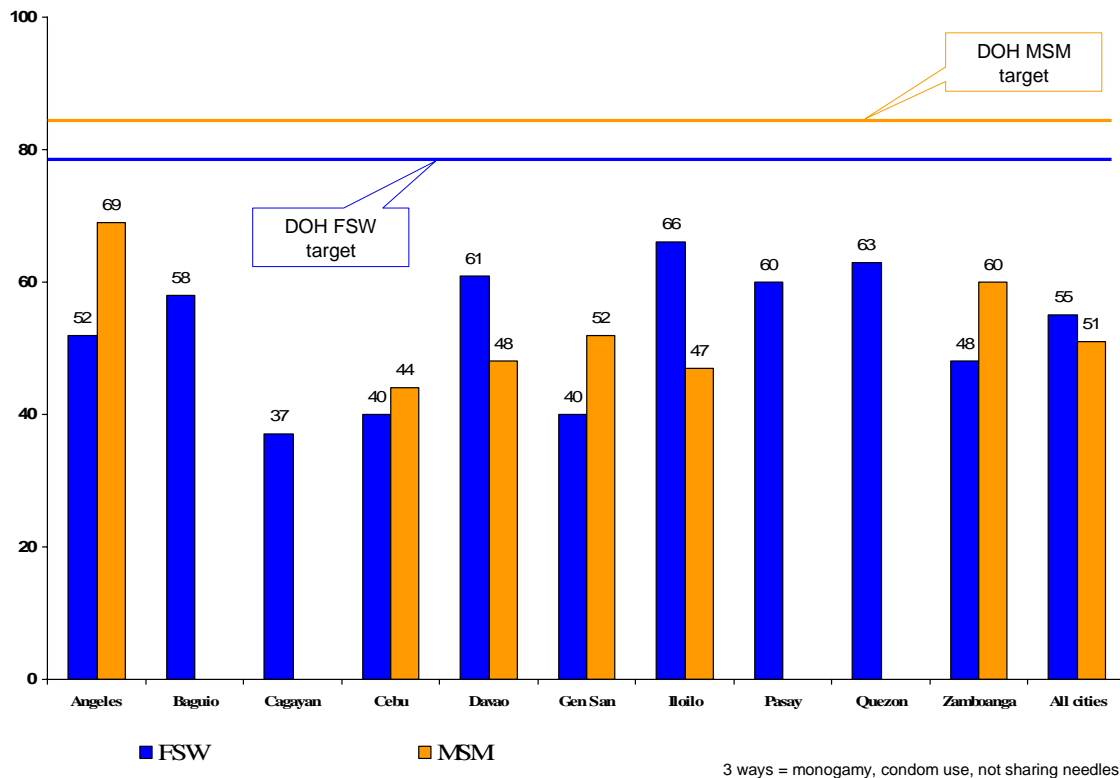


Often HIV epidemics first emerge among IDU populations, spread quickly across the IDU group, and then work their way into other groups through sexual transmission to the partners of IDU. The IHBSS surveyed IDU in Cebu City. The mean age of this population was 29. They reported that the mean age that they first used drugs was 17, and they first injected drugs at 20 years old. Two thirds of IDU were single and one third were married or had a live-in sex partner.

Among all IDU in Cebu, 29% reported that they injected with a previously used needle or syringe the last time they injected. While 92% of those who said they shared injection equipment responded that they had cleaned it prior to injecting, over 80% of them reported that they had used only water, alcohol, or a mixture of water and alcohol to clean it. Further information on IDU behaviors is reported in the Cebu City case study in the following section.

Knowledge of ways in which HIV is transmitted is one of the basic indicators for measuring a country's response to an HIV epidemic. In the ten cities combined, only on half of FSW and MSM knew three ways to prevent HIV transmission (only having sex with one uninfected, mutually faithful partner, consistent condom use, not sharing needles or syringes if injecting drugs). This is significantly below the DOH 2005-2010 target of 79% knowledge among sex workers and 88% among MSM (Figure 16).

Figure 19: Know three ways to prevent HIV among FSW and MSM, Philippines, 2005



Case study from Cebu

In order to look at the potential for more widespread HIV transmission to occur in the Philippines, this section will look at epidemic dynamics using Cebu City as a case study. While HIV remains very low in all populations in Cebu, the first cases of HIV among IDU have been detected (1%). If HIV does enter the population in any significant way, the key factors that will influence its spread include:

- The number of people with high risk sexual and drug-taking behaviors that could bring them into contact with the virus
- The sexual and drug-taking interactions that an infected person has with an uninfected person
- The potential that people who have HIV will share fluids (though sex or injections) with another person during those interactions

The highest risk populations in Cebu are female sex workers, men who have sex with men, and male and female injection drug users. Their estimated population sizes based on *HIV Estimates in the Philippines, DOH, 2005* are as follows:

- FSW: 2,600 - 3,000 (mean 2,800)
- MSM: 1,940 – 9,698 (mean 5,819)
- IDU (male and female): Unknown, but based on NGO records there are at least 700 IDU that can be accessed in gathering site, and there are likely far more in the city

These populations are not isolated from each other, nor are they isolated from other members of the population. The Figures 20, 21, and 22 below illustrate the population overlaps that occur.

Figure 20: Population interactions among IDU in Cebu City, Philippines, 2005

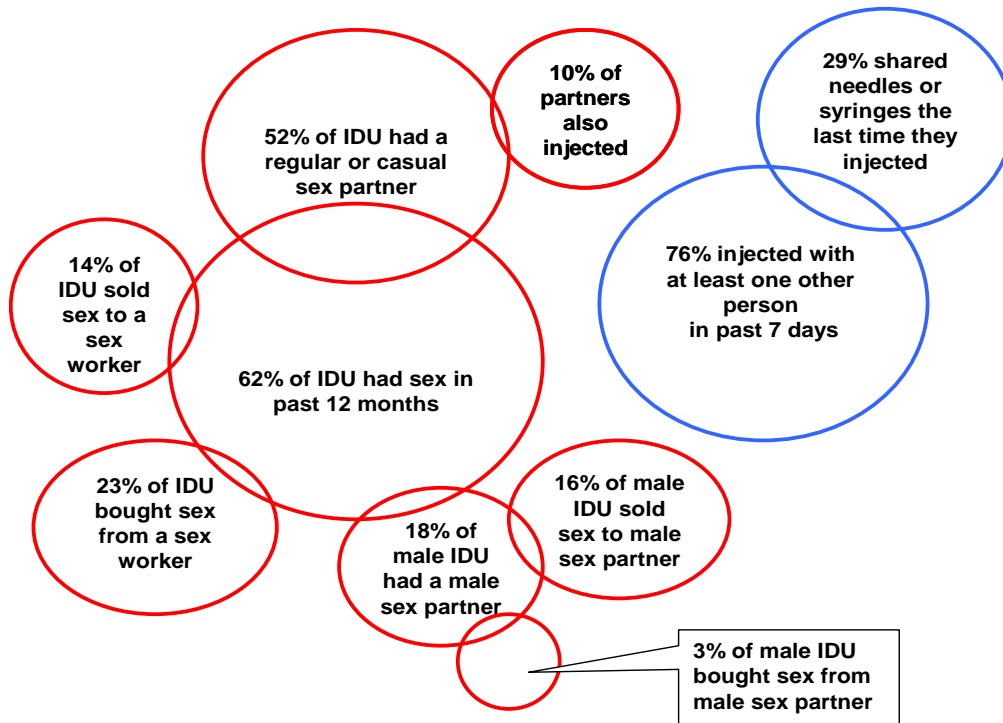


Figure 21: Population interactions among MSM in Cebu City, Philippines, 2005

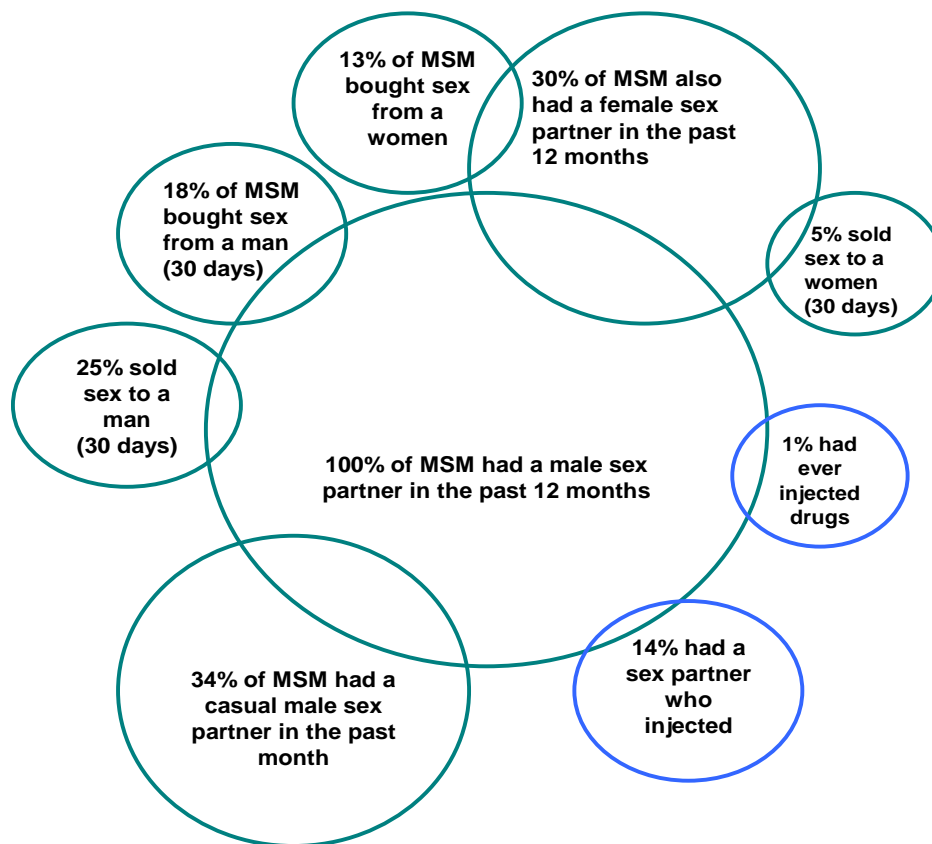
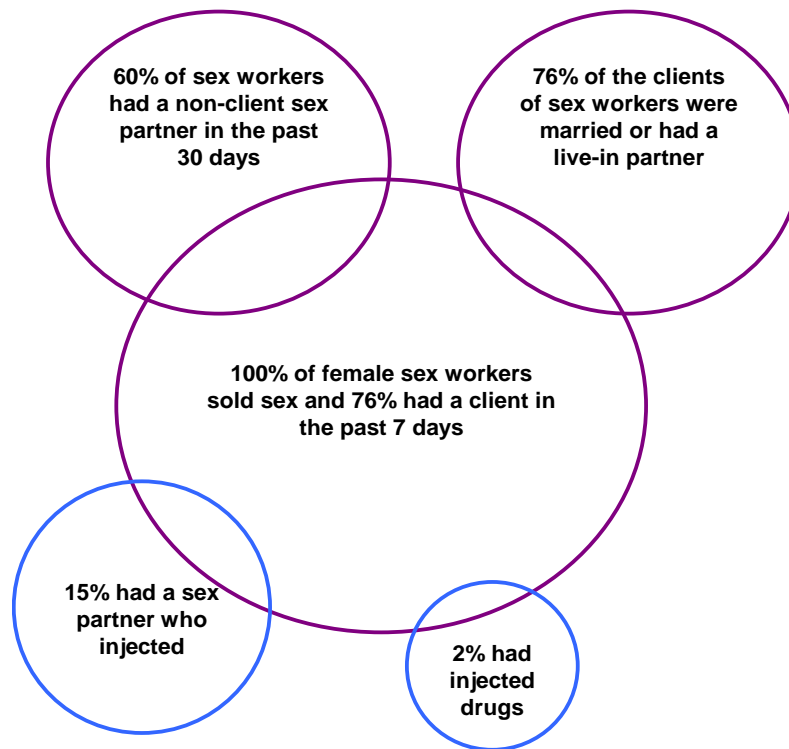


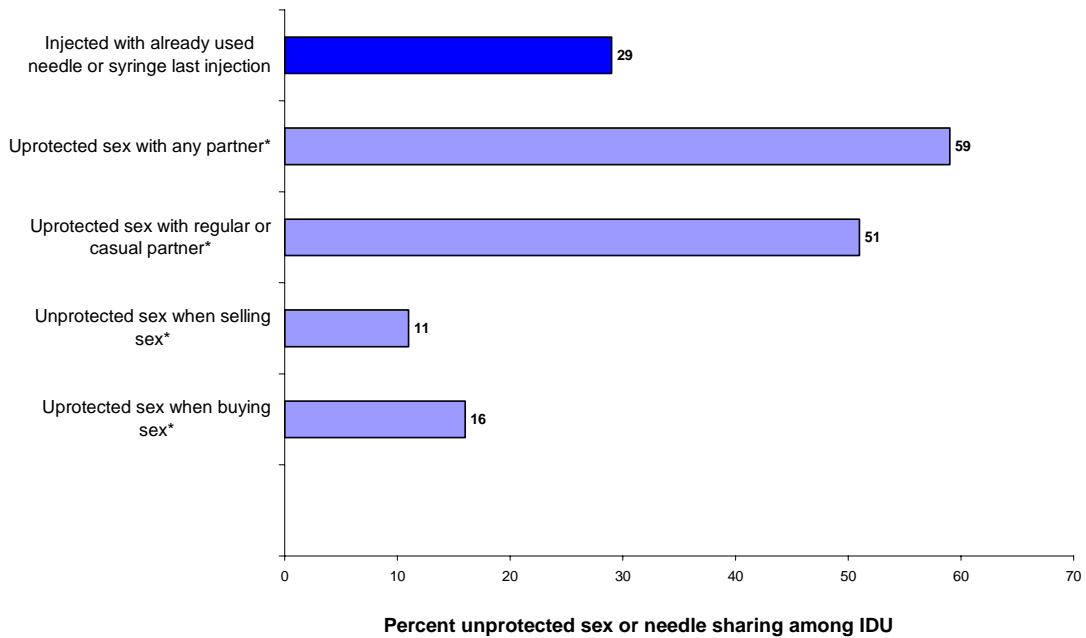
Figure 22: Population interactions among FSW in Cebu City, Philippines, 2005



Even if a person falls into a 'high risk' category, if all drug injections are done with a new or properly sterilized needle, and condoms (and preferably lubricant) are used during every sex act, then the probability of HIV transmission occurring is greatly reduced. It is important to look at the proportion of high risk groups that might be exposed to HIV through fluid exchange via drug use and sex.

In Cebu, 29% of the IDU reported that they used an already used needle or syringe the *last time* they injected. In addition, 59% of them reported having unprotected sex in the past 12 months. These behaviors place IDU at risk not only for acquiring HIV, but also for passing it on to other IDU as well as their sex partners (Figure 23).

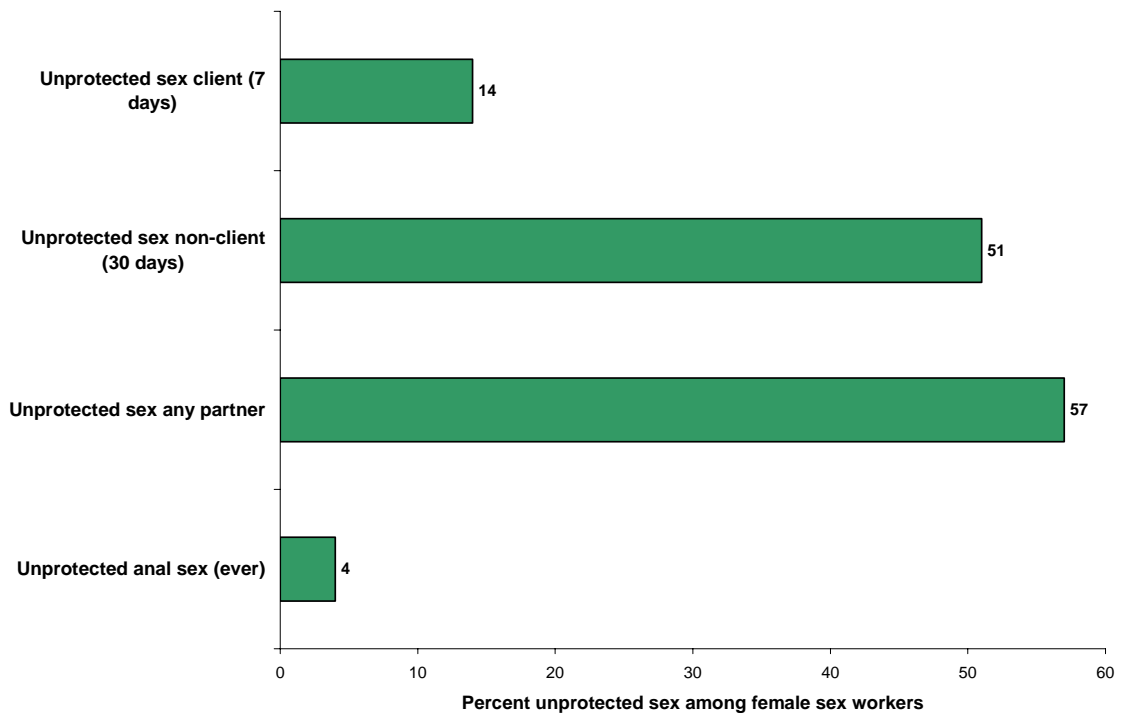
Figure 23: Unprotected sex and needle sharing among IDU in Cebu City, Philippines, 2005



* Past 12 months

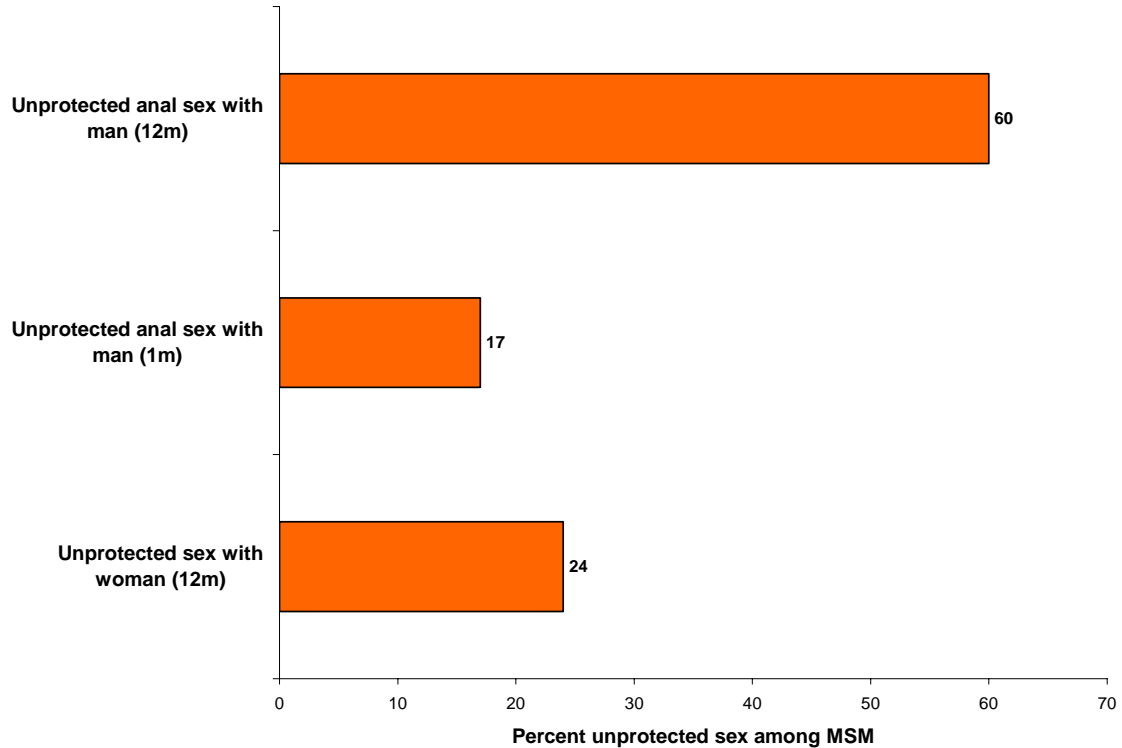
Over half of the female sex workers in Cebu reported unprotected sex in the past 30 days, frequently with partners who were not clients (Figure 24).

Figure 24: Unprotected sex in the past 30 days among FSW in Cebu City, Philippines, 2005



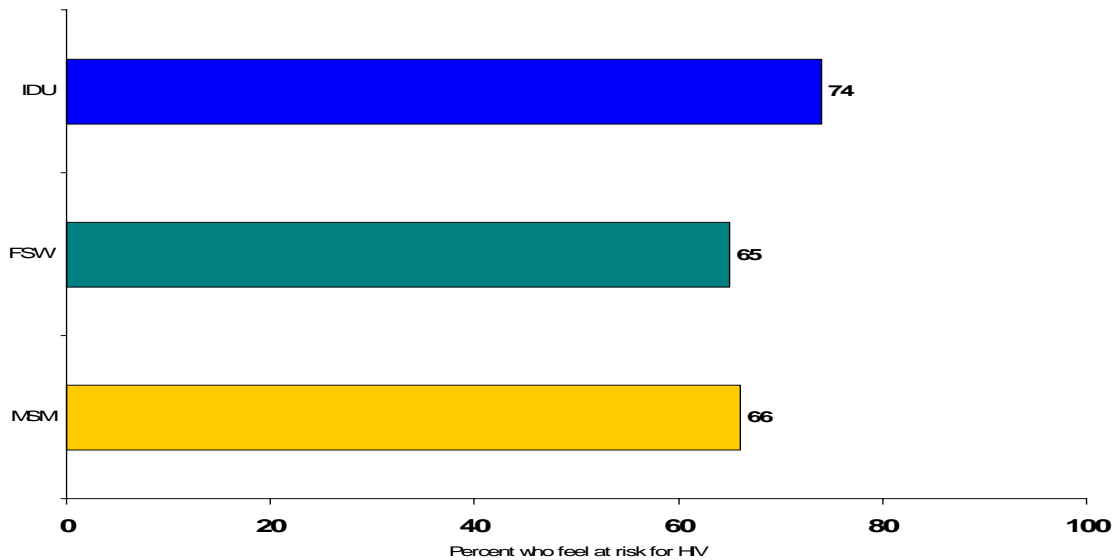
One third of MSM in Cebu City reported anal intercourse with a man in the past 12 months that was not protected by a condom. And one quarter had unprotected sex with a female partner (Figure 25).

Figure 25: Unprotected sex in the past 12 months among MSM in Cebu City, Philippines, 2005



There is a high prevalence of unprotected sex among FSW, MSM and IDU, as well as needles and syringe sharing among IDU. HIV risk perception is also high among these populations in Cebu, through it is not universal. A large proportion of the people who thought that they were at risk for acquiring HIV were also the people who reported unprotected sex and injection equipment sharing (Figure 26).

Figure 26: IDU, FSW and MSM in Cebu City who felt that were at risk for HIV, Philippines, 2005



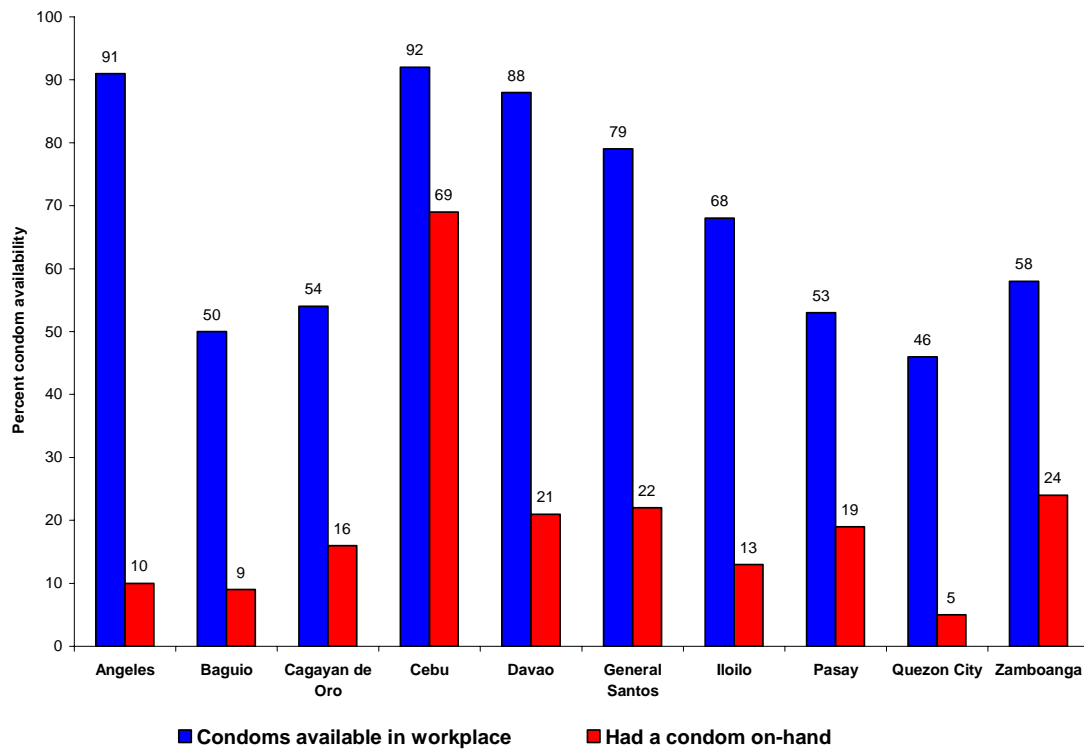
But *why* do these populations feel they are at risk for HIV? When asked, a majority of IDU indicated it was because they injected drugs. A majority of FSW and MSM (and also IDU) reported they were at risk because they had multiple sexual partners. However, a much smaller number identified not using condoms as their HIV risk factor, including a large proportion of those who reported having unprotected sex. In order to effectively implement behavioral change interventions, programs need to explore and address the factors influencing this perception that multiple partnerships alone pose a far greater HIV risk than not using condoms with those partners.

Exposure to interventions

The Philippines has a well-established HIV response through national and local governments and NGOs including information, education and communication (IEC) targeting to the high risk groups, HIV and STI prevention and treatment services through the Social Hygiene Clinics and at NGO clinics, outreach to high risk groups, care and treatment through the HIV/AIDS core teams, as well as other programs. The IHBSS measured what proportion of each population was being reached by these different program elements in order to monitor the extent of interventions in each city.

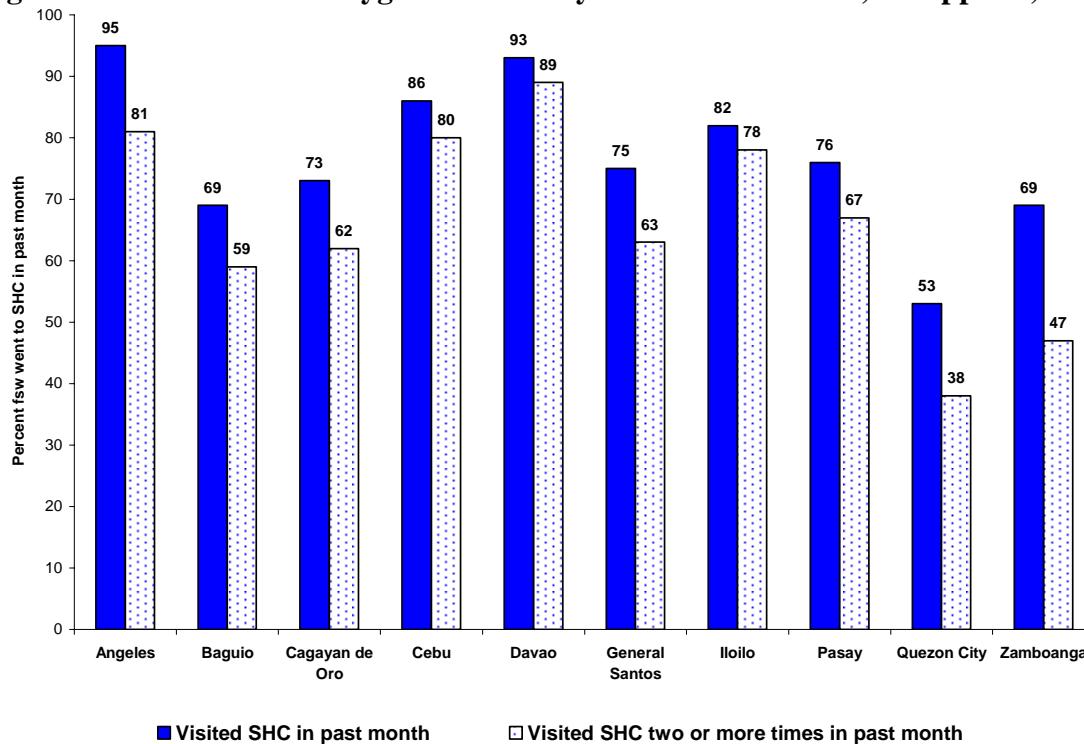
Among sex workers, 80% or more in Angeles, Cebu, Davao and General Santos reported that condoms were widely available in the places where they worked or congregated. Condoms were less available (in varying degrees) in the other cities surveyed. However, only in Cebu were a large proportion of sex workers (69%) able to produce a condom when asked by the interviewer (Figure 27).

Figure 27: Availability of condoms and having a condom on-hand among sex workers, Philippines, 2005



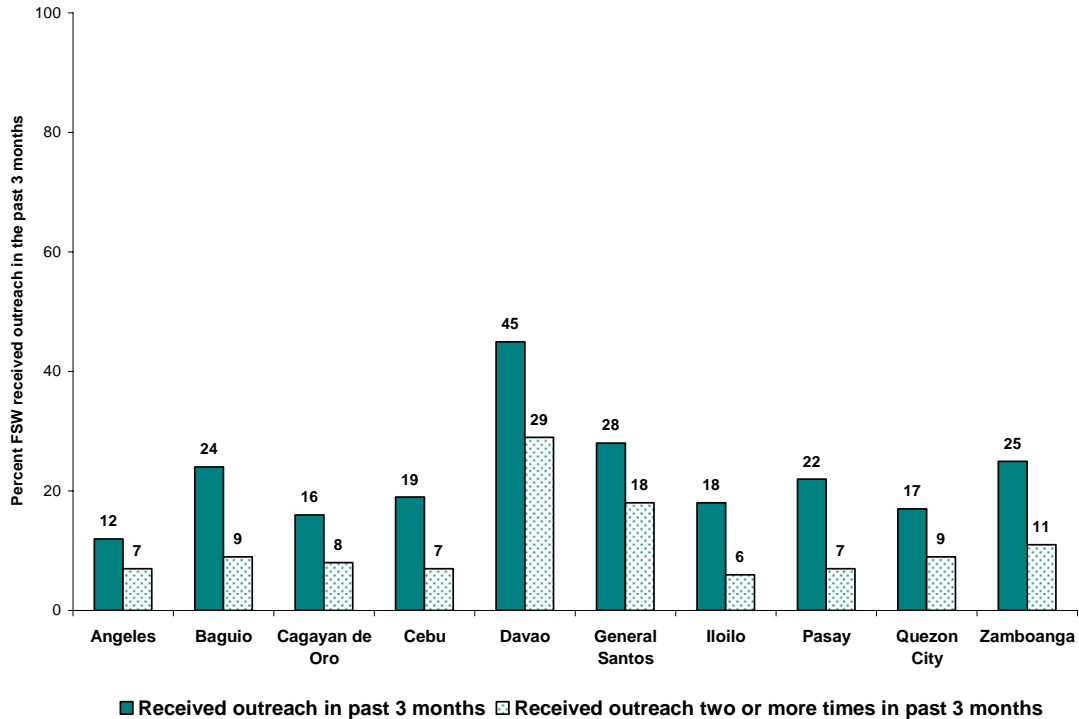
In most cities, more than three fourths of sex workers visited the Social Hygiene Clinic at least once a month. In many of the cities, they reported multiple visits each month (Figure 28).

Figure 28: Visits to Social Hygiene Clinics by female sex workers, Philippines, 2005



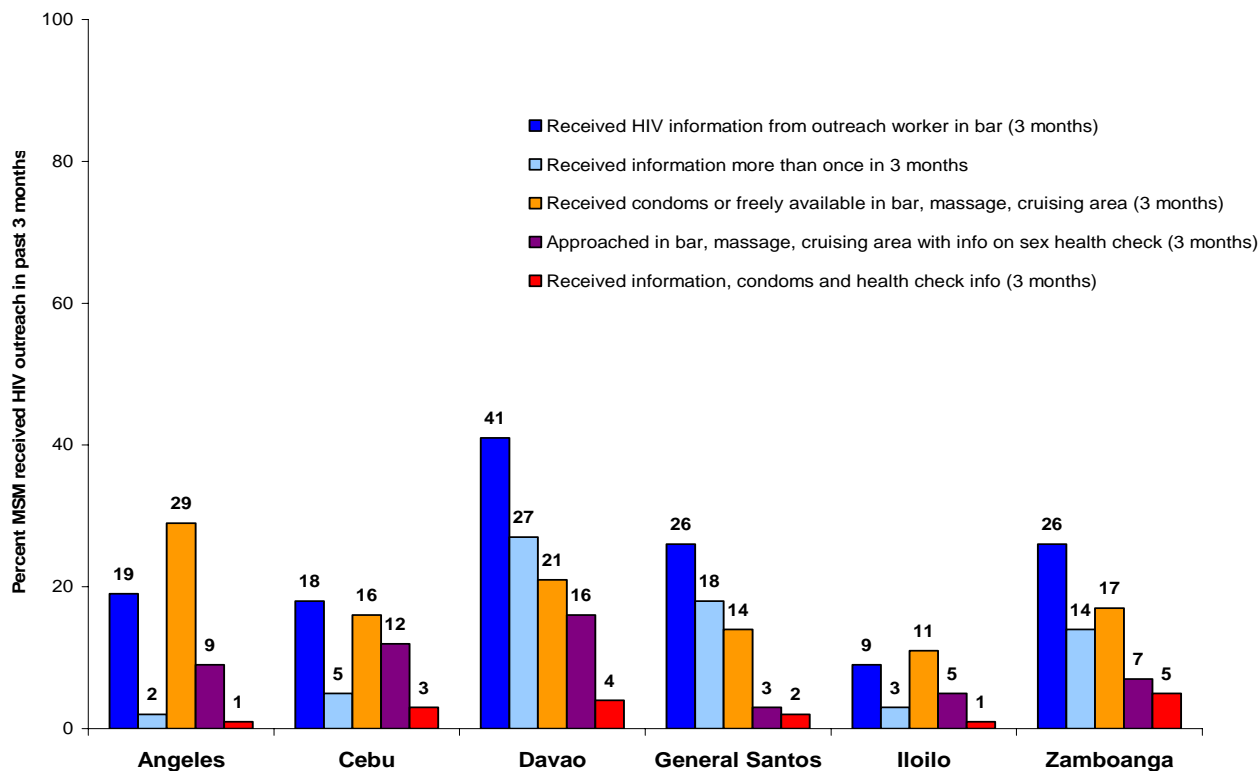
While utilization of Social Hygiene Clinic services among sex workers was high, few outside of Davao reported receiving outreach services even once in the past 3 months (Figure 29).

Figure 29: Received outreach services in the past 3 months among sex workers, Philippines, 2005



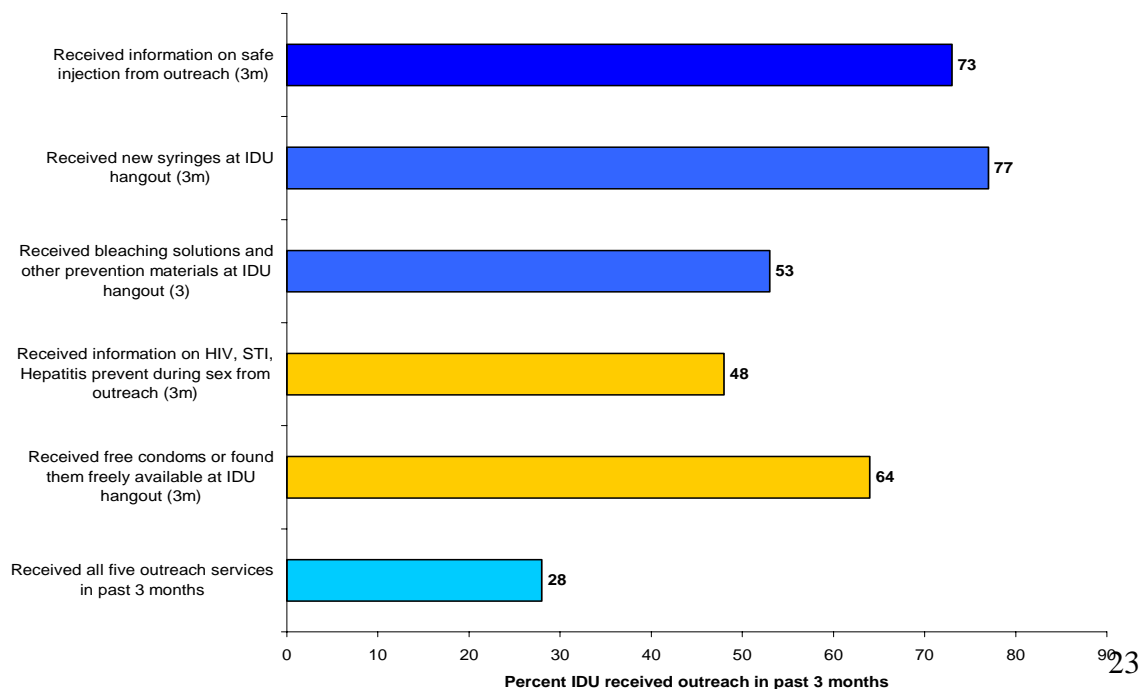
The most active outreach to MSM took place in Davao, but this was primarily a single meeting with an outreach worker. No cities provided outreach interventions to MSM that included education, condom distribution, *and* sexual health check information (Figure 30).

Figure 30: Received outreach services in the past 3 months among MSM, Philippines, 2005



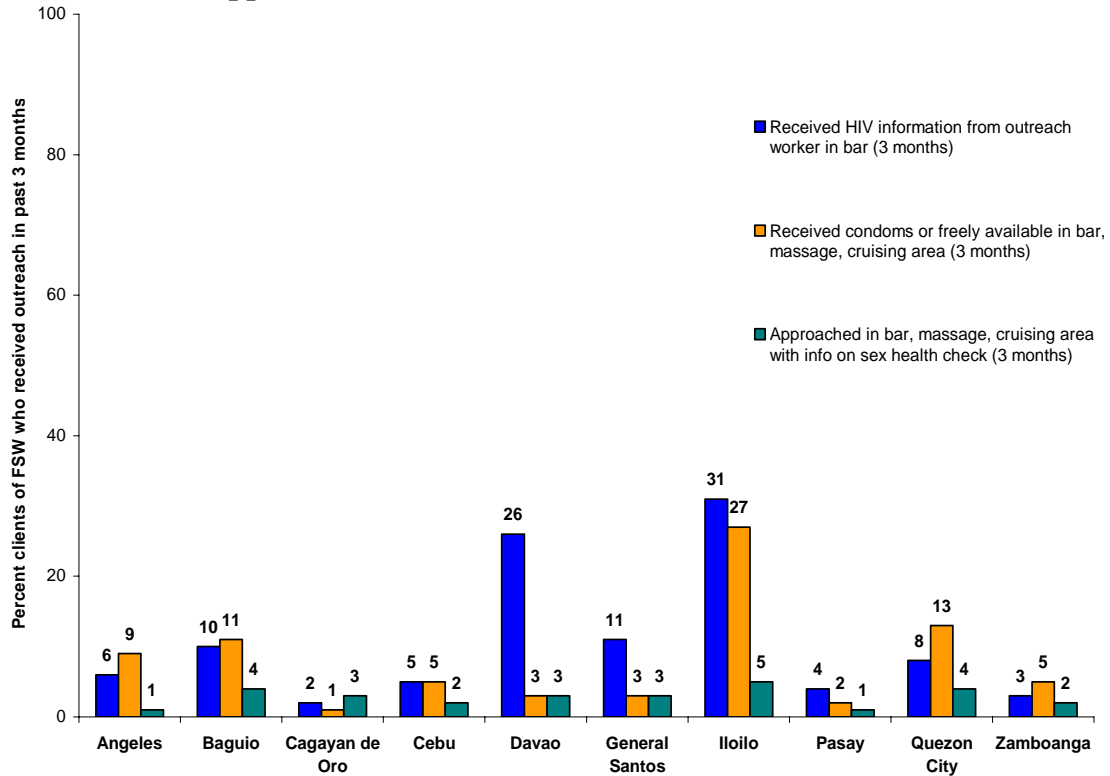
A majority of IDU in Cebu received some type of outreach services for sexual and drug-taking risk reduction in the past 3 months. However, only one quarter of IDUs reported getting the full package of services: information on safe injection and sexual transmission prevention, new syringes, bleach solution, and condom distribution (Figure 31).

Figure 31: Received outreach services in the past 3 months among IDU, Philippines, 2005



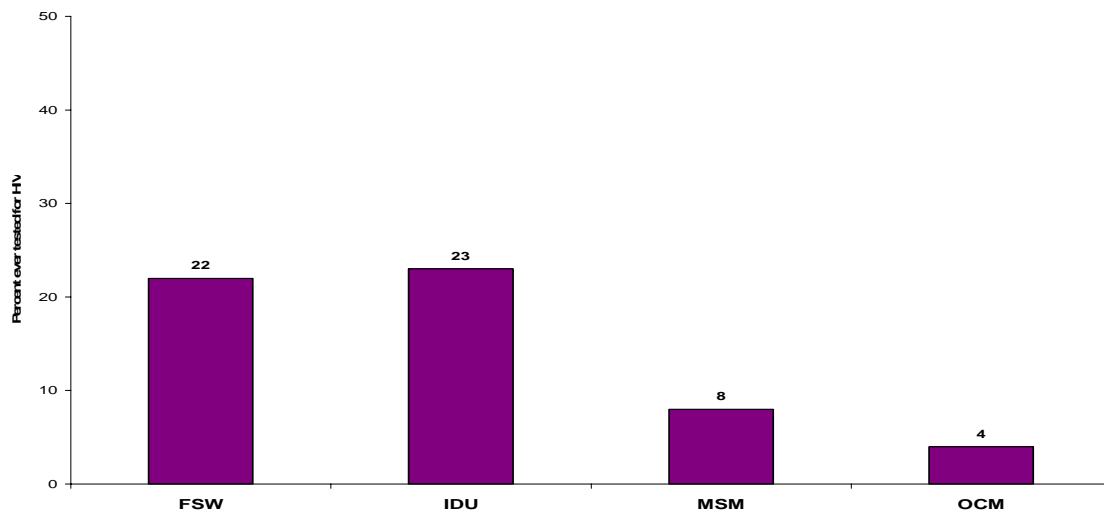
Few clients of sex workers outside of Davao and Iloilo reported receiving HIV information, sexual health information or free condoms in the cruising spots where they met their partners (Figure 33).

Figure 33: Received outreach services in the past 3 months among OCM clients of sex workers, Philippines, 2005



One quarter of sex workers had ever been tested for HIV, as had 10% or less of MSM and OCM (Figure 34).

Figure 34: Ever had an HIV test, Philippines, 2005



Conclusions and recommendations

HIV Prevalence

HIV prevalence remains low in all risk groups in the 10 cities surveyed. However, 1% HIV prevalence was detected among IDU in Cebu City. Coupled with 81% prevalence of Hepatitis C, high levels of needle sharing, and unprotected sexual partnerships, there is a potential route for further HIV transmission in Cebu City.

Monitoring IDU prevalence and behaviors must stay at the forefront of the HIV response, and expanded HIV surveillance among IDUs to other cities with sizable numbers of IDUs (General Santos and Zamboanga cities) should be considered a priority. The Philippine surveillance system's strategy of monitoring the highest risk populations is the most epidemiologically sound method for identifying emerging epidemics and responding to behavioral risks among the most vulnerable groups.

It is also important to explore the potential contribution of male circumcision to continued low HIV prevalence.

Knowledge, behavior, access to intervention

Consistent condom use remains low in almost all populations and cities surveyed, and risk perception for HIV transmission is mainly contained to drug injection and multiple sex partners, not unprotected sex. HIV transmission knowledge also falls well below DOH targets.

Programs targeted to the highest risk populations should be continued and strengthened. Because there is high and frequent utilization of Social Hygiene Clinic services among sex workers, the quality of these programs should be evaluated, and where necessary, strengthened.

Direct outreach information and services are sporadic for many cities and populations, and while some outreach interventions are available for high risk groups, no cities offer a full package of HIV prevention outreach services. Outreach and other intervention efforts should be expanded to include comprehensive, complimentary program components and increase coverage to all high risk populations, including clients of sex workers. Programs must also address the interactions between high risk groups and recognize that they are not isolated populations. Because behavioral dynamics vary greatly across cities, interventions should be designed to address specific, localized risks.

Access to VCT services remains low. Availability of VCT services should be expanded in all sites and promotion of importance of knowing HIV status should be intensified, particularly among high risk groups. Behavioral communication messages focused on condom use for STI prevention should be explored

Surveillance

The revised surveillance system sampling methodology and tools provides much more systematic and in-depth information about HIV prevalence and risk behaviors and enables investigators to measure trends over time. Due to the great variation in behavioral risk and access to interventions in each city, individual sampling frames for each site remains of utmost importance.

The revised system should continue to be used, and a process of careful documentation of lessons learned from first round of modified surveillance should be undertaken to further strengthen the system and fine-tune sampling methods and surveillance processes. It will also be important to revisit surveillance population and geographic area selection to consider whether any higher risk populations or regions are missed by the system (ie Overseas Filipino Workers).

A more in-depth analysis of population demographics, behaviors, and access to interventions should be conducted on a site-by-site basis. Utilization of surveillance data should become a routine part of the national monitoring and evaluation system, and a single document describing the HIV epidemic should be developed, pulling together all sources of information. Funding and technical support for surveillance should also be given high priority in order to ensure that quality data is regularly available to monitor the Philippine's epidemic.

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