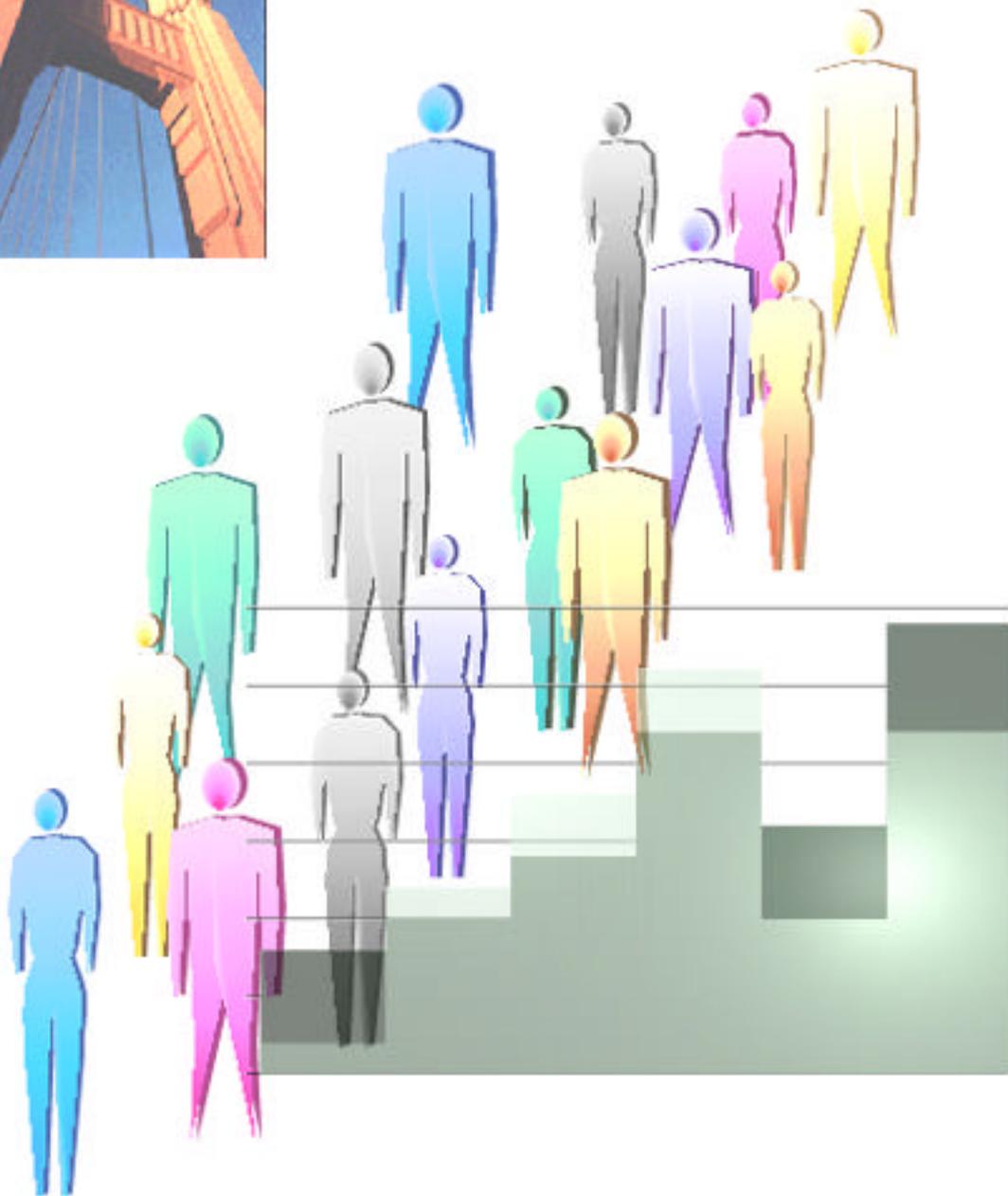# San Francisco HIV Behavioral Risk Factor Telephone Survey

San Francisco Department of Public Health
AIDS Office
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Executive Summary

In late 1997, the San Francisco Department of Public Health completed a Behavioral Risk Factor Survey (BRFS) that was designed to estimate HIV/AIDS risk behaviors within the general population. The BRFS used random-digit dial telephone methods to contact and interview 1,000 San Francisco residents between 18 and 59 years of age.

A total of 7,742 phone numbers were dialed during the survey, of which 51% reached a contact where survey screening could be attempted. Forty-five percent of contacts were screened, and 1,000 adult residents were successfully interviewed. The overall participation rate of those screened was 56%.

Sample Characteristics

- 85% of the sample use English as their primary spoken language.
- 60% are college graduates.
- 80% work full or part-time for wages.
- 7% earned less than $10,000 annually, and 37% earned $50,000 or more annually.
- Among men, 79% reported their sexual orientation as heterosexual, 18% as Gay, and 3% as bisexual.
- Among women, 92% reported their sexual orientation as heterosexual, 6% as Lesbian, and 2% as bisexual.

Beliefs and Attitudes

- 85% believe that HIV/AIDS education should begin by age twelve.
- 71% personally know or knew of someone with HIV/AIDS.
- 62% believe that condoms are a "very effective" method of preventing HIV infection.
- 6% say they are "likely" or "very likely" to become HIV infected in the future.
- 1.9% say they are already HIV infected.

HIV Testing

- 62% reported having been tested for HIV, with 18% reported being tested HIV tested in the past year.
- Prior HIV testing ranged from 95% for gay men, to 56% for heterosexual women.
- 52% were repeat testers, that is, had two or more tests during their lifetime.
- 3% of testers reported that their last HIV test was positive.

Sexual Behaviors

- 73% of respondents were sexually active in the past year with at least one partner.
- Sexually active men reported on average 2.2 partners in the past year, and sexually active women reported on average 1.4 partners in the past year.
- Among sexually active men, 16% have sex only with men (MSM), 83% have sex only with women (MSW), and 1% have sex with both men and women (MSMW).
- Among sexually active women, 96% have sex only with men (WSM), 2% have sex only with women (MSW), and 2% have sex with both men and women (MSMW).
- 10% of WSM reported anal sex with their male partner(s), with 52% reported never using a condom during anal sex.
- 97% of WSM reported vaginal sex with their male partner(s), with 44% never using a condom during vaginal sex.
- 13% of MSW reported anal sex with their female partner(s), with 36% never using a condom during anal sex.

- 98% of MSW reported vaginal sex with their female partner(s), with 34% never using a condom during vaginal sex.
- 72% of MSM reported receptive anal sex with their male partner(s), with 20% never using a condom.
- 89% of MSM reported insertive anal sex with their male partner(s), with 17% never using a condom.

Injection Drug Use (IDU)

- 5% reported IDU ever in their lifetime, and 1.3% reported use in the past year.

I. Introduction

In late 1997, the San Francisco Department of Public Health completed a Behavioral Risk Factor Survey (BRFS) as a means of estimating and measuring HIV/AIDS risk behaviors within the general adult population of San Francisco. This survey used random-digit dial (RDD) telephone methods to contact and interview 1,000 San Francisco residents with a 30-minute questionnaire. The interview asked respondents for their sexual and drug use behaviors, prior HIV testing, and AIDS attitudes. The 1997 survey was designed to be a pilot survey to guide future surveys that may employ a more complex sampling design, a larger sample of respondents, and a more detailed survey instrument.

Background

San Francisco has been severely affected by the HIV/AIDS epidemic. Currently, approximately 15,000 San Francisco residents are thought to be living with HIV infection, or more than one in 30 adult residents. Between July, 1995 and June, 1996 San Francisco ranked fourth in the United States in reported AIDS incidence in metropolitan areas with populations greater than 500,000. In response, the San Francisco Department of Public Health, local community-based organizations, and other public and private institutions have developed a variety of innovative, individual and community-wide prevention strategies aimed at high-risk populations. Although program-specific evaluation of many of these programs in San Francisco have been conducted or are underway, the impact of these interventions on behaviors in the general community has not been systematically assessed. AIDS surveillance data are helpful in efforts to monitor the extent of the AIDS epidemic. These data are augmented by annual clinic-based HIV serosurveys that measure the prevalence of HIV infection and risk behavior trends in selected populations. However, these data do not measure the impact that various prevention and education strategies have had on the sexual behaviors of the community at large. Relying on HIV serosurveillance data does not adequately measure the impact of prevention efforts since many of these serosurveys identify historical infection. Also, because these serosurveys are clinic-based, they may not necessarily reflect the prevalence of HIV infection and risk behaviors among the general population.

Importance of Behavioral Surveys

Periodic behavioral surveys of the general population can provide much needed surveillance information to assess the impact of HIV/AIDS prevention programs by monitoring levels of risk behaviors among San Francisco residents. Baseline and follow-up levels of risk can be evaluated over time to determine if prevention messages are reaching those at risk and if they are effective. Survey questions may be used to assess which prevention messages are reaching the public, to determine how certain sub-populations view their personal risk, to measure the levels of knowledge regarding HIV prevention, and to what extent the general population uses this knowledge to protect themselves from HIV infection. Also, trends in behavioral information can be important indicators of prevention success. For example, trends in condom usage, recent history of sexually transmitted diseases, gender of current and past sexual partners, HIV testing history, injection drug use, use of needle exchange programs, and changes in self-perceived risk of HIV infection can all be used to assess the

impact of prevention activities among the general population. In addition to evaluation of prevention efforts in San Francisco, a population-based survey can also estimate the number of persons at risk. This information is vital in targeting and planning both prevention and health care services, and consequently, this information is frequently requested from the San Francisco Department of Public Health.

Risk Population Estimates

Data obtained from population-based surveys are useful in estimating levels of risk behavior in the general adult population, as well as estimating the size of populations at risk (e.g. men who have sex with men), and to supplement AIDS surveillance data and HIV seroepidemiolgy data to guide and evaluate HIV prevention activities in San Francisco. At present, we estimate 43,000 men who have sex with men (MSM) reside in San Francisco, or approximately 14% of the adult male population. This estimate was generated in 1997 by a consensus group of local AIDS researchers and investigators. Their conclusions were based on studies conducted in selected geographic areas of the San Francisco Bay Area. Since MSM continue to make-up the majority of AIDS cases diagnosed in San Francisco, an adequate estimate of the population size of this population group is necessary to determine the prevalence of HIV infection among MSM in San Francisco. The population sizes of other groups can also be estimated, including heterosexual men and women, and women who have sex with women.

II.   Methodology

Survey Design

The BRFS is a population-based, random-digit dial (RDD) telephone survey of San Francisco residents between the ages of 18 to 59 years. A random list of approximately 9,000 listed and unlisted phone numbers from San Francisco telephone exchanges were selected for the survey. The BRFS was conducted by Survey Method Group, Inc. (SMG), a San Francisco survey research firm with extensive experience in conducting telephone surveys, particularly HIV/AIDS behavioral surveys.

Computer-Assisted Telephone Interviewing

The SMG telephone center used computer-assisted telephone interviewing (CATI) capabilities for this survey. The CATI system runs a PC-based network of telephone stations that is driven by specialized software that automatically selects and dials phone numbers from a random list. The CATI system is fully capable of handling multilingual interviewing and complex sampling tasks such as tracking the day and time of each phone attempt. If necessary, the CATI system would change the time and day of each phone attempt to increase the likelihood of contacting the household. Both the English and Spanish versions of the instrument were programmed onto the computer screen and the interviewer entered the responses directed into the database during the interview. The CATI system also alerted the interviewer of coding errors or invalid responses to allow for immediate correction. The CATI system also skipped questions as specified on the survey instrument.

Subject Eligibility, Contact, and Screening

All San Francisco residents who were between the age of 18 and 59 years at the time of interview were eligible for the survey. San Francisco residency was defined as residing in San Francisco for at least six months or living in San Francisco a minimum of six months out of the year. Age was defined as the number of birth dates reached. This survey did not establish any pre-defined sample quotas based on gender, age, racial/ethnic group, or sexual orientation. Only phone contacts at private residences were screened. Contacts made at business establishments, pay phones, temporary residences (e.g., dorms, hotels), or mobile phones were not screened. A maximum number of six phone attempts were made for each phone number, except numbers that were disconnected or were linked to a data line (e.g., FAX) which were dropped immediately. The time and day of call backs may have changed to increase the likelihood of contact. Contact with an answering machine or a message service was counted as an attempt, and no message was recorded. Once contact with an individual was established, the interviewer identified him or herself and read a short standardized preamble stating that the call was part of a health survey and a few screening questions were to follow. At this point, the phone number and the phone location were verified. The contact was next asked which household resident between the age of 18 and 59 had the next birth date and if this person was available to come to the phone. If the person with next birth date was unavailable, a follow-up phone call was made at a time when the contact was most likely to be available. If the contact did not know all the birth dates at the residence, then he or she was asked about the birth dates they did know. After the potential respondent was selected

and on the phone, the interviewer read a survey introduction describing the purpose of the BRFS, the nature of the questions, and the approximate length of the interview. Respondents were also informed that participation was voluntary and they could refused to answer any question they didn't want to, or end the interview at any time. They were also informed that names and other personal identifiers would not be asked nor collected. Respondents were not offered reimbursement for participation. If the respondent was unable to converse in either English or Spanish, the call was terminated.

Survey Instrument

The BRFS survey was developed using several components from an instrument used in the 1996 California Behavioral Risk Factor Survey, another telephone survey of health behaviors of California residents. Additionally, a modified AIDS behaviors module was used from an instrument developed by the Centers for Disease Control and Prevention. Since the BRFS survey was a pilot survey, the instrument was limited in scope. The instrument was composed of four sections: Respondent Screening, HIV/AIDS Knowledge and Attitudes, Sexual and Drug Use Behaviors, and Respondent Demographics. The Respondent Screening section was designed to screen all phone contacts to ensure they were selected within the sampling frame (i.e., they had the next birth date of the household), they were within the age range of 18 to 59 years, and they were San Francisco residents. The HIV/AIDS Knowledge and Attitudes section requested information from respondents on their attitudes toward AIDS education in schools, prior HIV testing history, and their perceived risk of HIV infection. The Sexual and Drug Use Behaviors section asked respondents

of their sexual behaviors, frequency of condom use, and injection drug use history. Sexual behavior questions were limited to vaginal and anal intercourse. No oral sex questions were asked for this pilot survey. In the Respondent Demographics section, respondents were asked of their racial/ethnic identification, primary spoken language, marital status, education level, annual income, health coverage, and sexual orientation. The survey instrument was translated into Spanish for monolingual Spanish speaking respondents, and bilingual respondent who preferred to respond in Spanish. The instrument was pilot tested by 20 volunteers for ease of use and average time required for completion.

Representativeness

This survey was unweighted, meaning that no statistical adjustments were made to account for sampling bias, household nonresponse, and geographic noncoverage. Therefore, the sample may not accurately reflect the population as a whole, and the results of this survey should be interpreted with caution. Unweighted analysis means that each observation is weighted equally, and assumes that each respondent had an equal chance of selection. This, of course, is not always the case. Special design weights, where each observation is not given the same weight, takes into account households with multiple phone lines, and more than one adult within the household. Future telephone surveys may employ design weights to increase the validity of the survey results.

III.   Response Rate

A total of 7,742 phone numbers were dialed to obtain the 1,000 (13%) respondents. Table 1 shows the final disposition of all call attempts. Forty-nine percent of all the phone numbers dialed resulted in no suitable contact for survey screening. The remaining 51% of phone numbers did reach a contact where screening was attempted. Among the phone numbers where contact was made, 2,197 (55%) were not screened for survey eligibility, and 1,785 (45%) were screened. The overall response rate among those contacted and screened was 56% (1,000/1,785).

Table 1. Call Attempt Summary	
No Contact Made	3,760 (49%)
Made Contact	3,982 (51%)
Not Screened (2,197)	
Screened (1,785)	
Total	7,742 (100%)

No Contacts

As reported in Table 1, 49% of call attempts resulted in 'No Contact' to an individual. Table 2 shows the final disposition of the 'No Contacts'. By far the most common reason for not establishing contact was because no one answered the phone, despite six call backs to the same phone number. A total of 2,397 (64%) phone numbers reached the maximum number of call backs without contact being established and these were dropped from the survey. Obviously, no screening questions could be asked to assess survey eligibility for

these phone numbers. In many telephone surveys, 20 or even 30 call backs are common before the number is dropped. For this pilot survey, however, the survey protocol maintained a call back maximum of six attempts. Nine-hundred and thirty-five (25%) phone numbers failed to make contact because they were disconnected, and 267 (7%) failed because they were connected to a FAX machine or other electronic device. These numbers were dropped without further call back attempts. The remaining 161 (4%) 'No Contacts' were due to a busy signal, no answer, or the phone was connected to an answering machine or a message service. These numbers may have had some call back attempts scheduled, but the survey ended before they could be made.

Table 2. No Contact Made	
Maximum Number of Calls, No Contact	2,397
Phone Disconnected	935
Electronic Signal (e.g., FAX Machione)	267
Answering Machine/Busy Signal/No Answer	161
	3,760

Contacted, Not Screened

Among the phone attempts where contact was made, 55% were not screened. Table 3 shows the distribution of phone contacts that were not screening. When contact was made, the interviewer first verified the location of the phone. If the phone was not located at a private residence, the call was terminated. A total of 727 (33%) contacts were terminated

because the phone was located at a business, temporary residence, or in a mobile setting (e.g., cellular or car phone). Sixty-four (3%) contacts were not screened because the household was not within the City limits of San Francisco.

Table 3. Contacted, Not Screened	
Business or Temporary Residence, Car/Cellular Phone	727
Ineligible/Not a SF Resident	64
Refused	831
Appointment Made, No Follow-up	32
Language Barrier	475
Interviewer Terminates	68
	2,197

A total of 831 (21%) contacts refused to be screened. Contacts who were unable to be screened at the moment of phone contact were scheduled for a follow-up telephone appointment. Thirty-two (1%) contacts were lost to follow-up either because the appointment wasn't kept or the survey ended before the scheduled appointment date. Four-hundred and seventy-five (22%) of contacts were terminated because the contact could not converse in English or Spanish. Finally, 68 (3%) contacts were terminated by the interviewer because the contacts were providing unreliable answers, or were considered too incoherent to be screened.

Contacted and Screened

After suitable contact was made, the next step was to identify potential respondents by

asking the contact questions that would identify the resident with the next birthdate. As shown in Table 1, 1,785 (45%) contacts were screened with these questions. Table 4 shows the results of the screening attempts on these contacts.

Table 4. Contacted and Screened	
No Birthdates Known	396
Respondent Not Available	54
Ineligible/Outside Age Range	22
Screened/Appointment Made	30
Screened/Refused at Consent	271
Screened/Incomplete Interview	12
COMPLETED INTERVIEWS	1,000
	1,785

Three-hundred and ninety-six (22%) households could not be assessed further because the contact did not know which birthdate in the household was next. Fifty-four (3%) potential respondents that were identified as having the next birthdate were unavailable to come to the phone, and subsequent contact attempts were unsuccessful. Twenty-two (1%) were ineligible for the survey because they did not meet the age requirements for inclusion in the survey. Thirty (2%) potential respondents were scheduled for call backs because they were unable to continue the screening process at the time of the initial contact, but call back attempts were unsuccessful. Of the remaining potential respondents who were determined to be eligible for the survey were given a brief consent statement. The consent statement provided the respondent with more

information on the nature of the survey and the general content of the questions. Two-hundred and seventy-one (15%) respondents refused to participate after this consent statement was read. Twelve respondents who consented and started the interview subsequently stopped at some point during the interview. The remaining 1,000 (56%) consented and completed the interview.

IV. Respondent Characteristics

Respondents were tabulated by various demographic characteristics and compared with San Francisco population estimates obtained from the 1990 U.S. Census Bureau to determine if the sample was representative of the general population between 18 and 59 years.

Gender

The gender distribution of the BRFS sample is shown in Table 5. Forty-six percent of respondents were male and 54% were female. One respondent self-reported as a male-to-female transgender, and another declining to state their gender. When compared to the 1990 San Francisco census, females appear to be slightly over-represented (Fig. 1). Higher participation rates among women is frequently seen in telephone surveys.

Table 5. Gender distribution of the BRFS sample.

Gender	Frequency	%
Male	463	46.3
Female	535	53.5
Transgender	1	0.2

Figure 1.
Gender comparison of BRFS sample and the 1990 U.S. Census
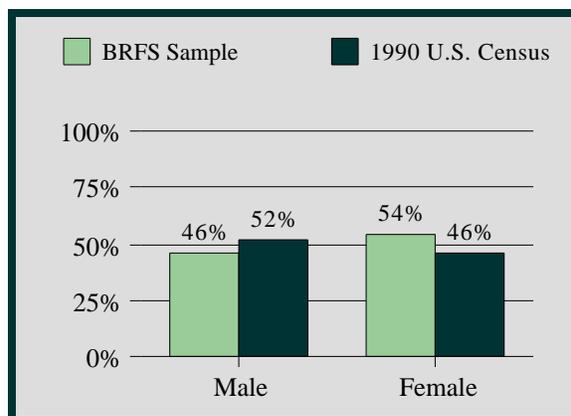
Race/Ethnicity

Table 6 shows the racial/ethnic distribution of the sample. White, non-Hispanic respondents comprised 60% of the sample, followed by Asian/Pacific Islanders at 13%, Hispanics at 12%, and African-Americans at 9%. Three percent of the sample described their racial/ethnic identity as multiracial, and 2% stated 'other' race. Seven (less than 1%) respondents refused to state their racial/ethnic identity.

Table 6. Race/Ethnic group distribution of the BRFS sample.

Race/Ethnicity	Frequency	%
African Amer.	91	9.1
Asian/Pac. Isl.	134	13.4
Hispanic	124	12.4
Native Amer.	7	0.7
White	603	60.3
Multiracial	16	1.6
Other	18	1.8

When compared with 1990 San Francisco census, the sample does show an over-representation of White respondents, and an under-representation of Asian/Pacific Islanders (Fig. 2). This under-representation of Asian/Pacific Islander respondents can partly be explained by the lack of Asian language translations of the survey instrument. About 22% of phone contacts who were not screened for the survey was due to a language barrier, particularly Asian languages.

Figure 2.
Race/ethnic group comparison of BRFS sample and the 1990 U.S. Census
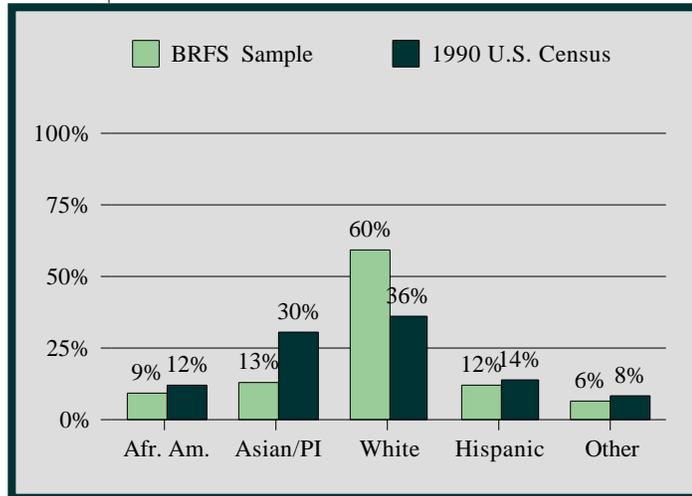
Age Group

Table 7 shows the age group distribution of the BRFS sample. About 31% of the sample were under 30 years, another 30% were between 30 and 39 years, 26% were between 40 and 49 years, and 12% were between 50 and 59 years. Five respondents who reported they were between 18 and 59 years, and therefore included in the survey, refused to state their exact age in years. The age distribution of the sample is similar to the 1990 Census (Fig. 3). The median age of the sample was 35 years.

Table 7. Age Group distribution of the BRFS sample.

Age-Group	Frequency	%
18 to 29	310	31.2
30 to 39	308	31.0
40 to 49	256	25.7
50 to 59	121	12.2

Figure 3.
Age Group comparison of BRFS sample and the 1990 U.S. Census
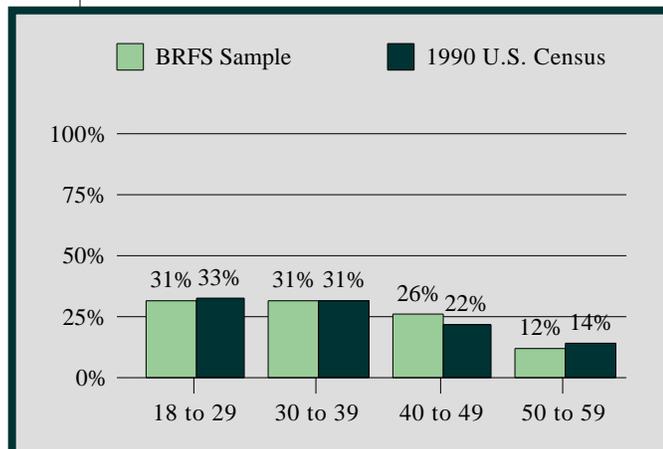
Primary Language

The survey asked respondents to indicated their primary language. Eight-five percent said English was their primary spoken language (Table 8). Spanish was the second most common language at about 7%, followed by Tagalog at 2%, Russian and Cantonese at 1% each, and Mandarin at less than 1%. Three percent of respondents indicated 'Other' languages. When asked to specify their 'Other' language, respondents reported Italian, French, Vietnamese, Thai, Cambodian, and Laotian.

Table 8. Primary language spoken at home.

Language	Frequency	%
Cantonese	11	1.1
Mandarian	3	0.3
Spanish	74	7.4
Tagalog	19	1.9
Russian	12	1.2
English	847	84.7
Other	32	3.2

Education

Table 9 shows the education level of the respondents. Four percent of respondents do not have a high-school education. About 12% have a high school diploma, or a high school graduate equivalence degree (e.g., GED). Twenty-four percent have attended some college or received some post-high school vocational training. Sixty percent of respondents have a college degree from a four year program, a professional degree, or post-

Table 5. Highest educational level achieved.

Education Level	Frequency	%
Less than High School	43	4.3
High School Graduate	115	11.5
Some College	240	24.0
College Graduate	374	37.4
Post-Graduate Education	225	22.5

graduate education. The high level of education among respondents is similar to the education levels found among the general adult population in San Francisco when compared with the 1990 U.S. Census (Fig. 4), although the BRFS sample may have a slightly higher percentage of college graduates.

Figure 4.
Education comparison of BRFS sample and the 1990 U.S. Census
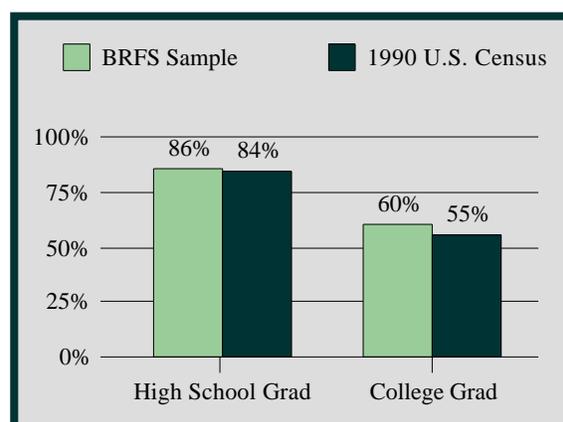
Employment Status

Sixty-nine percent of respondents indicated they have been working full-time for wages during the past 12-months, and 11% worked part-time (Table 10).

Table 10. Employment status of BRFS sample.

Employment	Frequency	%
Full-Time	694	69.4
Part-time	114	11.4
Unemployed	24	2.4
Homemaker	39	3.9
Student/Training Program	65	6.5
Retired or Disabled	42	4.2
Other	17	1.7

Seven percent indicated that they were students or in a training program during the past year, 4% indicated they were disabled or retired, and another 4% indicated they were homemakers, or stayed at home caring for a family. Slightly more than 2% of respondents were unemployed during the past year, and the remaining 2% stated they were in military service, in-jail, or on probation.

Annual Family Income

Table 11 shows the distribution of respondents by annual family income. Family income includes income from all family members including spouse, partner and children. About 7% of respondents reported their family income was less than $10,000. Thirty percent of respondents reported their income between $25,000 to $50,000 per year. This was also the median income category among the respondents. About 21% reported their annual family income at $75,000 or higher. The income level of the sample is similar to the annual household income reported among San Francisco residents according to the 1990 U.S. Census (Fig. 5).

Table 11. Annual family income of the BRFS sample.

Annual Income	Frequency	%
Less than $10,000	74	7.4
$10,000 to $25,000	200	20.0
$25,000 to $50,000	295	29.5
$50,000 to $75,000	166	16.6
$75,000+	206	20.6

Figure 5. Income level comparison of BRFS sample and the 1990 U.S. Census

Marital Status

Respondents were asked for their current marital status. At the time of interview, 49% of respondents said they are currently single and have never married, 28% are legally married, 11% are divorced, 9% are part of an unmarried couple (e.g., domestic or "common-law" partnership), 2% are separated, and 1% are widowed (Table 12).

Table 12. Marital status of the BRFS sample.

Marital Status	Frequency	%
Married	282	28.2
Divorced	108	10.8
Widowed	11	1.1
Seperated	20	2.0
Never Married	486	48.6
Unmarried Couple	89	8.9

Non-Emergency Health Care and Health Care Coverage

Respondents were asked for their primary source for non-emergency medical care and whether they currently have health coverage. Seventy-one percent of respondents said their own private physician or HMO was their primary source of non-emergency care (Table 13). Fourteen percent said a community clinic or health center, 8% said a hospital emergency room, despite the non-emergency nature of the complaint, 2% said San Francisco General Hospital or the VA hospital, and 2% said other sources such as student health centers. Only 1% reported no non-emergency care visits. Also, 83% of respondents indicated they did

have health coverage. Health coverage included health insurance (employer provided or otherwise), prepaid plans such as HMOs or government plans such as Medicare or Medicaid.

Table 13. Primary source of non-emergency care.

Source of Non-Emergency Care	Frequency	%
Private MD or HMO	712	71.2
VA/Militry Hospital	9	0.9
Emergency Room	81	8.1
Public Medical or HealthClinic	136	13.6
Municipal Hospital (SFGH)	10	1.0
Other Source of Non-Emergency Care	24	2.4
No Visits Past Year	11	1.1

Sexual Orientation

Table 14 shows the distribution of respondents by gender and sexual orientation. Thirty-six percent of respondents identified as heterosexual men and 49% identified as heterosexual women. Eight percent identified as Gay, and 3% as Lesbian. About 1% each of men and women identified as bisexual.

Figure 6 shows the gender specific sexual orientation of respondents. Among men, 18% identified as Gay, 3% as bisexual, and 79% as heterosexual. Among women, 6% identified as Lesbian, 2% as bisexual, and 92% as heterosexual. It is important to note that sexual orientation describes the respondent's sexual identification rather than the gender of their sexual partners.

Table 14. Sexual orientation of sample by gender.

Gender	Sexual Orientation	Frequency	%
Men	Gay	82	8.2
	Bisexual	14	1.4
	Heterosexual	363	36.3
Women	Lesbian	30	3.0
	Bisexual	13	1.3
	Heterosexual	485	48.5

Figure 1.
Distribution of respondents by sexual orientation stratified by gender.
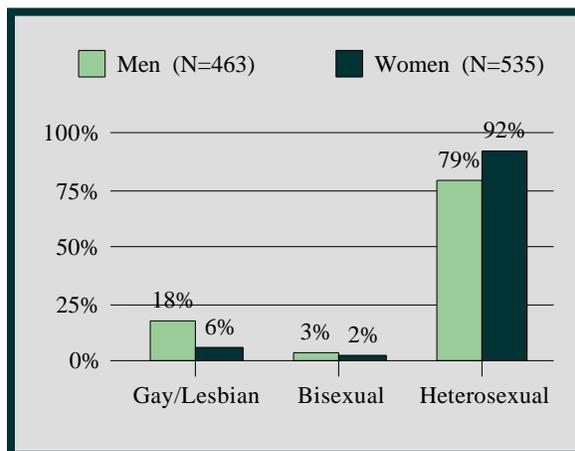
V. Beliefs, Attitudes, HIV Testing

AIDS Education

Respondents were asked at what age should children begin HIV/AIDS education. Over 85% said that AIDS/HIV education should begin by age 12 (Table 15). About 1% said that HIV/AIDS education should begin before age 5, 62% said between 5 and 10 years, 22% said between 11 or 12 years, and 11% said between 13 and 18 years of age. Less than 1% of respondents said that children should never receive HIV/AIDS education in school.

Table 15. Age group at which children should begin HIV/AIDS education.

Age to Begin AIDS Education	Frequency	%
Under 5 years	9	0.9
5 to 10 years	621	62.1
11 to 12 years	222	22.2
13 to 18 years	114	11.4
Never	5	0.5
Don't Know	24	2.4

Know Someone with HIV/AIDS

Respondents were asked if they personally know or have known someone with HIV or AIDS. Overall, 71% of respondents said 'Yes'. Among Gay/Lesbian respondents, 99% said they currently know or knew of someone with AIDS or HIV infection (Fig. 7). Among bisexual men and women, 85% reported they know or knew someone with AIDS or HIV infection. And among heterosexuals, 67% reported they know or knew someone with AIDS or HIV infection.

Figure 7.
Percentage of respondents who know or knew someone with HIV/AIDS by sexual orientation of respondents.
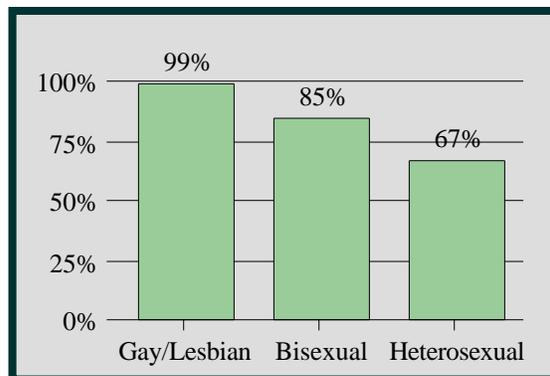
Condom Effectiveness

Table 16 shows respondents' beliefs on condom effectiveness. When asked "How effective do you think a properly used condom is for preventing HIV through sexually activity? ", 62% said "very effective", 34% said "somewhat effective", and less than 3% said "not at all effective". About 2% were unsure or didn't know. This strong belief in condom effectiveness suggests that this sample of respondents believe that safe-sex is an effective method in preventing HIV infection.

Table 16. Respondent's beliefs on condom effectiveness in preventing HIV transmission.

Condom Effectiveness	Frequency	%
Very Effective	616	61.6
Somewhat Effective	338	33.8
Not At All Effective	23	2.3
Not Sure/Don't Know	21	2.1

Perceived Risk of HIV Infection

Respondents were asked for their perceived risk for HIV, or how likely they thought they were in becoming infected. Just over 5% of respondents said they were "Very Likely" or were "Likely" to become HIV infected (Table 17). The majority of respondents indicated that they were "Unlikely" (71%) or it was "Not Possible" (20%) to become HIV infected. Two percent, or 19 respondents, said they are already infected. One percent did not have an opinion, or were unsure of their risk, or refused to answer.

Table 17. Respondents' percieved risk of becoming HIV infected.

Likelihood of Becoming HIV Infected	Frequency	%
Very Likely (75%-100%)	13	1.3
Likely (24%-75%)	43	4.3
Unlikely (1% to 24%)	714	71.4
Not Possible (0%)	198	19.8
Already HIV Infected	19	1.9

HIV Testing

Figure 8 shows the percentage of respondents who have been tested for HIV during their lifetime and during the past year. Overall, 62% of the sample have been tested for HIV antibodies, and 18% were tested in the 12-months prior to the interview.
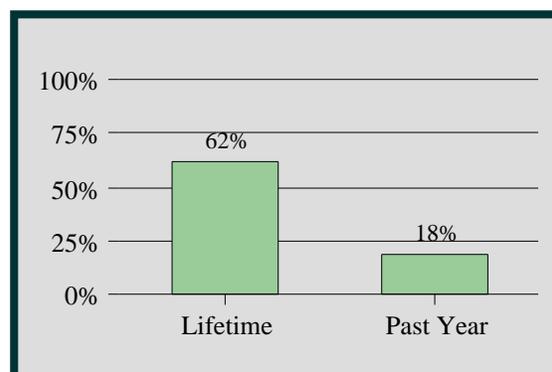
HIV Testing by Gender

Lifetime HIV testing was higher among men than women, 66% versus 58% respectively. (Table 18).

Table 18. Prior HIV testing by gender.

Gender	Sample Size	No. with HIV Test	%
Men	463	304	66%
Women	535	312	58%

HIV Testing by Race/Ethnicity

Table 19 shows lifetime HIV testing by race/ethnicity. All racial and ethnic groups report prior HIV testing rates near or above 50%. The highest rates of HIV testing were among Native Americans (100%) where all seven respondents reported a prior HIV test, followed by multiracial respondents (75%), African Americans (69%), whites (64%), Hispanics (54%), and Asian/Pacific Islanders (49%) respondents.

Table 19. Prior HIV testing by race/ethnicity.

Race/Ethnicity	Sample Size	No. with an HIV Test	%
African American	91	63	69.2
Asian/Pacific Islander	134	65	48.5
Hispanic	124	67	54.0
Native American	7	7	100.0
White	603	386	64.0
Multiracial	16	12	75.0
Other	18	12	66.7

HIV Testing by Age-Group

HIV testing rates by age group are shown in Table 20. HIV testing rates are similar across all respondent age groups, except 50 to 59 year-olds which appear to have lower testing rates than respondents under 50 years. The highest testing rate is found among 30 to 39 year-olds at 65%, followed by 40 to 49 year-olds at 62%, 18 to 29 year-olds at 61%, and 50 to 59 year-olds at 53%.

Table 20. Prior HIV testing by age group.

Age Group	Sample Size	No. with an HIV Test	%
18 to 29	310	189	60.9
30 to 39	308	201	65.3
40 to 49	256	158	61.7
50 to 59	121	64	52.9

HIV Testing by Sexual Orientation

Table 21 shows the distribution of prior HIV testers by gender and self-identified sexual orientation. Among men, 95% of Gay men report a prior HIV test, followed by 71% of bisexual men, and 59% of heterosexual men. Among women, 77% of Lesbians report an HIV test, followed by 85% of bisexual women, and 56% of heterosexual women.

Table 21. Prior HIV testing by gender and sexual orientation.

Gender	Sexual Orientation	Sample Size	No. with HIV Test	%
Men	Gay	82	78	95.1
	Bisexual	14	10	71.4
	Heterosexual	363	214	59.0
Women	Lesbian	30	23	76.7
	Bisexual	13	11	84.6
	Heterosexual	485	272	56.1

Repeat HIV Testing

Table 22 shows the number of prior HIV tests for those respondents who have a prior HIV test (N=616). Just under half (47%) of testers have been tested only once. Fifty-two percent are repeat testers, that is, have had two or more lifetime HIV tests. Twenty-three percent have two prior tests, 14% have 3 prior tests, 6% have 4 prior tests, and 10% report at least 5 prior tests, suggesting routine HIV screening. Four respondents reported over 20 lifetime tests. Male testers were slightly more likely to be repeat testers than females, 58% to 47% respectively.

Table 22. Distribution of testers by the number of lifetime HIV tests.

No. of HIV Tests	Frequency	%
1	287	46.6
2	141	22.9
3	83	13.5
4	36	5.8
5+	61	9.9
Don't Know	8	1.3

Reason for HIV Testing

Among the 616 respondents who had a prior HIV test, 37% cited no specific reason for taking their last HIV test stating they "just wanted to find out their status", or indicated it was part of their routine health status check-up (Table 23). Twenty percent cited a medical reason such as evaluation for an occupational exposure, preparing for a surgical procedure, evaluation of an illness/abnormal blood test, or

because of pregnancy. About 15% tested because of a non-medical reason such as immigration or employment requirements, military service screening, health or life insurance screening, or marriage license requirements. Twelve percent tested because they were referred by a current or a previous sex partner, or wanted to start a new relationship. Ten percent cited a recent "unsafe exposure", such as unprotected sex, a broken condom, or shared syringes. About seven percent cited other reasons or refused to state a reason.

Table 23. Reason for taking the last HIV test.

Reason for Testing	Frequency	%
No Specific Reason/ Routine Check-up	225	36.6
Medical Screening	122	19.8
Non-medical Screening	94	15.3
Partner Related or New Relationship	76	12.3
Recent High Risk Exposure	59	9.6
Other/ Refused	40	6.5

Location of Testing

Among HIV testers, 63% identified their private doctor's office or a public community health center/clinic as the site of their last test (Table 24). Twenty-two percent of respondents said a hospital setting, such as an outpatient, family planning, or AIDS clinic was the site of their last HIV test. Three percent were tested at home through the use of

a home test kit, or by health insurance personnel during insurance policy screening. Three percent reported that they were tested at a blood center or during military service induction.

Table 24. Location of last HIV test among testers.

Location for Testing	Frequency	%
Private Doctor/ HMO	198	32.1
Community Clinic/ Health Center	194	31.5
Hospital/ Outpatient Clinic	134	21.8
At Home/ Self-Test	18	2.9
Blood Center/ Military Induction	20	3.2
Other/ Refused	52	8.4

Results of Last HIV Test

The 616 respondents with an HIV testing history were asked for the results of their last HIV test. Nineteen, or just over 3% of testers, reported that their last test was positive for antibodies to HIV (Table 25). Just over 2% said they didn't know, or were unsure what their last results were. Only 2 (<1%) respondents refused to divulge the results of their last HIV test.

Table 25. Self-reported results of last HIV test

Results of Last HIV Test	Frequency	%
Positive	19	3.1
Negative	578	93.8
Inconclusive	1	0.2
Don't Know/ Not Sure	15	2.4
Refused	3	0.5

Table 26 show the distribution of HIV test results by race/ethnicity. Three of the 63 (5%) African American testers self-reported as HIV positive. One of the 65 (2%) Asian/ Pacific Islander testers reported as HIV positive. Fifteen of the 386 (4%) white testers reported as HIV positive. No infections were reported among Hispanics, Native Americans, multiracial, and other racial group testers.

Table 26. Self-reported results of last HIV test by race/ethnicity.

Race/ Ethnicity	No. Tested	No. HIV Positive	%
African American	63	3	4.8
Asian/Pacific Islander	65	1	1.5
Hispanic	67	0	0.0
Native American	7	0	0.0
White	386	15	3.9
Multiracial	12	0	0.0
Other	12	0	0.0

Table 27 shows the distribution of testers by HIV status and age-group. No infections were reported among respondents under 30 years. Seven (4%) 30 to 39 year-olds self-reported as HIV infected. Nine (6%) 40 to 49 year-olds reported as HIV infected. And three (5%) 50 to 59 year-olds were HIV positive.

Table 27. Self-reported results of last HIV test by age group.

Age Group	No. Tested	No. HIV Positive	%
18 to 29	189	0	0.0
30 to 39	201	7	3.5
40 to 49	158	9	5.7
50 to 59	64	3	4.7

All of the 19 HIV positive testers were male. Table 28 shows the distribution of male respondents by sexual orientation and self-reported HIV status. Twenty-two percent of Gay male testers self-reported as HIV positive, followed by 10% of bisexual male testers, and less than 1% of heterosexual male testers.

Table 28. Self-reported results of last HIV test by male sexual orientation.

Sexual Orientation	No. Tested	No. HIV Positive	%
Gay	78	17	21.8
Bisexual	10	1	10.0
Heterosexual	214	1	0.5

VI.   Sexual Behaviors

Respondents were given the following definition of vaginal and anal intercourse before the interviewer asked questions about sexual behaviors: "By vaginal intercourse we mean when a man puts his penis in a women's vagina. By anal intercourse, we mean when a man puts his penis in someone's anus or rectum." This survey did not ask questions pertaining to oral intercourse.

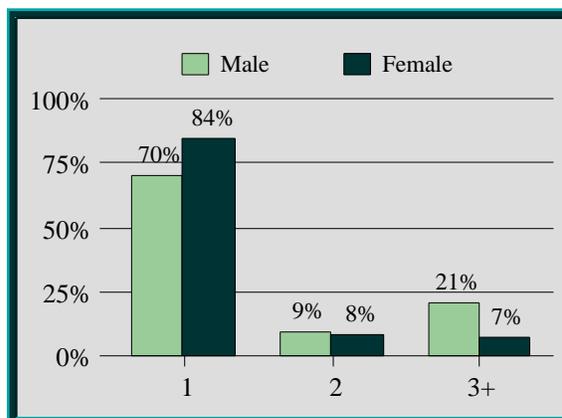### Sexually Activity/Number of Sex Partners

Seventy-three percent of respondents reported being sexually active with at least one partner during the 12-months prior to the interview. Male and female respondents were equally sexually active in the past year (Table 29).

Table 29. Number and percentage of sexually active respondents.

Gender	Sample Size	No. Sexual Active	%
Male	463	339	73.2
Female	535	392	73.3

Male respondents had slightly more past year sexual partners than female respondents. The mean number of partners for men during the 12-months prior to interview was 2.2, with a range of 1-60 partners, whereas women had an average of 1.4 partners, with a range of 1-25 partners. About 70% of sexually active males reported having only one sexual partner during the year, and 21% reported 3 or more partners. Whereas, 84% of sexually active women reported having one sexual partner during the year, and 7% with 3 or more partners (Fig. 9).

Figure 9.
Number of sexual partners in past year among sexually active respondents.

Sexually active respondents were asked for the number of **New** partners they may have had during the past year. A **New** sexual partner was defined as "a sexual partner (either vaginal, anal, or both) that you had sex with for the first time during the past year". Figure 10 compares the percentage of respondents with new sexual partners by gender. Fifty-three percent of men and 60% of women reported no new sexual partners in the past year, indicating that their sexual relationship with their current partner is probably more than a year old.

Figure 10.
Number of New sexual partners in past year among sexually active respondents.
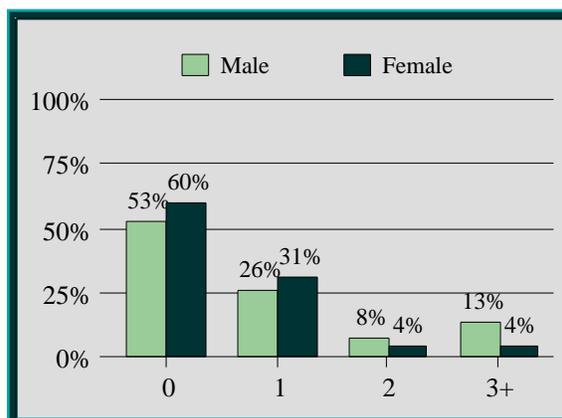
Gender of Sexual Partner

Table 30 shows the distribution of sexually active respondents by the gender of their sexual partners. Sixteen percent of male respondents stated that their sexual partners during the past 12 months were only men (MSM), 83% reported having sex only with women (MSW), and just over 1% had sex with both men and women (MSMW). Of the sexually active female respondents, 96% had sex only with men (WSM), 2% had sex only with women (WSW), and 2% had sex with both men and women (WSMW).

Table 30. Distribution of sexually active respondents by the gender of their partners.

Gender of Respondent	Gender of Sex Partner	Frequency	%
	Men Only	54	15.9
Men	Women Only	282	83.2
	Both	4	1.2
	Men Only	378	96.4
Women	Women Only	8	2.0
	Both	6	1.5

Condom Usage

Sexually active respondents were also asked if they used condoms during anal or vaginal sex during the past year. Thiry-nine percent of respondents stated they never used condoms with their partner during the past year (Table 31). Twenty-five percent said they "Always" used a condom. Twenty percent "Almost Always" used a condom. Sixteen percent stated that they used condoms "Sometimes". When asked about the last time they had sex, 38% percent said they used a condom the last time they had sex.

Table 31. Condom use during past year among sexually active respondents.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	183	25.0
Almost Always (50-99% of the time)	149	20.4
Sometimes (<50% of the time)	114	15.6
Never (0% of the time)	283	38.7

Table 32 shows the primary reasons for condom use among the respondents who used a condom during the last time they had sex. The most frequent reason was to prevent both pregnancy and disease (36%), followed by preventing pregnancy (31%), and preventing disease (16%). Two percent stated "Another Reason". When asked if a condom 'ever' had broken or slipped off during sex, 38% said 'Yes'.

Table 32. Reasons for condom use.

Reason for Condom Use	Frequency	%
Prevent Pregnancy	138	30.9
Prevent Disease	73	16.4
Prevent Both Pregnancy/Disease	160	35.9
Another Reason	7	1.6

Table 33 shows the distribution of "frequent" condom use ("Always" or "Almost Always") during the past 12 months by sexual risk group. Due to small sample sizes, MSMW were combined with MSM, and WSMW were combined with WSM. No data were collected for WSW. Frequent condom use was highest among MSM/MSMW at 76%, followed by MSW at 47%, and WSM/WSMW at 40%.

Table 33. "Frequent" condom use by sexual risk group.

Sexual Group	Number in Sample	No. Freqent Condom Use	%
MSM or MSMW	58	44	75.9
MSW	282	132	46.8
WSM or WSMW	384	156	40.1

Women Who Have Sex with Men (WSM)

The next series of tables show the results of specific sex behavior and condom use questions asked to women in the sample who were sexually active with men (WSM or WSMW) during the past 12-months (N=384).

Anal Sex with Men

When asked "In the past 12-months, have you had anal sexual intercourse with a male partner, 10.4% of women said 'Yes' (Table 34). Table 35 shows the frequency of condom use of the 40 women who reported having anal sex. Forty percent reported that they "Always" or "Almost Always" use condoms. About 8% reported they use condoms "Sometimes".

However, the majority of women (52.5%) reported that they never used a condom during anal sex with a man.

Table 34. Frequency of anal sex with men among women who have sex with men (WSM).

Anal Sex with a Man	Frequency	%
Yes	40	10.4
No	339	88.3
Refused	5	1.3

Table 35. Frequrncy of condom use during anal sex with men among WSM.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	8	20.0
Almost Always (50-99% of the time)	8	20.0
Sometimes (<50% of the time)	3	7.5
Never (0% of the time)	21	52.5

Vaginal Sex with Men

Women who have sex with men were asked if they had vaginal sexual intercourse with a male partner in the past year. Over 97% said 'Yes' (Table 36). Table 37 shows the frequency of condom use during vaginal sex with men in the past 12-months. Forty percent of women reported frequent condom use ("Always" or "Almost Always"), 16% reported use "Sometimes", and 44% reported "Never" using a condom during vaginal sex in the past 12-months.

Table 36. Frequency of vaginal sex with men among women who have sex with men (WSM).

Vaginal Sex	Frequency	%
Yes	374	97.4
No	9	2.3
Refused	1	0.3

Table 37. Frequrncy of condom use during vaginal sex with men among WSM.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	88	23.5
Almost Always (50-99% of the time)	63	16.8
Sometimes (<50% of the time)	60	16.0
Never (0% of the time)	163	43.6

Men Who Have Sex with Women (MSW)

The next series of tables report results of specific sexual behavior and condom use questions asked to men in the sample who were sexually active only with women (MSW) during the past 12-months (N=282).

Anal Sex with Women

When asked "In the past 12-months, have you had anal sexual intercourse with a female partner?", 12.6% of men said 'Yes' (Table 38). Table 39 shows the frequency of condom use

during anal sex with a women in the past 12-months. Almost half (47%) reported frequent condom use ("Always" or "Almost Always"), 17% reported use "Sometimes", and 36% reported "Never" used a condom during anal sex with a woman.

Table 38. Frequency of anal sex with women among men who have sex with women (MSW).

Anal Sex with a Woman?	Frequency	%
Yes	36	12.6
No	248	86.7
Refused	2	0.3

Table 39. Frequency of condom use during anal sex with women among MSW.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	12	33.3
Almost Always (50-99% of the time)	5	13.9
Sometimes (<50% of the time)	6	16.7
Never (0% of the time)	13	36.1

Vaginal Sex with Women

Men who were sexually active only with women, were asked if they had vaginal sexual intercourse with a female partner in the past 12-months. Over 98% said 'Yes' (Table 40). Table 41 shows the frequency of condom use of the men who reported having vaginal sex with a woman in the past 12-months. Forty-

seven percent of men reported frequent condom use ("Always" or "Almost Always"), 19% reported use "Sometimes", and 34% reported "Never" using a condom in the past 12-months.

Table 40. Frequency of vaginal sex with women among men who have sex with women (MSW).

Vaginal Sex	Frequency	%
Yes	281	98.3
No	4	1.4
Refused	1	0.3

Table 41. Frequency of condom use during vaginal sex with women among MSW.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	65	23.1
Almost Always (50-99% of the time)	67	23.8
Sometimes (<50% of the time)	54	19.2
Never (0% of the time)	94	33.5

Men Who Have Sex with Men (MSM)

The next series of Tables report results of specific sexual behavior and condom use questions asked to men in the sample who were sexually active with men, or with men and women (MSM and MSMW) during the past 12-months (N=58).

Receptive Anal Sex with Men

When asked if they had receptive anal sex with a man in the past 12-months, 72% of men said 'Yes' (Table 42). Table 43 shows the frequency of condom use of the men who reported having receptive anal sex with a man in the past 12-months. Seventy percent reported frequent condom use ("Always" or "Almost Always"), 5% reported use "Sometimes", and 18% reported "Never" using a condom during receptive anal intercourse in the past year.

Table 42. Frequency of receptive anal sex with a man among men who have sex with men (MSM).

Receptive Anal Sex with a Man	Frequency	%
Yes	39	72.2
No	15	27.8

Table 43. Frequency of condom use during receptive anal sex with men among MSM.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	22	56.4
Almost Always (50-99% of the time)	8	20.5
Sometimes (<50% of the time)	2	5.1
Never (0% of the time)	7	17.9

Insertive Anal Sex with Men

Men who have sex with men were also asked if they had insertive anal sex with a man during the past 12-months. Eight-nine percent said 'Yes' (Table 44). Table 45 shows the frequency of condom use of men who reported having insertive anal sex with a man in the past 12-months. Seventy-three percent reported frequent condom use ("Always" or "Almost Always"), 10% reported use "Sometimes", and about 17% reported "Never" used a condom during insertive anal sex.

Table 44. Frequency of insertive anal sex with a man among men who have sex with men (MSM).

Insertive Anal Sex with a Man	Frequency	%
Yes	48	88.9
No	6	11.1

Table 45. Frequency of condom use during insertive anal sex with men among MSM.

Frequency of Condom Use	Frequency	%
Always (100% of the time)	28	58.3
Almost Always (50-99% of the time)	7	14.6
Sometimes (<50% of the time)	5	10.4
Never (0% of the time)	8	16.7

VII. Injection Drug Use

All respondents were asked if they ever used injection drugs, and if they used injection drugs in the last 12-months. Injection drug use was defined as "...injected or shot any type of drug or hormone (not prescribed by a doctor) into your veins or under your skin with a needle." Just under 5% of respondents reported a lifetime history of injection drug use, and about 1% reported recent use (Table 46).

Table 46. Frequency injection drug use.

Injection Durg Use	Frequency	%
Lifetime (ever)	45	4.5
Recent (12-months)	13	1.3

Lifetime Injection Drug Use (IDU) by Demographic Characteristics

Male respondents were more likely to have a lifetime history if injection drug use than females (Table 47).

Table 47. Lifetime injection drug use by gender. (One respondents' gender is unknown)

Gender	Sample Size	Lifetime IDU	%
Men	463	30	6.5
Women	535	14	2.6

Frequency of lifetime IDU was highest for Native American (14%) and multiracial respondents (12%), although the sample size for both groups is small (Table 48). White respondents had the next highest percent at just under 6%, followed by Hispanics at 2.4%, African Americans at 2.2%, and Asian/Pacific Islanders at 1.5%.

Table 48. Lifetime injection drug use by race.

Race/ Ethnicity	Sample Size	Lifetime IDU	%
African American.	91	2	2.2
Asian/Pacific Islander	134	2	1.5
Hispanic	124	3	2.4
Native American	7	1	14.3
White	603	33	5.5
Multiracial	34	4	11.8

Table 49 shows the percentage of lifetime injection drug use by age-group. The highest percentage of injection drug use was 5.9% among 40 to 49 year-olds. The lowest rate was 2.3% among 18 to 29 year-olds.

Table 49. Lifetime injection drug use by age group.

Age Group	Sample Size	Lifetime IDU	%
18 to 29	310	7	2.3
30 to 39	308	16	5.2
40 to 49	256	15	5.9
50 to 59	121	7	5.8

Table 50 shows the frequency of lifetime IDU by gender and sexual orientation. The highest rate of IDU is among Lesbians at 16.7% followed by Gay men (13.4%), heterosexual men (4.7%), and heterosexual women (1.9%). No injection drug use was reported among bisexual men or women.

Table 50. Lifetime injection drug use by gender and sexual orientation.

Gender	Sexual Orientation	Sample Size	Lifetime IDU	%
Men	Gay	82	11	13.4
	Bisexual	14	0	0.0
	Heterosexual	363	17	4.7
Women	Lesbian	30	5	16.7
	Bisexual	13	0	0.0
	Heterosexual	485	9	1.9

Needle Use Last Time Injected

Injection drug using respondents were asked about the condition of their needle the last time they injected. The majority of respondents (58%) used a brand new needle, 7% used a needle that they alone used before, 11% shared a needle only with their sexual partner, and 11% shared with someone other than their sexual partner (Table 51).

Table 51. Source of needle last time injected.

"Last time I shot up, I used a..."	Frequency	%
brand new needle	26	57.8
needle only I used before	3	6.7
needle used by myself and partner	5	11.1
needle used by someone else	5	11.1
Don't know/ unsure/refused	6	13.3