HIV Epidemiology & Field Services
Research Unit Report

October 2007

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Introduction

New York City has the largest and most heterogeneous HIV epidemic in the developed world. Beginning in 1978, waves of seroconversions consecutively struck men who have sex with men (MSM), injection drug users (IDU), their sex partners and children, recipients of blood products, and heterosexual contacts. The New York City Department of Health and Mental Hygiene's (NYC DOHMH) HIV Epidemiology and Field Services Program (HEFSP) has actively participated in Centers for Disease Control and Prevention (CDC) funded epidemiologic projects, in collaboration with its community partners, that have complemented the HIV/AIDS case reporting system. These activities have provided valuable epidemiologic, clinical, and risk behavior information contributing to a more comprehensive understanding of the New York City HIV epidemic.

In 2003 the CDC developed a behavioral surveillance system to measure risk behaviors among populations at high risk (Lansky, 2007; Gallagher, 2007). The NYC DOHMH is a collaborating site in the National HIV Behavioral Surveillance System (NHBS). The objective of NHBS is to estimate the prevalence of HIV infection, the frequency and correlates of HIV risk behaviors, HIV testing history, and exposure to and use of local HIV prevention services. The CDC has funded 25 project areas around the U.S. that represent over 70% of new HIV infections. NHBS is an anonymous, cross-sectional study that used either venue-based sampling or respondent-driven sampling (RDS) in different study cycles.

NHBS includes different annual cycles among men who have sex with men (MSM), injection drug users (IDU), and high-risk heterosexuals (HET). All NHBS cycles consist of an interview and an HIV blood test. Data were collected for the MSM and IDU cycles in 2004 and 2005, respectively, and data will be collected for the HET cycle from 2006 through 2007. As a way to supplement behavioral data from MSM populations not reached through NHBS-MSM, the Web-based HIV Behavioral Surveillance (WHBS) was developed. Recruitment was done online with the initial data collection in 2006 and a second cycle in the Spring of 2007.

The HEFSP's Research Unit conducted additional behavioral surveys: Brothers y Hermanos (ByH) among Black and Latino MSM, House Ball Survey (HBS) among house ball participants, Correction Case Management at Rikers Island (CCARI) among incarcerated persons, and the Computer-Assisted Behavior Survey (CABS) among HIV-infected persons at HIV clinics. Two additional studies are in development: Medical Monitoring Project (MMP) among HIV-infected patients in care and a supplemental Never in Care (NIC) project targeting HIV-infected persons who have never accessed HIV medical care.

Sampling Methodologies

Venue-Based Sampling: A multistage venue identification and sampling process was used in the NHBS-MSM and HBS surveys. Formative research was conducted to identify venues and associated days and times when the target populations attended these venues. A venue was eligible to be included in the monthly sampling frame if, as the result of enumerations conducted at the venue, the venue produced a minimum of eight potential participants during a four-hour sampling period. This minimum was chosen to obtain the required sample size within a reasonable period of time. Each month, a sample of 12 to 16 venues was randomly selected, and for each venue, a day-time period was randomly selected. For each primary venue, two alternate venues were randomly selected with overlapping sampling periods. During each four-hour sampling event, potential participants who appeared to meet the study's age criterion were approached by a member of the team to determine eligibility.

Convenience Sampling: Convenience sampling was used in the CABS, WHBS, and CCARI studies. In this type of methodology, the selection of samples of a study population is based on ease of access. There is no defined sampling frame or probabilities to be selected.

Simple Random Sampling: Simple random sampling is a sampling procedure that assures that each element in the population has an equal chance of being selected. Simple random sampling was applied in the NIC project to select potential participants based on the list of eligible HIV-infected persons assumed to be never in care from the HIV/AIDS surveillance case reports at the NYC DOHMH.

Respondent Driven Sampling (RDS): Respondent-driven sampling, a form of peer-referral sampling, was used to recruit participants in the ByH, NHBS-IDU, and NHBS-HET surveys. An initial set of target-population members ("seeds") who met study eligibility criteria were selected through local community-based organizations. Seeds were informed of the study protocol and procedures and were encouraged to recruit other eligible individuals from their social networks to participate in the study. Potential participants recruited by the seeds were then asked to recruit the next wave of participants, with the process continuing until the target sample size was achieved. Each participant who agreed to become a study recruiter was given referral coupons to distribute to others. In addition, each study coupon contained a unique serial number that was used to link the recruiter to his recruit.

Multistage Probability Sampling: MMP utilized a 3-stage sampling design, resulting in a cross-sectional, representative probability sample of adults in care for HIV infection. The three stages of sampling were: 1) states and cities; 2) providers of outpatient HIV medical care; and 3) HIV-infected persons receiving care at selected facilities. Probability Proportional to Size methodology was used in selecting project areas and facilities, meaning that project areas and facilities with higher numbers of patients in care for HIV/AIDS had a higher likelihood of being selected to participate. Providers and patients who were unwilling to participate in MMP were not replaced in order to preserve the integrity of the representativeness of the sample. Within the population of patients seen at sampled and participating facilities, each patient had an equal probability of being randomly selected for participation in MMP.

All of the behavioral surveys, except those for the CCARI, were administered using personal computers or handheld devices (pocket PC) either by interviewers or respondents. The following studies conducted HIV testing at interview: NHBS-MSM, NHBS-IDU, NHBS-HET, ByH, and HBS. NIC will only conduct CD4 cell count and HIV viral load testing.

Behavioral Research Projects
2004 – 2007
HIV Epidemiology and Field Services

Project Name	Target Population	Sampling Method	Sample Size	Data Collected
NHBS-MSM	MSM	Venue-based	504	7/04 – 1/05
NHBS-IDU	IDU	RDS	500	7/05 – 12/05
NHBS-HET	Heterosexuals	RDS	Est. 500	11/06 to 10/07
WHBS	MSM using Internet	Convenience	916	3/06 – 4/06
ByH	Black MSM	RDS	614	6/05 – 3/06
HBS	House Ball Community	Venue-based	503	6/04 – 12/04
CCARI	Incarcerated Men	Convenience	701	12/01 – 12/06
CABS	HIV+ in Care	Convenience	1,106	6/04 – 12/04
MMP	HIV+ in Care	Multistage Probability	Est. 1,000	2/07 to present
NIC	HIV+ Not in Care	Simple Random	Est. 300	11/07 to present

References:

Lansky A, Sullivan PS, Gallagher KM, Fleming PL. HIV behavioral surveillance in the U.S.: A conceptual framework. Public Health Rep 2007;122(Suppl 1):17-23.

Gallagher KM, Sullivan PS, Lansky A, Onorato IM. Behavioral surveillance among people at risk for HIV infection in the U.S.: The National HIV Behavioral Surveillance System. Public Health Rep 2007;122(Suppl 1):32-38.

National HIV Behavioral Surveillance among Men Who Have Sex with Men
NHBS – MSM

NYC NHBS-MSM was part of a national behavioral surveillance system conducted in 17 cities starting in 2004. This cross-sectional survey was designed to estimate the frequency of risk behaviors among men who have sex with men (MSM) attending public venues, such as bars, dance clubs, business establishments, social organizations, sex establishments and street locations.

A multistage venue identification and sampling process was used. Participants had to be at least 18 years of age and a resident of the NYC metropolitan area. Sexual orientation or behaviors were not included as eligibility criteria and were not ascertained in the initial approach. Trained interviewers obtained informed consent, administered a standardized questionnaire, conducted HIV pre-test counseling, obtained a blood specimen, and provided referrals for social and medical services as needed. The survey and HIV antibody testing were anonymous.

From July 2004 through January 2005, 1,498 men were approached at the 82 recruitment events.
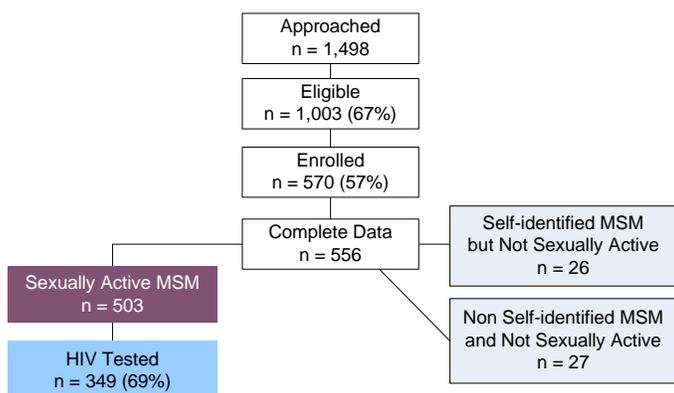
Half of the 503 sexually active MSM were under the age of 30 years, 77% were US-born, 27% were Latino and 23% were Black. More than half were recruited from bars (54%) and dance clubs (11%). 74% of men had at least some college education. The majority (79%) identified as homosexual and 18% as bisexual.

HIV Testing History, By Race/Ethnicity

	White (n=199) %	Black (n=117) %	Latino (n=138) %
Ever Tested	94	88	88
Tested in the Past 12 Months	57	66	62
Self-Reported HIV Status			
Positive	10	12	9
Negative	81	70	78
Unknown	9	18	13

Despite high proportions of having ever tested for HIV, only 62% of those who self-reported negative or unknown HIV status had been tested in the past 12 months. Annual HIV testing should be incorporated in health care for the MSM population [CDC Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings. MMWR 55(RR14), pp1-17, 2006].

HIV Prevalence at Interview

	HIV- tested at Interview (n)	HIV+ %	HIV+ Unaware of Infection %
TOTAL	**349**	**18**	**52**
AGE			
18-24	107	9	70
25 +	242	22	48
Race/Ethnicity			
White	138	14	37
Black	78	36	64
Latino	97	14	57
Other	36	8	0

Among respondents who tested positive, 52% were unaware of their HIV infection.

Sexual and Drug-Using Behaviors in Past 12 Months, By Race/Ethnicity

	White (n=199) %	Black (n=117) %	Latino (n=138) %
Sexual Behaviors			
> 5 Male Partners	57	38	36
Sex with Females	5	29	23
Exchange Sex for Money/Drugs	6	9	12
Unprotected Anal Intercourse	58	44	55
STD Diagnosis	12	11	9
Drug Use Behaviors			
Ever Injection Drug Use	6	3	3
Non-Injection Drug Use	67	54	59
Marijuana	53	52	50
Cocaine	41	22	28
Poppers	29	11	25
Ecstasy	20	19	20
Amphetamines	17	7	13
Non-Injection Drug Use during Sex	55	44	43

Partner's HIV Status and Unprotected Anal Intercourse (UAI) during the Last Sexual Encounter
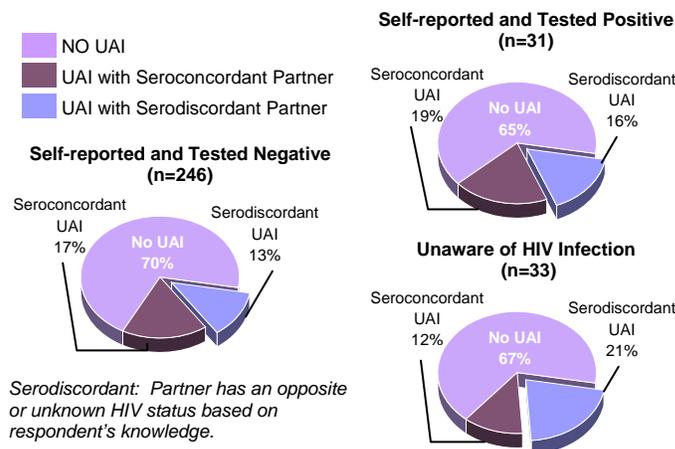
Serodiscordant: Partner has an opposite or unknown HIV status based on respondent's knowledge.

Increased HIV transmission risk came from the groups who had UAI with a serodiscordant partner at the last sexual encounter; 21% of those who tested positive at interview but were unaware of their HIV infection, 16% of those self-reported positive, and 13% of those self-reported/tested negative.

LOOKING OUT
COMMUNITY HEALTH STUDY

National HIV Behavioral Surveillance among Injection Drug Users
NHBS – IDU

Although HIV infections due to injection drug use have declined over the past decade, many IDU are still at risk of HIV infection and transmission. NHBS-IDU, conducted from July to December 2005, surveyed IDU who had injected in the past year about sexual and drug-related HIV risks, HIV testing, and use of prevention services.

NHBS-IDU recruitment used Respondent-Driven Sampling (RDS) methodology. NHBS-IDU yielded 500 eligible participants. To be eligible, individuals had to be at least 18 years old, lived in the NYC metropolitan area, and injected drugs in the past year.

In this sample of IDU, the median age was 41. There were 71% male, 27% female, and 2% transgender persons. 58% of IDU were Hispanic, 29% Black, 12% White, and <1% another race. 61% were born in the U.S., 35% were born in Puerto Rico, and the remaining 4% were born in a foreign country. 42% had been homeless at least once in the past year. The self-reported HIV prevalence was 21%.

Drug Related Risks

Overall, 19% of IDU shared a syringe (used a syringe after someone else had already used it) at least once in the past 12 months. The source of syringes is considered an indicator for the sterility of those syringes. 65% had obtained a syringe from an exchange program in the past year, compared with 49% at a pharmacy, 10% from a medical provider, 53% from a friend or sex partner, and 25% from a drug dealer.

IDU who obtained syringes from sterile sources (exchange program, pharmacy, or provider) demonstrated a lower likelihood of sharing syringes than those who obtained them from unsterile sources (friends, relatives, or street sources). Table 1 shows this association between syringe sharing and syringe source found through a multivariate logistic regression model. The crude odds ratios show a statistically significant increase in syringe sharing among those who obtained syringes from unsterile sources. The adjusted odds ratios take into account obtaining syringes from multiple sources, as well as other demographic and injection related factors.

Association of Syringe Source & Syringe Sharing

Syringe Source		Shared %	Crude OR (95% CI)	Adjusted OR (95% CI)
Syringe Exchange	No	22	1.0	1.0
	Yes	21	0.9 (0.6 - 1.5)	0.55 (0.31 - 0.99)
Medical Provider	No	21	1.0	1.0
	Yes	21	1.0 (0.5 - 2.0)	0.9 (0.4 - 2.0)
Pharmacy	No	16	1.0	1.0
	Yes	27	1.9 (1.2 - 3.0)	1.2 (0.7 - 2.0)
Dealer	No	14	1.0	1.0
	Yes	39	3.7 (2.4 - 5.9)	2.0 (1.2 - 3.6)
Friend	No	13	1.0	1.0
	Yes	28	2.6 (1.7 - 4.2)	2.2 (1.2 - 3.8)

The adjusted odds ratios continue to show a significant increase in risk among those who obtained syringes from unsterile sources, but also show a significant decrease in risk among those who obtained syringes from an exchange program. This suggests that participation in exchange programs may have a role in decreasing injection-related HIV risk behavior in IDU.

Sexual Risks

Drug-related risks are often the primary focus of IDU studies, but NHBS-IDU shows that many IDU have elevated sexual risks as well. In the past 12 months, 77% of IDU had vaginal or anal sex, 53% had unprotected sex, 25% had exchange sex (in which one pays or is paid for sex), and 24% had an STD diagnosis.

Sexual Risk Behaviors among Injection Drug Users
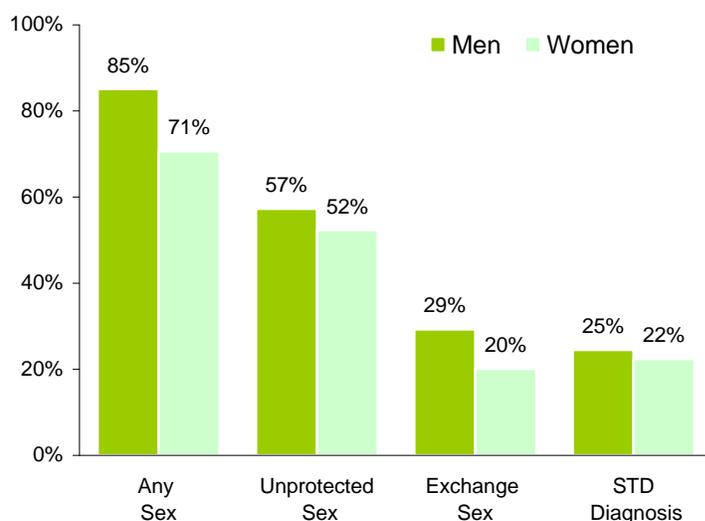
In a logistic regression model, IDU who shared a syringe in the past year were 2.5 times more likely to have unprotected sex in the past year. This finding suggests that IDU interventions should focus on reducing both drug related and sexual HIV risk behavior.

Other Findings from NHBS-IDU

- Current age and the number of years of injection drug use are significantly higher among HIV-positive IDU compared to HIV-negative IDU. On average, HIV-positive IDU began injecting before the discovery of HIV while HIV-negative IDU began injecting after the discovery of HIV.

- Certain subpopulations of IDU, including bisexual IDU, homeless IDU, and IDU born in Puerto Rico, are at much higher HIV risk through both sexual and sharing-related behaviors.

Conclusions

Many IDU in New York City are still at risk of HIV infection and transmission through syringe sharing and unprotected sex. NHBS-IDU provides a comprehensive picture of detailed HIV risk behaviors among NYC IDU.

LOOKING OUT
COMMUNITY HEALTH STUDY

National HIV Behavioral Surveillance among High Risk Heterosexuals
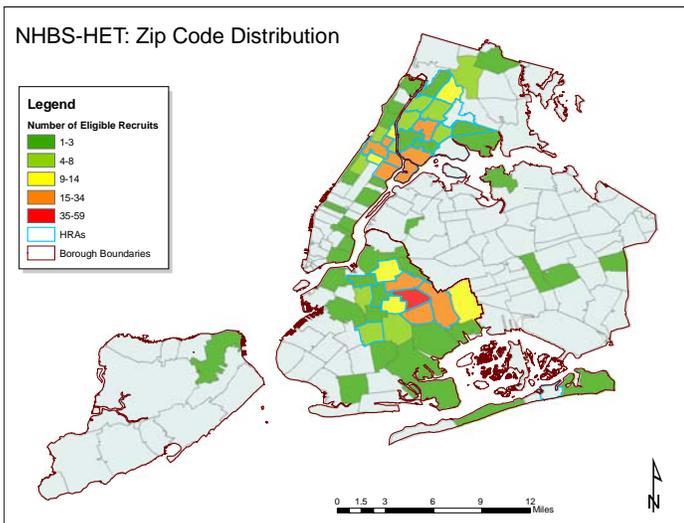## NHBS – HET

NHBS-HET is a survey about HIV risk, testing, and prevention services. NHBS-HET, a study of heterosexuals at high risk for HIV infection (HET), uses Respondent Driven Sampling (RDS) methodology. Data collection started in November 2006 and is ongoing through October 2007.

Population Definition

HET are more difficult to define as a risk group for investigation compared to MSM and IDU. Risk criteria, such as multiple concurrent sexual partners, a history of STD diagnoses, and unprotected sex are often used to define elevated heterosexual risk, but the process of screening a large population for criteria that are present only in a much smaller subpopulation would be burdensome for a targeted risk group study.

NHBS-HET takes an alternative approach to defining HET: the target population is defined by residence in zip codes with historically high rates of heterosexually acquired HIV infection (determined by HIV case surveillance data) and poverty (determined by census data). This definition is based on the theory that HET are best accessed through networks defined by geographically based risk. Analysis of NHBS-HET data may allow us to assess the sensitivity of this sampling method based on prevalence of the traditional high risk criteria.

Zip Code Distribution of NHBS-HET Participants

The map above shows the distribution by zip code of recruits in NHBS-HET as of July 2007. There are three geographic clusters of recruits, which correspond to the high-risk areas identified through the construction of the population definition: Central and East Harlem, the South Bronx, and Central Brooklyn. Individuals are encouraged to recruit others within their neighborhood, but are allowed to recruit outside as well. Only participants who live within the defined high risk areas, however, are given the opportunity to serve as recruiters.

Formative Research

Formative research consisting of literature reviews, interviews and ethnographic observations, was conducted prior to data collection. Literature reviews and key informant interviews provided important background concerning the epidemiological link between prevalent IDU-related HIV infections and incident heterosexually-related HIV infections. Literature demonstrated that a primary HIV transmission risk for local heterosexuals was sexual activity with current or former IDU. Those at risk heterosexually were not IDU themselves, but the social and sexual networks between IDU and HET overlapped such that the HIV prevalence within the former group steadily transferred to the latter group. This finding was used to justify the inclusion of IDU in the recruitment chains for NHBS-HET, as well as including questions about injection drug use in the survey.

Another important formative research finding through ethnographic observation and interviewing was that HET social and sexual networks were more dispersed than IDU networks. In NHBS-IDU, few IDU left their neighborhoods, perhaps because of the social stigmatization of their drug use. HET were more likely to travel outside their neighborhoods, have social networks with those outside their neighborhoods, and thus might recruit more broadly across the five boroughs than IDU.

The network diagram below illustrates this characteristic of high-risk heterosexuals based on preliminary NHBS-HET data as of July 2007. Each circle represents a study participant, the connections between circles show recruitment, and the colors of the circles represent borough of residence. Higher rates of inter-borough recruitment than seen in NHBS-IDU confirm it is important to have two interview sites (Central Harlem and Bushwick) for NHBS-HET that are well connected to public transportation.

Network Diagram of NHBS-HET participants
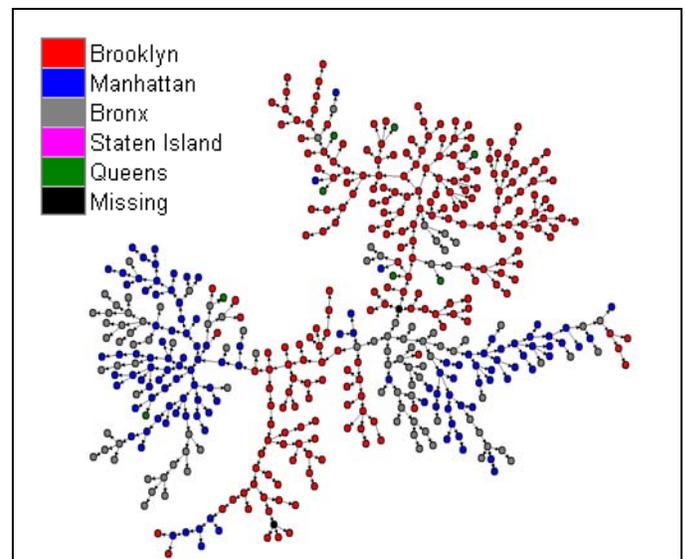
Web-based HIV Behavioral Surveillance
WHBS

The CDC-funded Web-based HIV Behavioral Surveillance (WHBS) project aims to collect behavioral data from MSM not reached through traditional NHBS venues (bars, clubs, etc), including men who do not self-identify as gay or bisexual.

WHBS was piloted in six U.S. cities: Baltimore, Boston, Dallas, Los Angeles, San Francisco, and New York City. The goals for WHBS were to 1) field-test methods for conducting Internet-based behavioral surveillance and 2) evaluate the potential for using the Internet to recruit hard to reach MSM.

Data collection for WHBS occurred from March 1 to April 25, 2006. NYC used the following banner ad for its recruitment method:

The banner appeared on websites that cater to MSM such as manhunt.net, gay.com, Planetout.com, Advocate.com, Poz.com, and 365gay.com.

Persons were eligible if they were 1) male at birth, 2) residents of the project area, and 3) at least 18 years old. Eligible participants provided online informed consent before completing the survey. Participation in the survey was voluntary and anonymous. No incentives were offered.
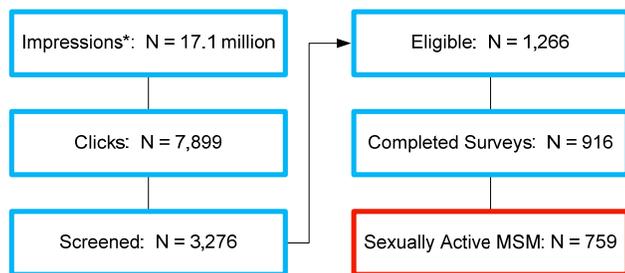

*   Number of times banner ad appeared on computer monitor. Ad might be seen more than once by an individual.

Of the 759 sexually active MSM (at least 1 male partner in the last 12 months), 77% were White, while Blacks, Latinos, and other race/ethnicities represented 4%, 13%, and 6%, respectively. Men in their 30s accounted for 28% of the sample. The median age was 34.

The majority of respondents (88%) identified as homosexual, 10% as bisexual, and 1% as other. Eighty-five (11%) self-reported being HIV-positive and 563 (74%) self-reported being HIV-negative.

The chart below depicts Internet use among this group of 759 sexually active MSM. 326 (43%) met their last sexual partner online.

Internet Use History
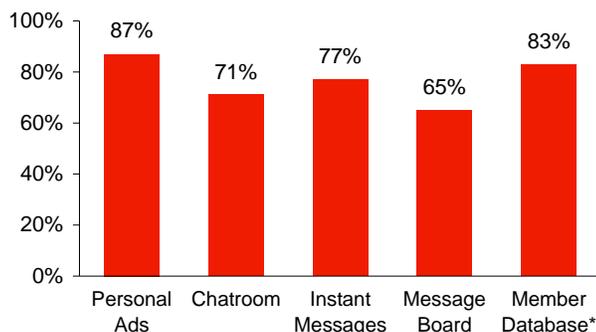
* Refers to websites that maintain members' personal profile.

Sexual / Drug Use Behavior (N = 759)

	%
> 10 Male Partners Past 12 Months	45
Unprotected Anal Intercourse Past 12 Months	53
UAI Last Sexual Encounter	33
Non-Injection Drug Use Past 12 Months	37
Drug use Last Sexual Encounter	15
STD Diagnosis Past Year	12

Of the 759 sexually active MSM, 45% had > 10 male partners, more than half (53%) had engaged in UAI, and 37% had used drugs.

Unprotected Anal Intercourse (UAI)

UAI Type by Self-reported Partner Status	Self-reported HIV Status	
	Positive (n = 85) %	Negative (n = 563) %
Insertive UAI with Negative Partner	1	15
Insertive UAI with Unknown Partner	9	3
Receptive UAI with Negative Partner	5	13
Receptive UAI with Unknown Partner	15	4
Insertive UAI with Positive Partner	20	1
Receptive UAI with Positive Partner	17	<1
UAI	71	50

Of the 85 self-reported HIV positive men who had sex in the past 12 months, 1% had insertive UAI with a negative partner while 5% had receptive UAI with a negative partner.

Of the 563 self-reported HIV negative men, <1% had receptive UAI with a positive partner while 1% had insertive UAI with a positive partner.

Overall, self-reported HIV negative men were significantly less likely to engage in UAI than self-reported HIV positive men who had sex in the past 12 months (50% vs. 71%; $p < 0.05$).

Conclusion

*   Internet-based behavioral surveys appear to be a feasible method of conducting sexual behavior research of MSM.
*   Demographically, WHBS reached a different population than NHBS. The majority of participants were White, college educated, and in their 30s.
*   There were high rates of reported UAI (53%) in the past 12 months and last sexual encounter (33%).
*   Lessons learned from the pilot helped inform the launch of Cycle II.

What's to Come

WHBS Cycle II was launched in April 2007. Recruitment ended on August 6, 2007. During this second round, 4,143 men in the New York City area who met the eligibility criteria participated. Of these men, 2,046 (49%) completed the 30–45 minute questionnaire. Preliminary findings indicate that of the men who had at least one sexual partner in the past 12 months, 63% were White. Blacks, Latinos, and other race/ethnicities represented 13%, 18%, and 5%, respectively.

Further data analyses are being conducted and results will be disseminated in later reports.

Brothers y Hermanos
ByH

Men who have sex with men (MSM) continue to be disproportionately burdened by HIV, particularly in communities of color. The Brothers y Hermanos Project (ByH), a multi-site study funded by the Centers for Disease Control and Prevention (CDC), examined the social, psychological, cultural and behavioral influences on sexual practices that place men of color at risk for HIV infection.

Respondent-driven sampling was used to recruit Black MSM (BMSM) in New York City from June 2005 to March 2006. To be eligible, individuals were required to: 1) be male (biologically and identify as such); 2) be 18 years of age or older; 3) report sex (oral, anal sex or mutual masturbation) with another man in the past 12 months; and 4) be a resident of the NYC metropolitan area. Eligible participants completed a comprehensive 30-60 minute survey using a computer-assisted self interview. Participants were also counseled and tested for HIV infection.

A total of 614 eligible BMSM completed the survey. Participants' median age was 42 years; 91% were US-born; 22% had less than a high school education; 1/3 were currently employed (either full-time or part-time); and 57% had an annual income less than $10,000.

Sexual Identity
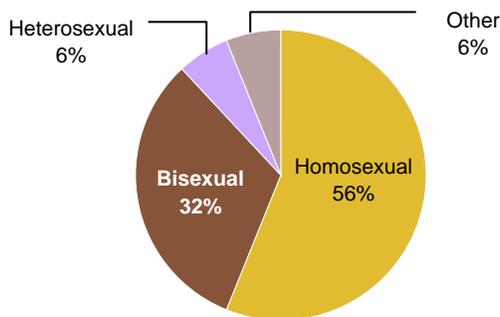
More than half of the men sexually identified as homosexual. However, there were discrepancies in sexual identity and sexual behavior in that 36 (6%) BMSM identified as heterosexuals. In addition, heterosexually identified BMSM were less likely than homosexually identified BMSM to disclose their sexual behavior with men to at least one other person (39% vs. 96%).

Unrecognized HIV Infection
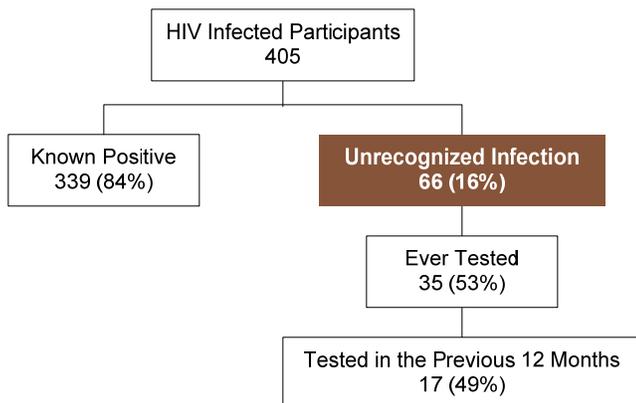
Of the 66 BMSM with unrecognized HIV infection, 53% reported previously being tested for HIV; however, only 49% of BMSM with unrecognized infection reported having been tested during the preceding year. Among the 18 participants who never tested, reasons for not testing included being afraid of learning they had HIV (48%), being worried that others might treat them differently (26%), the perception of not being at risk because practicing safe sex (16%), and being afraid that results will be reported to the government (16%).

Sexual Risk Behaviors

A total of 402 (65%) BMSM reported ever having a sexually transmitted infection diagnosis: 54% gonorrhea, 41% syphilis, 22% genital herpes, 19% genital warts, 17% Hepatitis B and 15% chlamydia. 184 (30%) of the men reported ever being raped and 81% (149) of them were less than 18 years old at the time of the rape.

In the 3 months prior to the survey, 50% of BMSM reported unprotected anal intercourse (UAI) with a man. 65% of BMSM with unrecognized infection reported UAI compared with 47% of those aware of their HIV infection. Also in the past 3 months, 193 (31%) exchanged sex for drugs, money or a place to stay.

Significant Predictors of UAI

	Odds Ratio	95% Confidence Interval
Being less than 40 years of age	1.72	1.15, 2.58
Born in the U.S.	2.41	1.21, 4.83
Self-identified as homosexual	1.96	1.29, 2.97
Exchanged sex for money/food/drug, past 3 months	4.00	2.61, 6.13

This model has been controlled for other demographics, sexual and drug use behaviors.

Multivariate logistic regression identified several variables significantly associated with having engaged in UAI with male partners: (1) being less than 40 years of age, (2) born in the U.S., (3) identifying as homosexual, and (4) engaging in exchange sex in the past 3 months.

HIV Status of Sexual Partners
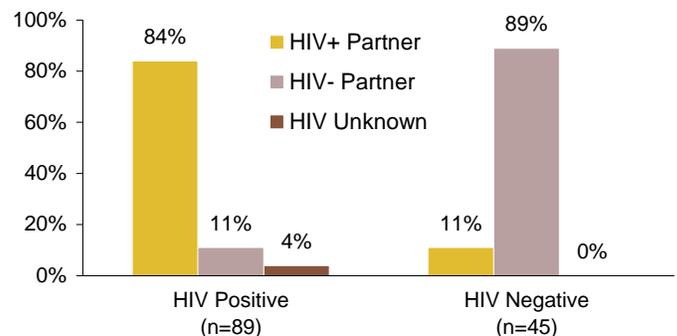
Self-reported HIV status of participants who engaged in UAI

Among the 134 BMSM who engaged in UAI during their last sexual encounter: 84% of HIV-positive BMSM had an HIV-positive partner and 89% of HIV-negative BMSM had an HIV-negative partner. Respectively, 15% and 11% of self-reported HIV-positive and negative BMSM had a serodiscordant partner (i.e. partner had an opposite or unknown HIV status based on respondent's knowledge).
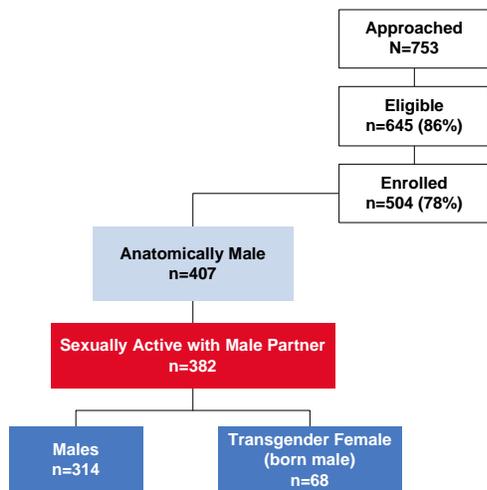
The House Ball Survey
HBS

The House Ball community is a well established group of individuals attending and participating in dance and fashion competitions known as "balls." The community is composed of social networks of "houses," which are often named after famous clothing designers or celebrities that compete with each other for trophies and prize money at balls. The community provides a social framework for young, predominantly Black and Latino/a, gay and transgender persons.

A large percentage of the members of the House Ball community do not conform to traditional gender roles (i.e., man or woman); that is, they may dress as the opposite gender. This community gives members the freedom to explore non-traditional gender roles in a supportive environment that avoids the social exclusion experienced in their own communities. A tuberculosis outbreak in 1998 drew the attention of public health officials who recognized that the social network of this community spanned the entire East coast.

This survey was implemented to measure HIV seroprevalence and associated risk factors and to provide HIV counseling, testing and referrals to members of the New York City House Ball community. A confidential, venue-based survey was administered to people at House Ball events or areas where persons associated with the community were known to congregate.

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┌──────────────────┐
│   Approached     │
│     N=753        │
└──────────────────┘
┌──────────────────┐
│    Eligible      │
│   n=645 (86%)    │
└──────────────────┘
┌──────────────────┐
│    Enrolled      │
│   n=504 (78%)    │
└──────────────────┘
┌──────────────────────┐
│ Anatomically Male    │
│      n=407           │
└──────────────────────┘
┌──────────────────────────────────┐
│ Sexually Active with Male Partner │
│            n=382                  │
└──────────────────────────────────┘
┌──────────────┐   ┌──────────────────────┐
│   Males      │   │ Transgender Female   │
│   n=314      │   │   (born male)        │
│              │   │     n=68             │
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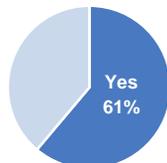
This analysis focuses on self-identified males or male-to-female transgenders who reported having at least one male sexual partner in the past 12 months (n=382).
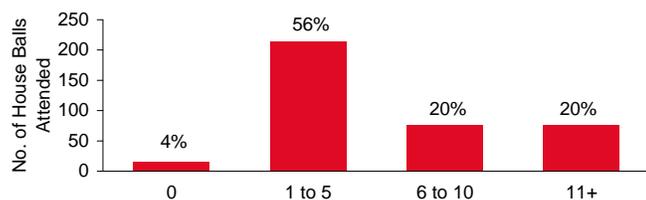
Ever House Member

Yes 73%
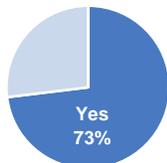
Current House Member

Yes 61%

Number of House Balls attended in the past 12 months

| No. of House Balls Attended | 0: 4% | 1 to 5: 56% | 6 to 10: 20% | 11+: 20% |

The majority of respondents were Black (52%) and Latino/a (44%). Forty-seven percent of males were aged 20 to 30 years old, while 63% of transgenders were aged 20-30 years.

Transgenders reported significantly higher proportions of stressful life events (76% vs. 61%) and screened depression (52% vs. 37%) than males. Specifically, compared to males, transgenders were significantly more likely to report a history of arrest (53% vs. 36%), being beaten up (40% vs. 22%), being forced to have sex (29% vs. 17%), and trying to commit suicide (24% vs. 12%) (p<0.05).

Sexual and Drug Use Behaviors
in Past 12 Months by Gender

	Male (n=314) %	Transgender (n=68) %	Overall (n=382) %
Sexual Behaviors:			
>5 Male Sexual Partners *	26	47	29
Sex with Female	13	16	13
Exchanged Sex for Money or Drug*	5	32	10
Unprotected Anal Sex	30	25	29
STD Diagnosis	7	10	8
Drug Use Behaviors:			
Non-Injection Drug Use	40	46	41
Marijuana	40	43	40
Ecstasy	12	10	12
Crystal-Meth	6	4	6
Ever Injected Drugs	2	2	2
Had > 5 Drinks a Day, Past Month	38	28	36

* p<0.05

Compared to males, transgender respondents were more likely to report having more than 5 male sex partners and having exchanged sex for money/food in the past 12 months.

HIV Testing History by Gender

	Male (n=314) %	Transgender (n=68) %	Overall (n=382) %
Ever Tested for HIV	87	91	87
Tested in Past 12 Months	60	65	60
Self-Reported HIV Status			
Positive	5	7	6
Negative	74	75	74
Unknown/Declined	21	18	20

HIV Test Results

	Total Tested (n)	HIV + %	Unaware of HIV Infection %
Overall	380	19	73
Gender			
Male	312	20	74
Transgender	68	16	67

Compared to male respondents, transgender respondents had slightly higher proportions of being tested for HIV in the past 12 months, and lower proportions of having a positive test result at interview and being unaware of their HIV infection.

Correction Case Management at Rikers Island
CCARI

The Correction Case Management at Rikers Island (CCARI) was a randomized controlled trial of two approaches to discharge planning with incarcerated males at Rikers Island. The project was a replication of the Health Link Model originally developed by the Hunter College Center on AIDS, Drugs and Community Health to serve incarcerated adult females and adolescent males.

Study clients were randomized into one of two arms:

1. Jail arm (in-jail discharge planning)
2. Jail/Community arm (in-jail discharge planning plus 1 year of active case management in the community post-release)

The specific aims of CCARI were to:

1. reduce recidivism (reincarceration)
2. reduce drug use
3. reduce HIV risk behaviors among male inmates released from jail
4. improve social functioning and community integration of adult males released from Rikers Island

The Recruitment Process for CCARI
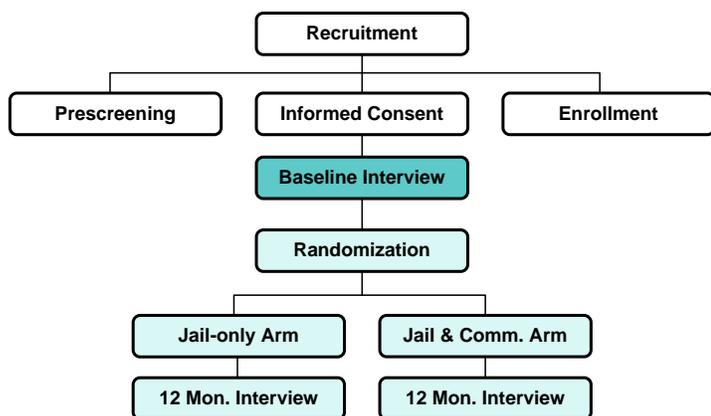
To be eligible for the study:

1. an adult male (at least 18 years old)
2. had attended at least one Empowerment Group
3. was sentenced to 1 year or less on Rikers Island
4. had two valid contacts in the community to assist with follow-up
5. lived in Manhattan or the Bronx
6. was not a client of mental health services at Rikers Island

Clients received a $30 MetroCard for completing a 12-month follow-up questionnaire at the end of the study period. Clients received $4 MetroCard/food vouchers for each interim visit in the intervention phase with the case manager.

Of 702 recruited men, 66% were Black, 29% were Hispanic, 2% were White, and 2% identified as Other. Those that identified as American Indian/Alaska Native, Biracial, or Asian each represented less than 1%. Men in their 30s and 40s accounted for 35% and 33% of the sample, respectively. The median age was 36. Almost all the men in the study (99%) had a history of incarceration prior to their current arrest. Sixty-five percent had been arrested more than 5 times.

Inmate Characteristics at the Baseline Interview

	N	%
Sexual Orientation		
	N = 702	%
Heterosexual	670	95
Homosexual	21	3
Bisexual	6	<1
Transgender	4	<1
Other	1	<1
Ever been tested for HIV		
	N = 702	%
Yes	602	86
HIV Test Positive		
	N = 702	%
Yes	47	7
Primary Source of Income		
	N = 702	%
Job	286	41
Illegal activities	227	32
Substance Use – Ever		
	N = 702	%
Yes	683	97
No	19	3
Received Help for Substance Use – Ever		
	N = 702	%
No	170	24
Type of Substance Use – 30 days Prior to Incarceration		
	N = 702	%
Alcohol	634	90
Marijuana	569	81
Cocaine	366	52
Crack	269	38
Heroin	188	27
Condom Use w/Main Partner – 30 days Prior to Incarceration		
	N=477	%
Yes	214	45
No	263	55
Condom Use w/Non-Main Partner – 30 days Prior to Incarceration		
	N=253	%
Yes	219	87
No	34	13
Sex w/ Non-Main Partner – 30 days Prior to Incarceration		
	N = 253	%
2-3 Times per Week	95	38

At the baseline interview, 97% of the recruited men reported ever having used drugs but only 24% of them had ever received drug rehabilitation. The primary source of income of 32% of the men was from illegal activities.

Fifty-five percent did not use condoms with their main partner in the 30 days prior to their incarceration. Also, in the 30 days prior to their incarceration 38% reported that they had sex 2-3 times per week with someone other than their main sexual partner. Thirteen percent reported never using condoms with their non-main partners.

Further data analyses are being conducted and results will be disseminated in later reports.

Computer Assisted Behavior Survey
CABS

AIDS case rates in New York City have declined since 1993, yet thousands of new HIV diagnoses are reported each year, indicating that individuals are still engaging in risk behaviors that may lead to transmission. An objective of CABS was to assess risk behaviors in HIV-infected patients at four hospital-based primary care HIV clinics in NYC.

DOHMH staff enrolled patients from June through December 2004. To be eligible, patients had to be on antiretroviral therapy, 18 years or older, and literate in English. The survey was conducted with a tablet, laptop with mouse, or touch-screen device with an audio component. An anonymous, computerized, self-adminstered survey was used to encourage more open reporting of risk behaviors.

Interviews from the 752 sexually active respondents are included in this analysis. 59% were male and 41% were female; the median age was 45 years. The race/ethnicity of the patients was predominantly Black (42%) and Latino (38%). The majority of patients (62%) had at least a high school education.

Definitions

- *Sexually active* – one or more partners in the past 12 months
- *Sexual behaviors*:
  MSM – men who have sex with men
  MSW – men who have sex with women
  WSM – women who have sex with men
- *Unprotected sex – no condom use during anal or vaginal sex*
- *Serodiscordant partner – a partner of negative or unknown HIV status*

Unprotected Sex In Previous 12 Months
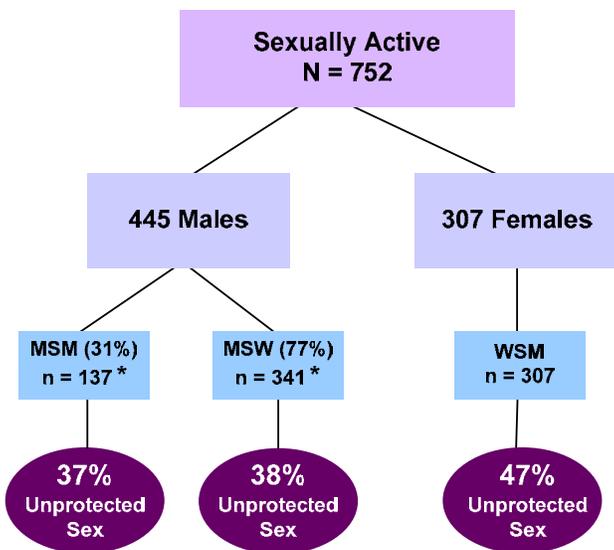
* 33 (8%) male respondents reported both MSM and MSW behaviors and were therefore counted in both behavior categories.

Sexually active females were more likely than sexually active males to report unprotected sex in the previous 12 months.

Unprotected Sex with a Serodiscordant Partner During Most Recent Sexual Encounter
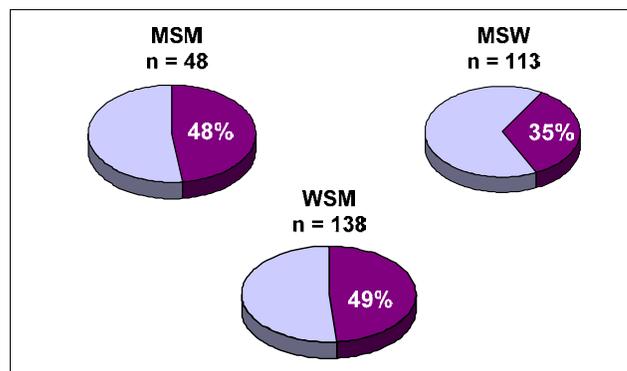
Among these HIV-infected respondents who had unprotected sex, 48 MSM, 113 MSW and 138 WSM reported their partner's serostatus. During their most recent sexual encounter, WSM and MSM were more likely than MSW to have unprotected sex with a serodiscordant partner.

Non-Injection Drug Use During Sex In Previous 12 Months

	MSM (n=137)	MSW (n=341)	WSM (n=307)
	%	%	%
Any Drug	20	16	10
Marijuana	10	6	5
Crack	9	9	5
Cocaine	4	4	1
Heroin	0.7	6	2
Crystal	3	0	0

MSM reported a higher percentage of non-injection drug use during sex compared to MSW and WSM.

Conclusions

- A high proportion of HIV-infected persons are at risk of transmitting HIV through unprotected sex with serodiscordant partners.
- Ongoing prevention efforts are needed to promote and maintain safe sex among HIV-infected persons.
- HIV care providers may require prevention training and assessment tools in order to implement targeted interventions aimed at reducing risk behaviors.

Recommendations for incorporating HIV prevention into care are outlined in the following publication from the CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America:

"Incorporating HIV Prevention into the Medical Care of Persons Living with HIV"

MMWR July 18, 2003 / 52(RR12);1-24

http://www.cdc.gov/mmwr/PDF/rr/rr5212.pdf

Medical Monitoring Project
MMP

The Medical Monitoring Project (MMP) is a study conducted by the NYC DOHMH in collaboration with the Centers for Disease Control and Prevention (CDC). The primary objective of MMP is to gain a better understanding of the health-related needs of people living with HIV and AIDS (PLWHA) by collecting data on:

- access to and utilization of HIV medical care
- clinical outcomes
- risk behaviors
- use of prevention and social services

MMP will yield data about met and unmet needs for HIV care and prevention services that will be used to help guide policy and funding decisions aimed at improving the quality of care for PLWHA across the United States.

Sampling

MMP utilizes a three-stage, probability sampling methodology, meaning that states and providers with the highest number of patients in care for HIV/AIDS have a higher likelihood of being selected. A new sample of providers and adults in care for HIV infection in the United States will be selected to participate in each data collection cycle.

First stage: states

20 states and 6 cities were selected for the first stage of sampling, based on their prevalence of PLWHA. Data collected will be representative of HIV-positive persons in medical care on both national and local levels.

NYC, New York State and New Jersey were asked to participate in the 2007 data collection cycle.

Second stage: providers

Providers of outpatient HIV medical care (defined as monitoring CD4 counts and viral loads and/or prescribing antiretrovirals) were selected within each jurisdiction at the second stage, based on the numbers of patients seen at their facilities per year.

HIV medical care facilities include: physicians in private practices, hospital-based clinics, community-based organizations, and drug treatment programs.

34 facilities were chosen for the 2007 NYC facility sample: 20 in Manhattan, 7 in Brooklyn, 4 in the Bronx, and 3 in Queens.

Third stage: patients

The MMP team requested a list of all patients over 18 years old who received HIV medical care during a defined four-month period in 2007 at each participating facility. All identifying information was removed from these patient lists before they were sent to the CDC.

The CDC then randomly and anonymously sampled 1000 patients across all facilities for participation in the project.

Data Collection

Once the NYC DOHMH receives the patient sample from the CDC, each selected patient will be contacted about participating in MMP. Participation involves a one hour interview with MMP staff and permission for MMP staff to review the patient's medical chart. Informed consent will be obtained from each participant and participants will be reimbursed for their time.

Privacy and confidentiality are very important and all information gathered for MMP will be strictly guarded as required by New York State Public Health Law. All data collected will be labeled with a study number only. Data will contain no identifying information and will be analyzed in aggregate; therefore, no data can ever be linked back to an individual. Data collection will start in the Fall of 2007.

The Landscape of HIV Care Providers in NYC

In order to complete the second stage of sampling for the 2007 data collection cycle, NYC DOHMH staff relied primarily on electronically reported surveillance data from 2003 to generate a preliminary facility list and estimate patient loads for some of the 761 facilities. NYC DOHMH staff then initiated phone contact with approximately 400 private medical doctors on the list to verify provision of HIV primary care, confirm the name and number of physicians in a practice and to collect annual patient loads.

### NYC Facilities Categorized by Annual Patient Load

Facility type (annual patient load)	Number of facilities n / %	Total patient load %
1 – 100	346 / 70.8	11.6
101 – 1000	118 / 24.1	41.6
> 1000	17 / 3.5	46.8
unknown	8 / 1.6	N/A
TOTAL	**489 / 100**	**100**

Of the 489 facilities providing HIV medical care in NYC, 71% of the facilities had fewer than 100 patients in care. However, only 11.6% of PLWHA received care at facilities that treat fewer than 100 patients a year.

3.5% of facilities treated over 1000 patients a year. Although these large facilities represented a small percentage of all providers of HIV medical care in NYC, almost half (47%) of the 77,000 PLWHA in NYC who received medical care were seen at facilities of this size.

About half of the HIV care facilities were located in Manhattan (50.3%), followed by Brooklyn (19.6%).

Distribution of HIV medical care providers in NYC

	1 – 4
	5 – 16
	17 – 29
	30 – 52
	None
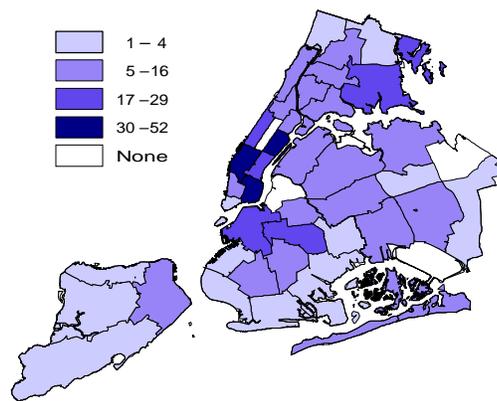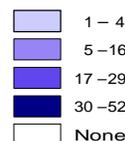
The NYC DOHMH is collaborating with local providers, advocates and PLWHA to develop project materials, such as patient pamphlets and local survey questions, and to facilitate project implementation across the city. These valued partnerships are key to making MMP a success!

For more information on MMP, please go to:
http://www.cdc.gov/hiv/topics/treatment/mmp/index.htm

Never In Care
NIC

Connecting those recently diagnosed with HIV to medical care is an increasing public health priority, as research suggests that timely entry into care may result in decreased risk behavior and better health outcomes because of early viral load and CD4 monitoring. The CDC has funded New York City, along with four other project areas, to implement the Never in Care (NIC) research project to study the demographics, behavioral risks, and barriers to care of adults who delay entry into HIV medical care at least 3 months after HIV diagnosis. NIC is connected with the Medical Monitoring Project (MMP), and both are designed to study health care access and quality of care for HIV-infected adults as part of the CDC's Advancing HIV Prevention Strategy. The data collection phase of NIC will begin in late 2007.

Methods

As part of the study development process, appropriate sampling and recruitment methods have been investigated. One problem with recruiting the NIC population is that many are unconnected to institutions that provide social or medical services, which makes institutional sampling inappropriate. Those in the NIC population may also be more socially isolated compared to those in HIV infection risk groups; this makes network-based recruitment inefficient. Because of that, the CDC has proposed to use HIV surveillance data to define and sample the NIC population. The current design uses surveillance data to define a

population of new HIV diagnoses who have not had viral load or CD4 tests, which are indicators of entry into care. Local sampling and recruitment methods are being refined so that they are consistent with local and state laws protecting the confidentiality and uses of HIV surveillance data.

Formative Research

Formative research to support the data collection phase of the NIC study has been conducted. This research will be used to refine the survey tool and improve study operations. One central formative research topic was an investigation of the barriers to care among the NIC population. This was investigated through 18 key informant interviews and 2 focus groups with medical and social service providers serving the NIC population. In addition, one focus group with members of the NIC population was held to investigate barriers to care. Key informant interviews and focus groups with service providers found that barriers to care included substance use, HIV stigma and denial, poverty, homelessness, geographic distance to medical care facilities, and the decreased quality and content of HIV post-test counseling and case management. The focus group with the NIC population identified the following as barriers to care: HIV stigma, substance use, homelessness, mistrust of the medical establishment and HIV treatment, mental health issues, and the perceived lack of need to enter care when asymptomatic.

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