

**Dallas National HIV Behavioral  
Surveillance System  
2009 Annual Data Report  
Injection Drug Use**



**May 2012  
HIV Information and Projects Group  
TB/HIV/STD Epidemiology and Surveillance Branch  
Texas Department of State Health Services**

## Acknowledgements

We wish to acknowledge the following people for their contribution to this report:

**Sharon K. Melville, M.D., M.P.H., Principal Investigator**

Manager, TB/HIV/STD Epidemiology and Surveillance Branch

**Praveen R. Pannala, M.D., M.P.H., Co-Principal Investigator**

Medical Epidemiologist/Manager, TB/HIV/STD Information and Projects Group  
TB/HIV/STD Epidemiology and Surveillance Branch

**This report prepared by Staff of TB/HIV/STD Information and Projects Group:**

**Nicole Hawkins, M.P.H.**

Epidemiologist and Team Lead for this Report

**Sonia Arbona, Ph.D.**

Medical Geographer

**Jesse Campagna, M.P.H.**

Epidemiologist

**Sarah Novello, M.H.S.**

Epidemiologist

**Douglas Schuster, M.P.H.**

Program Specialist

**Shane Sheu, M.P.H.**

Epidemiologist/ Project Coordinator

**Ed Weckerly, M.S.**

Epidemiologist

**We would like to thank our contractors at the Public Policy Research Institute,  
Texas A&M University:**

**Jim Dyer, Ph.D.**

Co-Principal Investigator

**Alicia Novoa, M.P.H.**

Project Manager

**James Bowser**

Field Supervisor

**Gerald Strickland**

Field Supervisor

**Field Staff:**

**Eston Dixon**

**Candace Jones**

**Alexis Sanchez**

**Shawana Harris**

**Mary Lindsay**

**Anthony Virgil**

**National HIV Behavioral Surveillance System  
Injection Drug Users in Dallas, Texas, 2009**

**Table of Contents**

Executive Summary	4
Introduction	6
Demographic Characteristics	11
Injection and Non-Injection Drug Use	14
Drug Use Risk Behaviors	16
Sexual Behaviors	17
Access to Health Care	19
Health Conditions	21
HIV Testing Experiences	23
HIV Prevention Activities	24
Incarceration	26
Study Limitations	27
References	28

This report was supported by Cooperative Agreement Number 3U62PS00096802 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

## **National HIV Behavioral Surveillance System Injection Drug Users in Dallas, Texas, 2009**

### **EXECUTIVE SUMMARY**

The National HIV Behavioral Surveillance System (NHBS) is an ongoing effort to collect cross-sectional data among populations at high risk for acquiring HIV. This report focuses on activities from the second data collection cycle among active (within the past 12 months) injection drug users (IDU). Participants were recruited from the Dallas Metropolitan Division using respondent driven sampling from July-November 2009. The following are key findings presented in the report.

#### **Demographics**

Survey participants were:

- Predominantly Black (75%) and male (68%)
- Older than the Dallas general population and older than the HIV positive population in Texas
- 35% had less than high school education, 54% earned <\$10,000 per year, and only 16% were employed

#### **Drug Use**

- Heroin was the most commonly injected drug reported by participants
- Over half of IDU used non-injection drugs crack, powdered cocaine, marijuana or heroin that is smoked or snorted
- 95% shared some type of injecting equipment in the past 12 months

#### **Drug or Alcohol Treatment Program**

- A majority of the participants (71%) reported ever participating in a drug or alcohol treatment program
- 40% reported participating in a drug or alcohol treatment program in the past 12 months

#### **Sexual Behaviors**

- 88% of males and 81% of females had 1 or more sex partners in the past 12 months
- 86% of men had unprotected sex with female main partners and 95% of women had unprotected sex with male main partners; 77% of men had unprotected sex with female casual partners

#### **Access to Healthcare**

- Two-thirds of participants had no health insurance
- Only 60% had seen a healthcare provider in the past 12 months. Among participants who have reported seeing a healthcare provider, less than 40% were offered HIV testing.

**Health Conditions**

- 41% reported ever having hepatitis
- Gonorrhea and chlamydia were the most commonly reported STDs

**HIV Testing and Prevention**

- 86% reported ever being tested for HIV and only 50% tested in the past 1-2 years
- The main barriers to testing were cost, low perceived risk of infection, and fear of the test result

**HIV Infection**

- 1.9% (n=12) of the IDU participants tested positive for HIV and 42% (n=5) of those were unaware of their status

**Incarceration**

- 30% of IDU were incarcerated in the past 12 months
- Of the IDU incarcerated, only 30% reported being tested for HIV, and 30% of those tested did not receive test results

## INTRODUCTION

### The National HIV Behavioral Surveillance System

In 2000, the Centers for Disease Control and Prevention (CDC), in collaboration with representatives from state and local health departments, academic institutions, and clinical and prevention entities initiated a strategic planning process that culminated in the development of the CDC's HIV Prevention Strategic Plan Through 2005 (CDC, 2001). As part of this plan, four national goals were identified to reduce by half the annual number of new HIV infections in the United States. One of the four identified goals is to strengthen the national capacity to monitor the HIV epidemic to better direct and evaluate prevention efforts.

As a first step to meet this goal, the CDC awarded funds to state and local health departments to develop and implement a surveillance system that would monitor behaviors that put people at risk for HIV infection. This system is called the National HIV Behavioral Surveillance (NHBS) System. In 2009, the Dallas Metropolitan Division was one of 21 to conduct NHBS (Figure 1) due to the location's high AIDS prevalence in 2000.

**Figure 1. National HIV Behavioral Surveillance System Sites, 2009.**



Source: The Centers for Disease Control and Prevention (CDC), 2010.

NHBS is an ongoing behavioral surveillance system that collects cross-sectional data among populations at high risk for acquiring HIV, including men who have sex with men (MSM), injection drug users (IDU), and heterosexuals at high risk for HIV infection (HET). NHBS activities are implemented in one-year cycles so that data are collected from each risk group every three years; these study cycles are referred to as NHBS-MSM, NHBS-IDU, and NHBS-HET. NHBS started collecting data for the first MSM

cycle in 2005-2006. During some cycles anonymous voluntary HIV testing and hepatitis C testing was also conducted. This report focuses on activities from the second cycle in which data were collected among injection drug users (IDU2) from July - November 2009.

## **Injection Drug Users**

NHBS surveillance activities target IDU because this population is known to have elevated risk of HIV infection. Acquisition of data relating to HIV infection within this population is limited due to difficulties eliciting information from IDU concerning risk behaviors and other risk factors. Although it may be difficult to study HIV in IDU, NHBS activities are designed to minimize some of the known difficulties and gather useful information. NHBS generates a snapshot of the HIV epidemic among IDU in a particular metropolitan area every 3 years. Data are collected focusing primarily on the following risk factors/behaviors: sexual risk, substance use risk, access to healthcare, existing health conditions, HIV testing practices, prevention activities, and history of incarceration. Recent trends in risk behaviors can be analyzed and used to inform decisions for evaluating and tailoring HIV prevention and care services to IDU in specific geographic areas.

## **Formative Assessment**

Formative research is conducted prior to implementation of each NHBS cycle in order to enhance data collection activities. NHBS project sites gather information about the public health-related attributes of the study population, determine how that population should be defined, and determine the best ways to access it through the use of a formative assessment (Higgins et al., 1996; Ulin et al., 2005).

Activities in the formative assessment for NHBS IDU2 were conducted from May 2009 to mid-July 2009 and included:

- Secondary data review where information was gathered from Texas HIV Core Surveillance published and unpublished data from a variety of sources about IDU networks in Dallas.
- Analysis of the general characteristics of the population, along with the status of the HIV epidemic and where HIV prevention services were being utilized.
- Interviews in a semi-structured format of key informants in the Dallas IDU community that included individuals of various races, ages, and gender who provided services to the IDU community and IDU themselves.

Major findings from the formative assessment were as follows:

- Dallas IDU tend to commute from all parts of Dallas to southern areas of Dallas to do most of their buying and injecting of drugs, so recruitment operations should be concentrated in this area.

- Hispanic IDU may be more separated from IDU of other races/ethnicities and the drug use among Hispanics is tied more to gang activity than it is for other races, therefore it may be difficult to recruit from the Hispanic IDU population safely.
- Injecting drug use tends to occur in inner-city neighborhoods where residents are primarily African American and Hispanic, whereas White IDU are likely to reside in suburbs and spend limited time in the city and thus may be more difficult to recruit.
- Injection drug use occurs at all times of the day and most times of the night.
- Injecting is often regarded as a social activity and people of all ethnicities other than Hispanics seem to use drugs together.
- Many IDU fear that participation in the study could lead to legal trouble and are sensitive about being judged by people who are not IDU (i.e. interview or counseling staff), so activities should be appropriately discreet and sensitive.

## **Methods**

### ***Respondent Driven Sampling***

Data were collected using respondent-driven sampling (RDS) in accordance with the national protocol (Centers for Disease Control and Prevention, 2009). RDS builds on the concept of “snowball sampling” whereby initial participants refer people they know to a study and those people refer others they know to the study (Heckathorn, 1997). RDS in NHBS continues through successive recruitment cycles until a predetermined sample size. The RDS theory asserts unbiased population estimates can be calculated and adjusted for cross group recruitment patterns and network size (Heckathorn, 2002).

- RDS studies begin with assessment of the population of interest, typically conducted by an ethnographer, to determine behavioral trends in the population and locate initial recruits for the study called “seeds.”
- The CDC recommends using 5-15 seeds for each NHBS cycle.
- In order to limit recruitment opportunities, seeds are each given 3-5 coupons to distribute to other potential recruits for the study.
- Those that return to study sites with their coupons will in turn receive 3-5 coupons to distribute to other potential recruits until the desired sample size is met.
- A modest incentive is provided to participants for completing the interview, recruitment of peers and for taking an HIV test.
- Data collected from an RDS study can be analyzed using RDSAT software.
- Population estimates and frequencies presented in this report were generated by RDSAT (unless otherwise noted) and are weighted to adjust for recruitment bias (some participants may recruit 5 other people to the study while some may recruit none), homophily (tendency for people to recruit others with demographic traits similar to themselves, e.g. Hispanic females tend to recruit other Hispanic females rather than black or white males), and differential personal network size among study participants (Heckathorn, 2007).



### *Targeted Population*

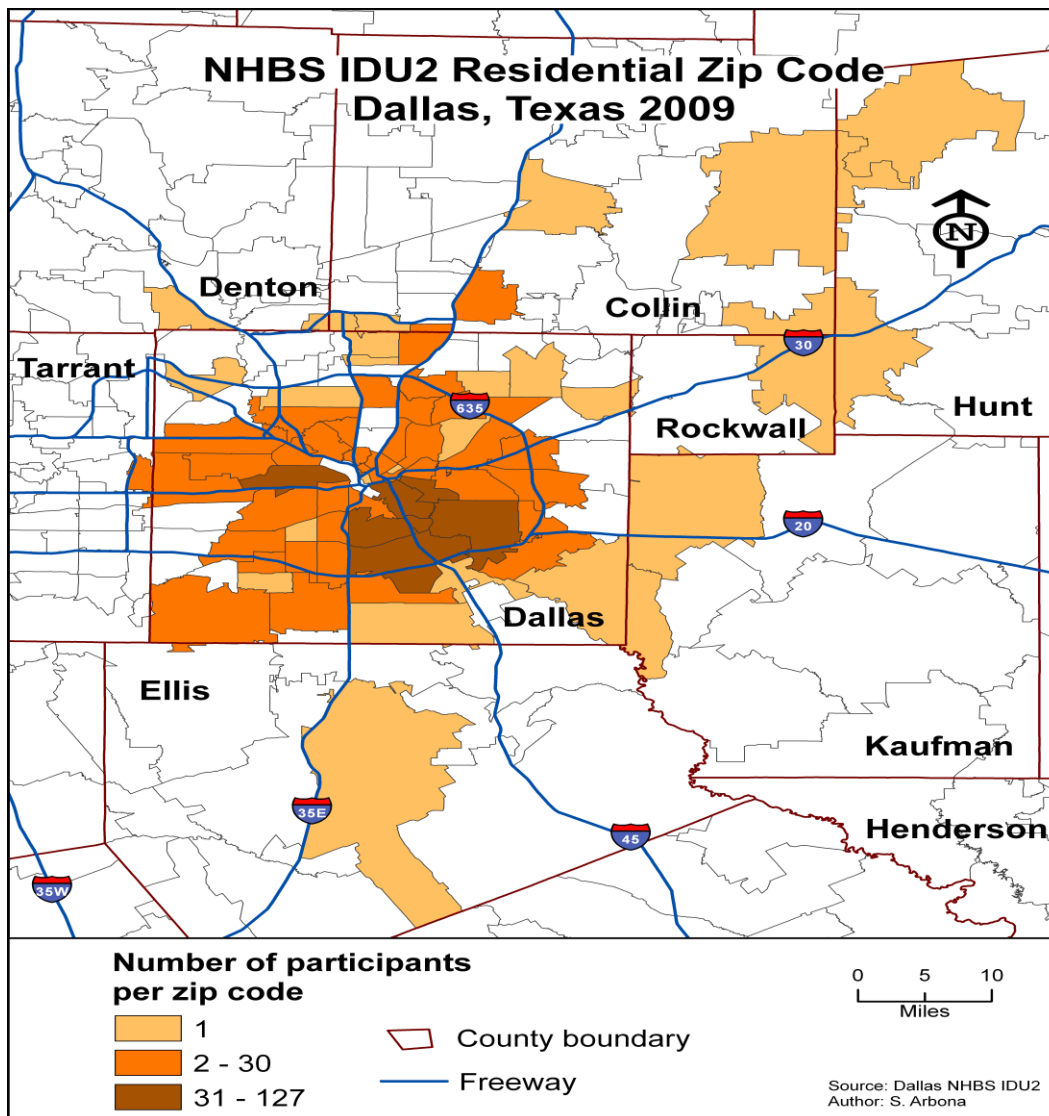
- Injection drug users throughout the Dallas Metropolitan Division were recruited using RDS from July-November 2009.
- Nine seeds were purposefully recruited and efforts were made to ensure diversity among the seeds. Two of those seeds were added after data collection began when it was noted that White and Hispanic IDU were being under-sampled. Addition of another White seed and another Hispanic seed allowed more sampling of those racial groups. These seeds were excluded from analysis.
- To participate in the study, subjects were required to have injected drugs in the preceding 12 months, have physical signs (e.g. track marks) or knowledge of local injection practices, be either male or female (not transgender), be able to complete an anonymous interview in English or Spanish, and have not previously participated in the IDU2 cycle.
- The original 9 seeds yielded 621 eligible participants.
- Participants were asked to give their informed consent to an interview and for a voluntary anonymous HIV test prior to eligibility screening.
- Some participants reported being HIV positive during the interview.
- Consent to the HIV test was not necessary for participation in the IDU2 interview.

Study participants were free to decline to answer any question in the survey and therefore some questions received few responses. Rather than omit variables with few responses from the report entirely, unweighted frequencies are presented for these variables instead of weighted estimates. Unweighted frequencies should be interpreted with caution.

## Residential Zip Code of IDU2 Participants

The residential zip codes of NHBS IDU2 participants were predominately within Dallas County (97%), but the survey included a few individuals from other counties in the Dallas Metropolitan Division. The concentration centered in south-eastern Dallas, where 62% of the participants reported residing. The formative assessment revealed that IDU2 commuted from all parts of Dallas to central locations in South Dallas to purchase and use injection drugs. These locations were mainly in predominantly Black and Hispanic neighborhoods (Figure 2).

**Figure 2. Residential Zip Codes of Dallas NHBS IDU2 Participants, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

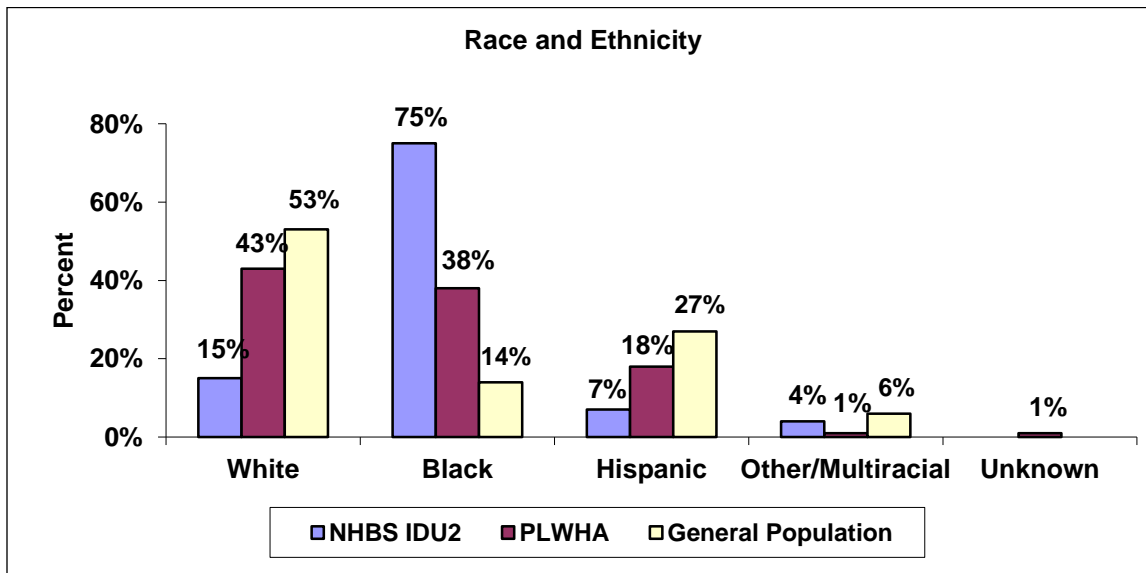
## DEMOGRAPHIC CHARACTERISTICS

### Race and Ethnicity

The rate of People Living with HIV/AIDS (PLWHA) in Texas in 2008 shows an uneven burden of disease. Black persons had the highest rate (850/100,000) for PLWHA. This rate was more than four times higher than the rate in White persons (197/100,000) and Hispanic persons (174/100,000). Fifteen percent of the PLWHA in 2008 were injection drug users (Texas Department of State Health Services, 2010).

Within the Dallas Metropolitan Division in 2009 more than half of the estimated general population 18 years of age and older was White, followed by Hispanic and Black. PLWHA in the Dallas Metropolitan Division were also predominantly White but had a higher proportion of Black persons and a lesser proportion of Hispanic persons than the general population. Participants in the Dallas NHBS IDU2 study had a different composition, with three-fourths of them being Black, 15% White and only 7% Hispanic (Figure 3).

**Figure 3. Estimated General Population, People Living with HIV/AIDS, and the Dallas IDU2 Sample in the Dallas Metropolitan Division by Race and Ethnicity, 2009**



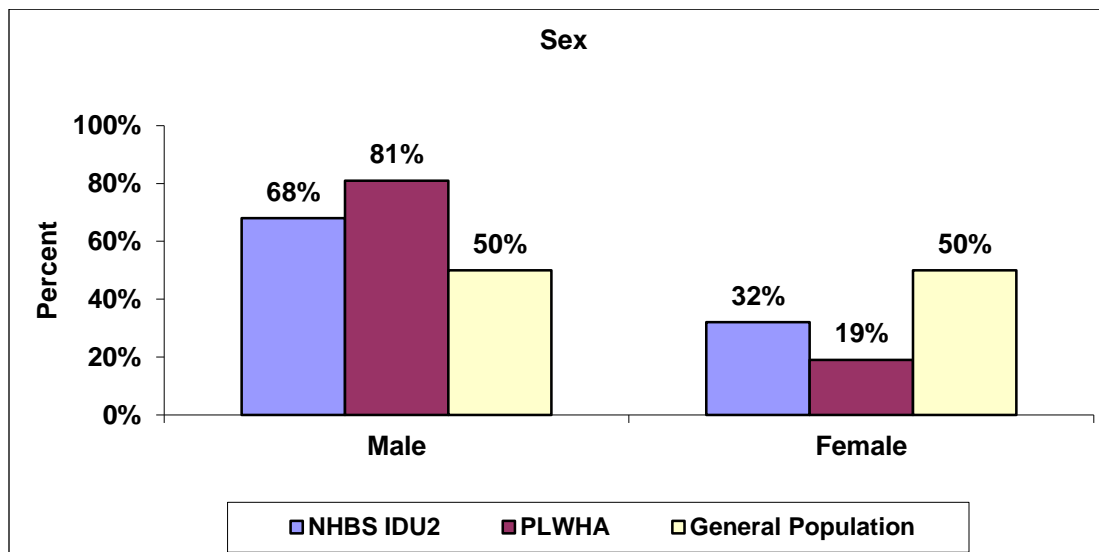
Sources: Texas Population Data Detailed Data (online), <http://www.dshs.state.tx.us/chs/popdat/detailX.shtm>, San Antonio, TX: Texas State Data Center and Office of the State Demographer, Institute for Demographic and Socioeconomic Research, The University of Texas at San Antonio, September 16, 2011. Enhanced HIV/AIDS Reporting System (eHARS), September 9, 2011. Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## Sex

In 2009, the estimated number of diagnoses of HIV infection among adult and adolescent males in the United States since January 2006 was more than 3 times the number for females. Among males, an estimated 8% of diagnosed HIV infections were attributed to injection drug use, and 4% were attributed to male-to-male sexual contact and injection drug use. Among females, 15% of diagnosed HIV infections were attributed to injection drug use (Centers for Disease Control and Prevention, 2011).

The distribution of cases between sexes from 2002 to 2008 among PLWHA in Texas was 81% male and 19% female. PLWHA in 2009 in the Dallas Metropolitan Division were also predominantly male. In the Dallas NHBS IDU2 study, females were less than one-third of the participants; more than half of the female participants reported an IDU male sex partner. In contrast, the percentage of males and females in the general population in the Dallas Metropolitan Division was more evenly distributed (Figure 4).

**Figure 4. Estimated General Population, People Living with HIV/AIDS, and Dallas NHBS IDU 2 Sample in the Dallas Metropolitan Division by Sex, 2009**



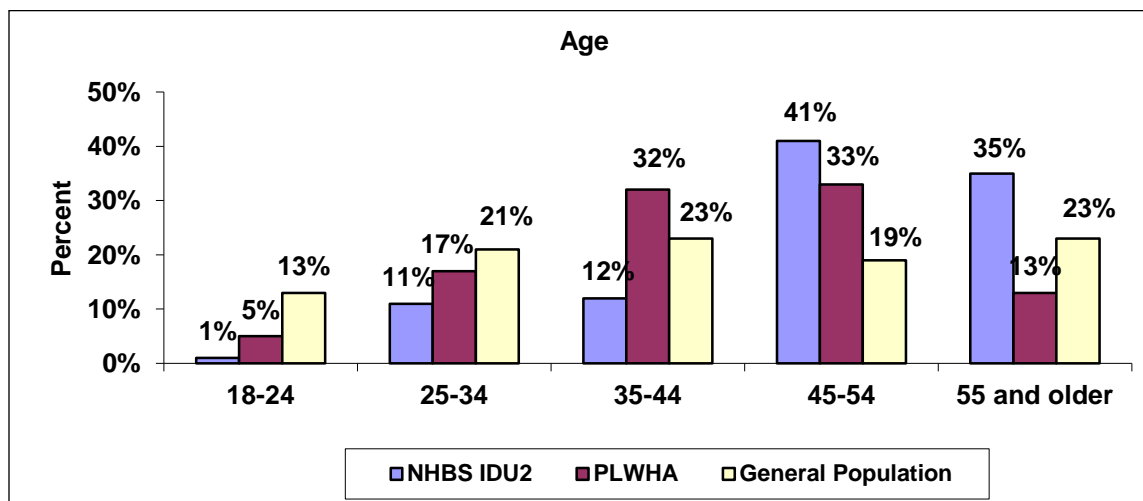
Sources: Texas Population Data Detailed Data (online), <http://www.dshs.state.tx.us/chs/popdat/detailX.shtml>, San Antonio, TX: Texas State Data Center and Office of the State Demographer, Institute for Demographic and Socioeconomic Research, The University of Texas at San Antonio, September 16, 2011. Enhanced HIV/AIDS Reporting System (eHARS), September 9, 2011. Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## Age

Among HIV diagnoses in the United States in 2009, the number of IDU-related diagnoses of HIV infection increased as age increased (Centers for Disease Control and Prevention, 2011). In Texas, the age distribution of PLWHA from 2002 to 2008 continued to shift to those over the age of 45, reflecting the aging of the population infected with HIV.

Participants in the Dallas NHBS IDU2 study had a different age composition than the composition in the estimated general population in the Dallas Metropolitan Division and the PLWHA in the Dallas Metropolitan Division in 2009. While 76% of the NHBS IDU2 sample was 45 years of age and older, 46% and 42% of the PLWHA and the general population, respectively, were within that age group (Figure 5).

**Figure 5. Estimated General Population, People Living with HIV/AIDS, and the Dallas NHBS IDU 2 Sample in the Dallas Metropolitan Division by Age, 2009**



Sources: Texas Population Data Detailed Data (online), <http://www.dshs.state.tx.us/chs/popdat/detailX.shtm>, San Antonio, TX: Texas State Data Center and Office of the State Demographer, Institute for Demographic and Socioeconomic Research, The University of Texas at San Antonio, September 16, 2011. Enhanced HIV/AIDS Reporting System (eHARS), September 9, 2011. Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## Other Socioeconomic Characteristics

The levels of education, household income, employment status, and homelessness of the Dallas NHBS IDU2 sample are shown in Table 1. Among IDU2 participants who answered socioeconomic questions, a majority of participants had a high school education or less, a low household income, and were unemployed. Of the IDU2 participants who answered questions about homelessness, 37% (n=168) responded that they were currently homeless and 63% (n=281) responded they had been homeless at some point within the 12 months prior to the interview date.

**Table 1. Education, Income, Employment Status and Homelessness among Injection Drug Users in the Dallas Metropolitan Division, 2009**

<b>Characteristic</b>	<b>Weighted Frequency</b>	<b>Weighted Prevalence Estimate</b>
<b>Education Level</b>		
Less than high school	215	35.1%
High School/GED	251	41.0%
Some college	137	22.4%
College grad/post grad	10	1.6%
<b>Annual Household Income</b>		
\$0-\$9999	332	54.2%
\$10,000-\$19,999	167	27.2%
\$20,000-\$39,999	71	11.6%
\$40,000 +	33	5.4%
Unknown	10	1.6%
<b>Employment Status*</b>		
Unemployed	290	47.3%
Employed full or part time	99	16.2%
Other	224	36.5%
<b>Homelessness</b>		
Currently Homeless	168	37.4%
Ever Been Homeless	281	62.6%

\*Other includes home maker, full time student, retired, and disabled.

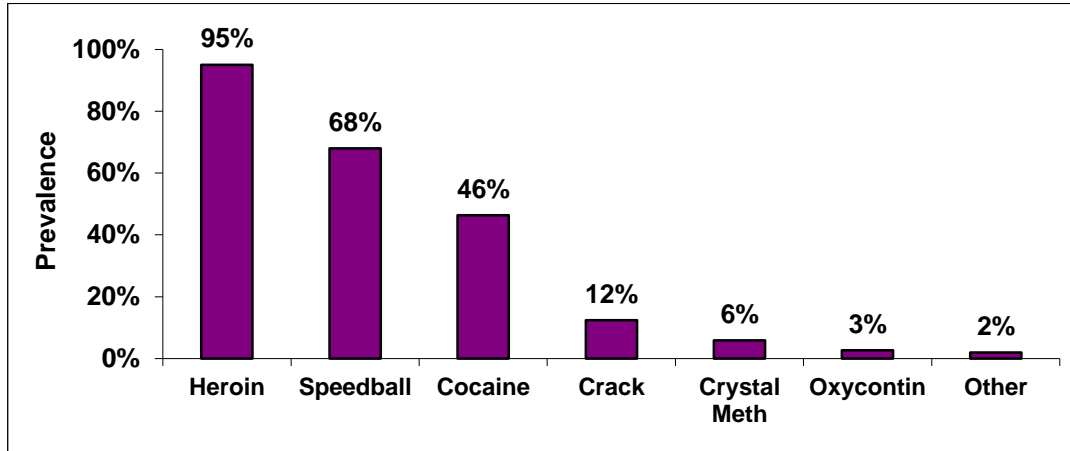
Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## **INJECTION AND NON-INJECTION DRUG USE**

In 2008, 15% of Texans living with HIV were infected via injection drug use (Texas Department of State Health Services, 2010). Sharing needles and paraphernalia is a high-risk behavior for contracting HIV. In addition to the direct relationship between injection drug use and HIV infection, drug abuse plays other, less recognized, roles in HIV transmission. Drug use may affect the users' judgment which may increase the likelihood of engaging in high-risk sexual behavior, in addition to reducing the effectiveness of HIV treatment drugs (National Institute on Drug Abuse, 2005). Thus, it is important to determine which drugs (both injection and non-injection) IDU use frequently so that education and prevention efforts can be properly focused to mitigate the effects and consequences of drug use.

The prevalence of heroin use among injection drug users in the Dallas Metropolitan Division was estimated to be 95% (weighted frequency = 578). The second most reported drug was speedballs (combination of heroin and cocaine), with a prevalence estimate of 68% (weighted frequency = 460) reporting use followed by cocaine (46%; weighted frequency = 304).

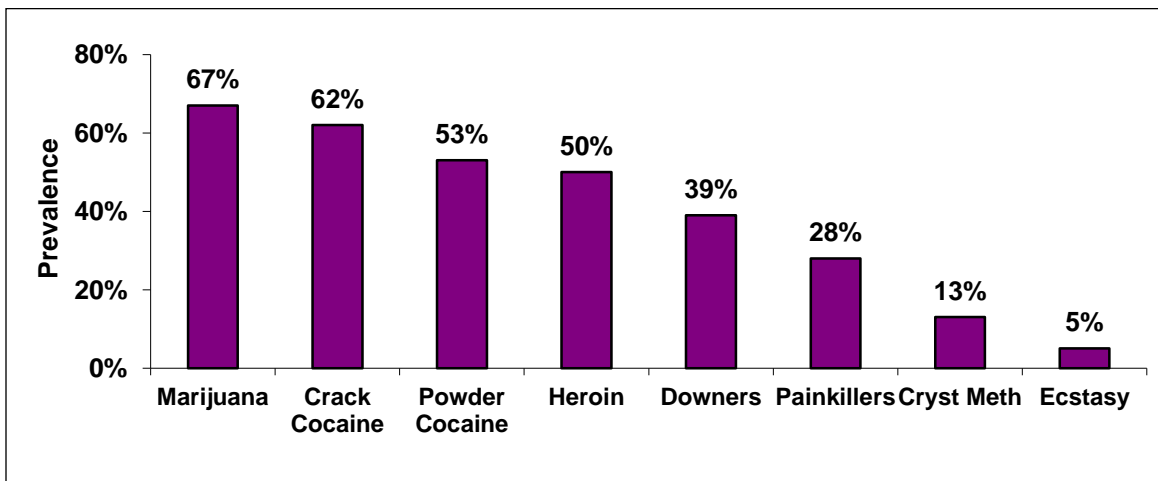
**Figure 6. Prevalence Estimates of the Injection Drugs used in the Dallas Metropolitan Division, 2009**



\*Participants could report use of more than one type of injection drug in the year prior to the interview.  
 Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Figure 7 illustrates the prevalence estimates of the non-injection drugs used by the injection drug users in the Dallas Metropolitan Division. Over half used crack and powdered cocaine, marijuana and/or smoking or snorting heroin.

**Figure 7. Prevalence Estimates of the Non-Injection Drugs used in the Dallas Metropolitan Division, 2009**



\*Participants could report use of more than one type of non-injection drug in the year prior to the interview; less than 5% of participants reported use of hallucinogens, Ketamine, GHB, amyl nitrate (poppers) or other non injection drugs.  
 Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

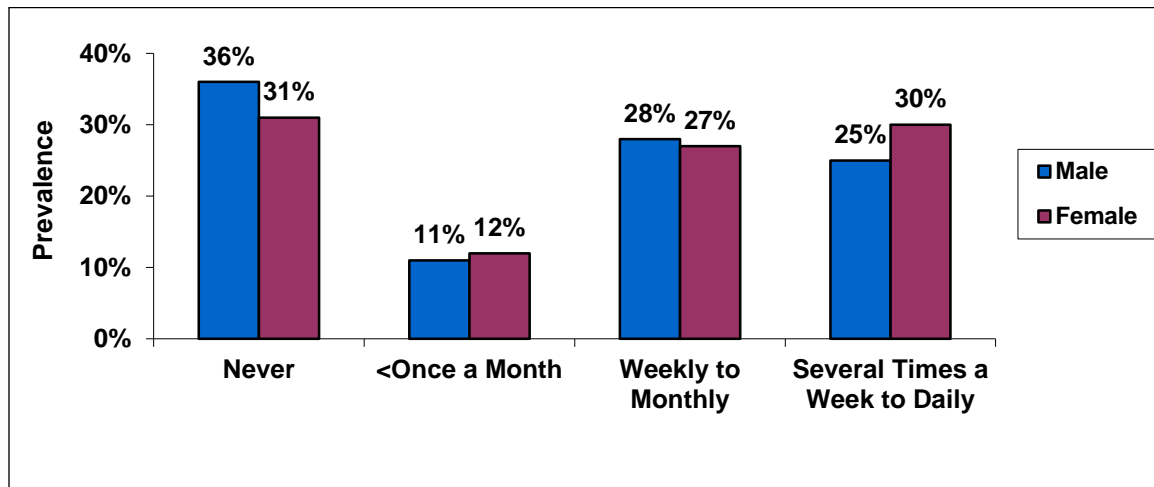
**DRUG USE RISK BEHAVIOR**

Fifty percent of the injection drug users in the Dallas Metropolitan Division were estimated to have started injecting drugs when they were 19 years of age or younger,

35% began using injection drugs between 20 and 29 years of age, 11% began using injection drugs between 30 and 39 years of age and 6% were over the age of 40 when they began injecting drugs.

Frequency of alcohol use was similar among male and female IDU (Figure 8). Estimated prevalence of frequent alcohol use (several times a week to daily) was 25% among males and 30% (n = 45) among female injection drug users in the Dallas Metropolitan Division.

**Figure 8. Prevalence Estimates of Alcohol Use among Injection Drug Users in the Dallas Metropolitan Division, 2009**

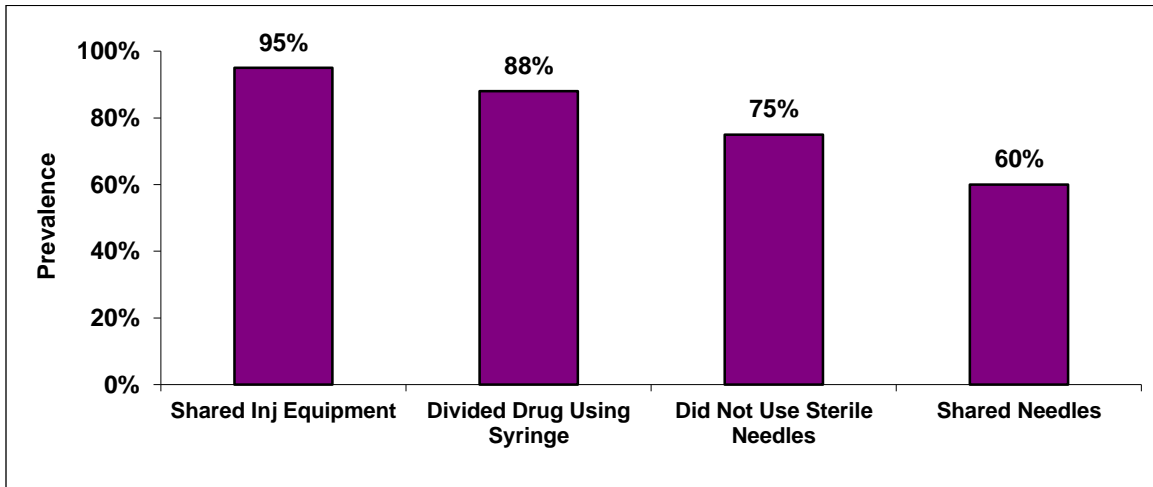


Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Injection drug-related risk behavior for contracting HIV was reported by a large percentage of NHBS IDU2 participants (Figure 9). Seventy-five percent of injection drug users in the Dallas Metropolitan Division were estimated to have not always used a sterile needle to inject in the previous year. Sixty percent are estimated to have shared a needle with someone else, 95% were estimated to have shared some type of injection equipment, and 88% were estimated to have divided their drugs using a syringe someone else had previously used. Also, 15% of injection drug users made an attempt to enter a treatment program and 7% reported use of Viagra, Cialis or Levitra.



**Figure 9. Prevalence Estimates of Injection Related High Risk Behaviors among Injection Drug Users in the Dallas Metropolitan Division, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## SEXUAL BEHAVIORS

Study participants were asked questions about the number and type of sex partners and the sexual behaviors they had engaged in over the past 12 months. Around 40% of the male and 80% of the female injection drug users in the Dallas Metropolitan Area have more than one sex partner (Table 2).

**Table 2. Prevalence Estimates of the Number of Sex Partners among Injection Drug Users in the Dallas Metropolitan Area, 2009**

Characteristic	Weighted Frequency	Prevalence Estimate
<b>Male Participants: Female Partners</b>		
None	50	15.3%
1 partner	192	44.9%
2-5 partners	131	34.5%
6-10 partners	23	4.1%
11+ partners	14	1.2%
<b>Female Participants: Male Partners</b>		
None	37	20.2%
1 partner	90	46.5%
2-5 partners	46	19.7%
6-10 partners	6	4.0%
11+ partners	14	10.0%

Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Study participants were also asked about their main, casual or exchange sex partners (a person with whom money or drugs are exchanged for sex). Around 86% of the injection drug users in the Dallas Metropolitan Area were estimated to have unprotected sex with

their main female sex partner while an estimated 76% had unprotected sex with their casual female sex partner (Table 3).

**Table 3. Prevalence Estimates of Male Injection Drug Users in the Dallas Metropolitan Division Engaging in Unprotected Sex with their Female Partners, 2009**

Partner Type	Unprotected Sex w/Female	Weighted Frequency	Prevalence Estimate	95% CI
Main	Yes	261	86.4%	73.4-91.5
	No	27	13.6%	8.5-26.6
Casual	Yes	100	75.7%	56.0-94.8
	No	41	24.3%	5.2-44.0
Exchange*	Yes	24	--	--
	No	15	--	--

\*Due to the small sample size, RDSAT could not calculate confidence intervals for exchange partners of male participants. Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

An estimated 95% of the female injection drug users engaged in unprotected sex with their main male partner (Table 4).

**Table 4. Prevalence Estimates of Female Injection Drug Users in the Dallas Metropolitan Division Engaging in Unprotected Sex with their Male Partners, 2009**

Partner Type	Unprotected Sex w/Male	Weighted Frequency	Prevalence Estimate	95% CI
Main	Yes	122	94.7%	94.7-99.6
	No	10	5.3%	0.4-5.3
Casual*	Yes	34	--	--
	No	10	--	--
Exchange*	Yes	23	--	--
	No	11	--	--
	Unknown	1	--	--

\*Due to the small sample size, RDSAT could not calculate confidence intervals for casual and exchange partners of female participants. Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

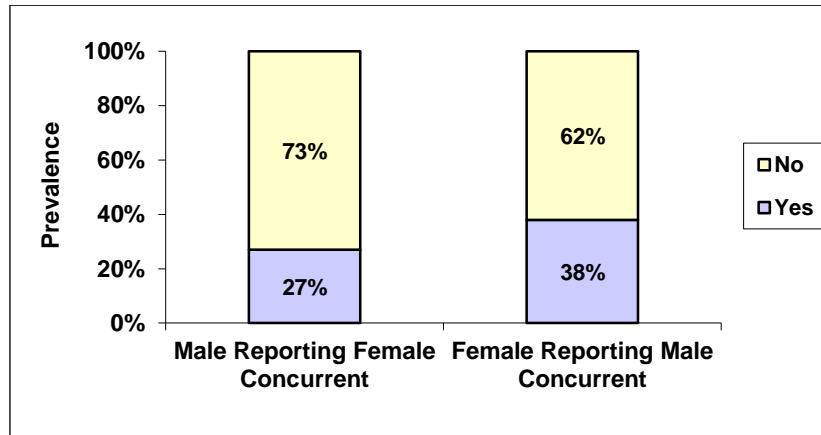
### **Last Sexual Partner Injected Drugs**

An estimated 58% of the last male partners of the female injection drug users in the Dallas Metropolitan Division had injected drugs in the previous 12 month period. However, an estimated 39% of the last female partners of the male injection drug users injected drugs during the previous 12 month period.

## Concurrent Sex Partners

Approximately 27% of the male IDU in the Dallas Metropolitan Division have concurrent female sex partners and while an estimated 38% of female IDU have concurrent male sex partners (Figure 10).

**Figure 10. Prevalence Estimates of Injection Drug Users in the Dallas Metropolitan Division Having Concurrent Sex Partners, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

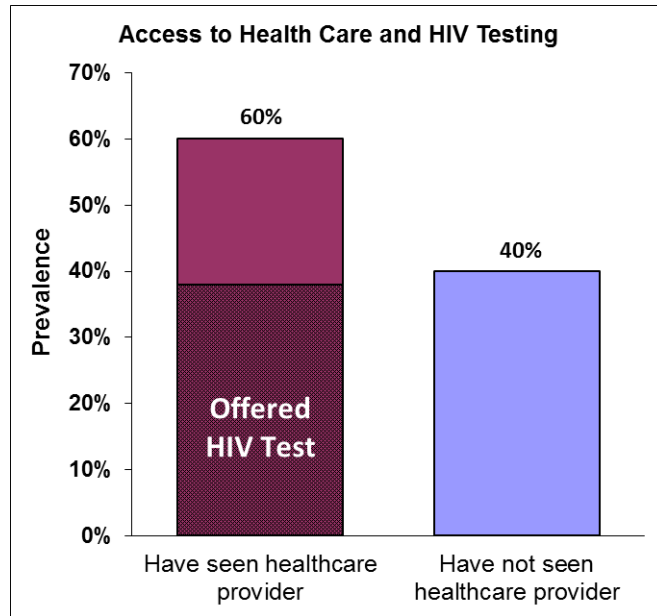
## ACCESS TO HEALTH CARE

### Health Insurance

Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that 33% of the injection drug users in the Dallas Metropolitan Division have some type of health insurance at the time of interview. Of the 33% with health insurance, 89% have private insurance, which includes coverage by an HMO. The remainder of those who reported having some type of health insurance (10%) is covered by Medicaid. More than two thirds had no health insurance at the time of their interview.

A visit to a health care provider during the 12 months prior to the interview is one of the proxy measures used to assess access to care. The national data on participating sites for NHBS IDU2 indicate that during the 12 months preceding their interviews, two thirds of participants had been tested for HIV infection (Centers for Disease Control and Prevention, 2009). Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that 60% of IDU in Dallas Metropolitan Division visited a healthcare provider in the past 12 months and of those who visited a healthcare provider, approximately 38% were offered an HIV test (Figure 11).

**Figure 11. Prevalence Estimates of Injection Drug Users in the Dallas Metropolitan Division Having Access to Health Care and HIV Testing, 2009**

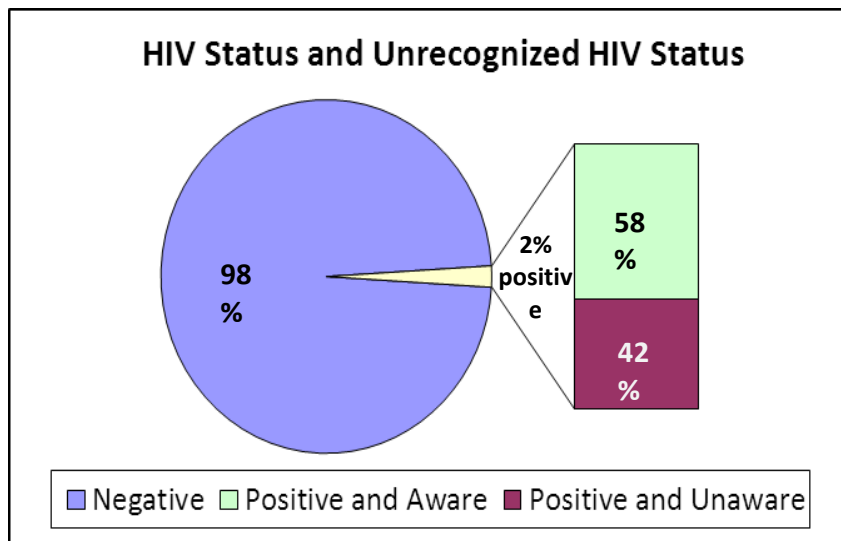


Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

**Awareness of HIV Status**

In the NHBS IDU2 sample, 620 participants were tested for HIV. Two percent (n=12) were HIV positive; 42% (n=5) of the HIV positive persons were unaware of their infection (Figure 12). The results in Figure 12 were calculated from unweighted data.

**Figure 12. HIV Status and Awareness of HIV Status among Dallas NHBS IDU2 Participants, 2009, Unweighted Data**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## HEALTH CONDITIONS

According to the Centers for Disease Control and Prevention, IDU are at high risk of acquiring Hepatitis B and Hepatitis C because these viruses are transmitted through exposure to infected blood and body fluids (2002). Within five years of beginning injection drug use, 50-70% of IDU are likely to become infected with HBV and 50-80% of IDU are likely to become infected with HCV (CDC, 2002).

Prevalence estimates from the IDU2 cycle indicate that 41% of the IDU in the Dallas Metropolitan Division have ever been diagnosed with hepatitis. Of those ever diagnosed, 90% were diagnosed with HAV, 4% with HBV, and 2% with HCV (Table 6). The remaining 5% had a previous diagnosis of hepatitis but did not know which type they had.

Twenty five percent of participants (n=150) reported they received a hepatitis vaccination at some point in their lives: 2% (n=13) were for HAV, 20% (n=42) for HBV, 50% (n=65) for the combined HAV/HBV vaccine, and 28% (n=30) reported they had received a hepatitis vaccine but did not know which type they received.

**Table 6. Prevalence Estimates of Hepatitis Testing and Vaccination among Injection Drug Users in the Dallas Metropolitan Division, 2009**

Characteristic	Group	Weighted Frequency	Prevalence Estimate	95% CI
Ever Had Hepatitis	Yes	286	41.0%	35.0-45.4
	No	325	59.0%	54.4-64.8
Hepatitis Type*	HAV	253	89.9%	81.7-95.1
	HBV	12	3.6%	0.8-8.8
	HCV	4	1.8%	--
	Unknown	17	4.8%	1.5-10.6
Ever Tested for HCV	Yes	178	41.5%	34.0-50.9
	No	155	51.0%	41.4-59.2
	Unknown	23	7.4%	2.7-12.5
Ever Had Hepatitis Vaccine	Yes	150	25.0%	20.3-29.5
	No	437	69.3%	64.1-74.3
	Unknown	26	5.8%	3.3-8.9
Type of Hepatitis Vaccine**	Hep A	13	1.6%	--
	Hep B	42	20.0%	4.0-39.2
	Hep A&B	65	50.2%	30.5-72.9
	Unknown	30	28.2%	11.5-44.8

\*Among participants who reported ever having Hepatitis.

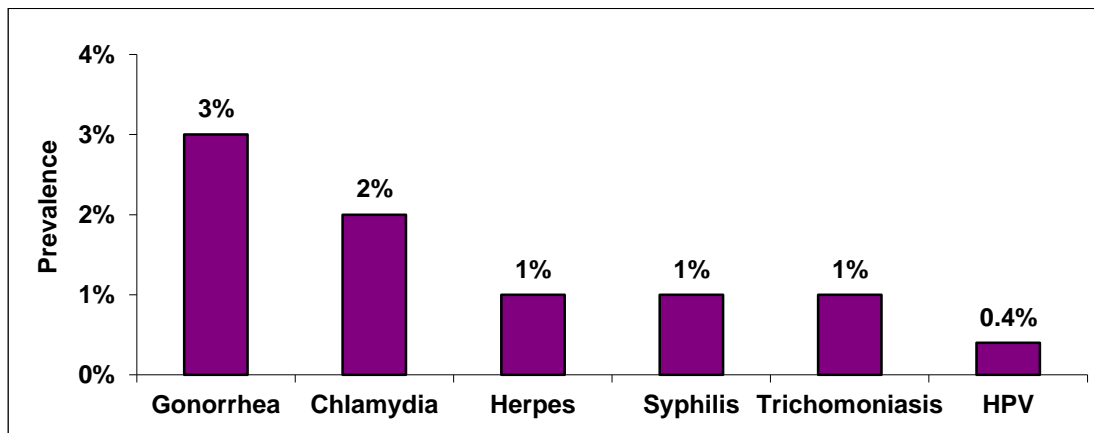
\*\*Among participants who reported ever receiving a Hepatitis vaccine.

Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Injection drug users are at an increased risk for contracting not only HIV or hepatitis, but also other sexually transmitted diseases. Of the IDU 2 participants who were diagnosed

with an STD in the previous 12 months, 45 reported being diagnosed with at least one STD, seven reported diagnosis of two different STDs, and three reported diagnosis of three or more different STDs. Figure 13 shows the prevalence estimates of the STD diagnosed among IDU in the Dallas Metropolitan Division in 2009.

**Figure 13. Prevalence Estimates of STDs Diagnosed among Injection Drug Users in the Dallas Metropolitan Division, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## HIV TESTING EXPERIENCES

HIV testing is integral to HIV prevention, treatment, and care efforts. Testing provides an opportunity for people to receive counseling and information about risk reduction. Early knowledge of HIV status is also important for linking those who are HIV positive to medical care and services that can reduce morbidity and mortality and improve quality of life.

Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that 86% of the IDU in the Dallas Metropolitan Division have ever been tested for HIV. Fifty percent of IDU that had ever been tested for HIV had 1-2 tests in the previous two years and 46% of IDU recently tested had an anonymous HIV test. Of the IDU who had been tested in the past two years, 31% tested due to concerns about being exposed to HIV, 29% tested routinely and 23% wanted confirmation of negative HIV status (Table 7). Of those same IDU with a recent HIV test, 25% received a rapid test, with results available within 30 minutes.

**Table 7. Prevalence Estimates of HIV Testing Characteristics of Injection Drug Users in the Dallas Metropolitan Division, 2009**

Characteristic	Group	Weighted Frequency	Prevalence Estimate	95% CI
Ever tested for HIV	Yes	543	85.6%	81.3-88.7
	No	64	13.2%	10.1-17.5
	Unknown	6	1.2%	0.4-2.2
Reason for recent test*	None	9	2.9%	0.8-6.3
	Exposure concerns	138	31.4%	22.7-36.8
	Routine test	114	29.3%	22.2-36.9
	Make sure negative	88	23.4%	16.5-30.7
	Doctor suggestion	29	7.8%	4.0-14.1
	Required	17	3.7%	1.2-6.9
	Pregnant	1	0.5%	0.0-1.5
	Other	7	1.3%	0.4-2.7
Number of HIV tests in past 2 yrs*	None	206	38.1%	32.9-44.7
	1 to 2	267	50.0%	43.5-55.5
	3+	62	10.6%	7.2-13.9
	Unknown	8	1.3%	0.5-2.6
Recent test anonymous*	Yes	161	46.4%	34.7-49.1
	No	239	53.1%	50.8-65.1
	Unknown	3	0.5%	--
Recent test rapid**	Yes	116	24.9%	19.3-30.6
	No	281	73.9%	68.0-79.5
	Unknown	6	1.3%	0.4-2.4

\*Among participants who have ever tested for HIV.

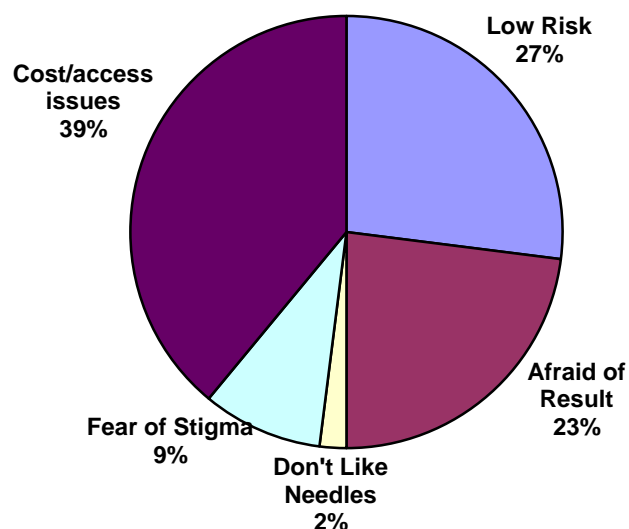
\*\*Among participants who gave reason for recent HIV test.

Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Study participants reported testing for HIV at a variety of locations. Of the 400 participants that reported a location of their last HIV test, 22% tested at hospitals or correctional facilities (n=72 and 98 participants, respectively), 12% (n=49) at public health clinics, 11% (n=42) in drug treatment programs, 8% (n=25) in ERs and 7% (n=28) at street outreach/mobile units. Other testing sites included family planning clinics, community health centers, and private doctors' offices.

For the 320 participants who indicated they did not test for HIV in the past 12 months, over 40% (n=140) stated their reason for not testing involved cost or access issues (no money or insurance, time, transportation, or knowledge of testing sites). Twenty seven percent (n=89) reported not testing because they believed they were at low risk of contracting HIV and 23% (n=64) reporting being afraid to receive test results. Interestingly, 2% (n=6) of participants reported that they did not get tested because they did not like needles, despite being active injection drug users (Figure 14).

**Figure 14. Prevalence Estimates of the Most Important Reason Dallas NHBS IDU2 Participants Did Not Test for HIV in the Year Prior to 2009 Interview**



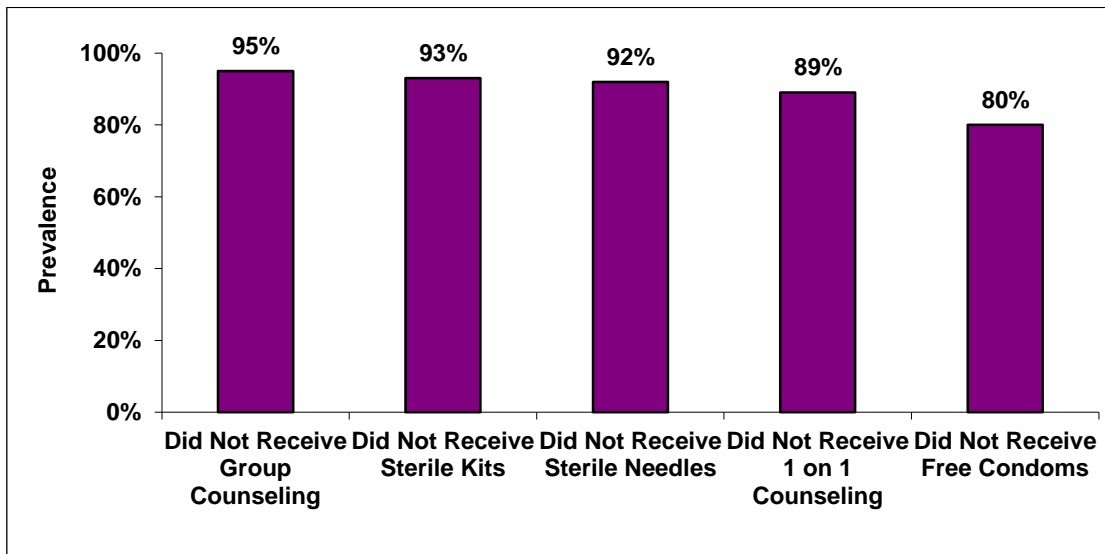
Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

### **HIV PREVENTION ACTIVITIES**

Injection drug users were asked questions about prevention activities they may have engaged in during the 12 months prior to their interview date (Figure 15). Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that at least 80% of IDU in the Dallas Metropolitan Division did not receive any of the following prevention activities: group counseling, sterile kits, sterile needles, individual counseling or free condoms.



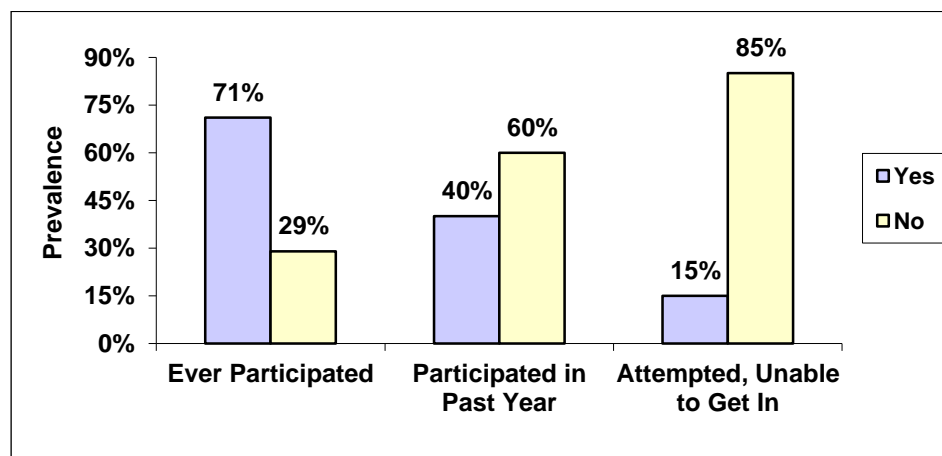
**Figure 15. Prevalence Estimates of Free Prevention Activities Not Received by Injection Drug Users in the Dallas Metropolitan Division, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that 71% of IDU in the Dallas Metropolitan Division ever participated in a drug or alcohol treatment program and 40% participated in one of those programs within the previous 12 months. Fifteen percent of the IDU were not able to get into a drug or alcohol treatment program.

**Figure 16. Prevalence Estimates of Participation in Drug or Alcohol Treatment Programs among Injection Drug Users in the Dallas Metropolitan Division, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

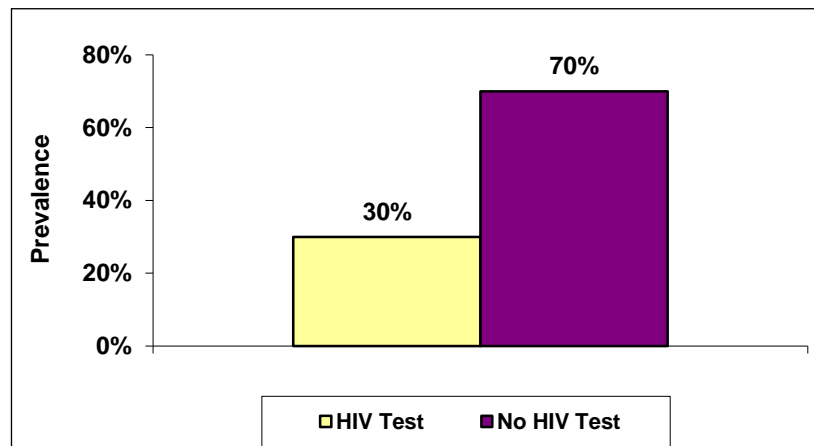
## INCARCERATION

According to an article from AIDS Action, although the majority of HIV-positive prisoners are infected prior to entering jails and prisons, individuals who are not HIV-positive at intake may be at increased risk of contracting HIV from participating in activities that can lead to HIV infection, such as continued injecting drug use, tattooing, and consensual sexual activity (AIDS Action, 2001). For this NHBS cycle, participants were asked about their arrest history, HIV and hepatitis C testing during last incarceration, and if they received those test results.

Thirty percent (n=185) of participants reported being arrested in the year prior to their interview. Regarding length of incarceration, 53 participants (unweighted frequency) reported being detained for 2-7 days and 28 (unweighted frequency) reported being detained for only one day.

Prevalence estimates from the Dallas NHBS IDU 2 cycle indicate that only 30% of IDU who had been incarcerated were tested for HIV during their incarceration (Figure 17).

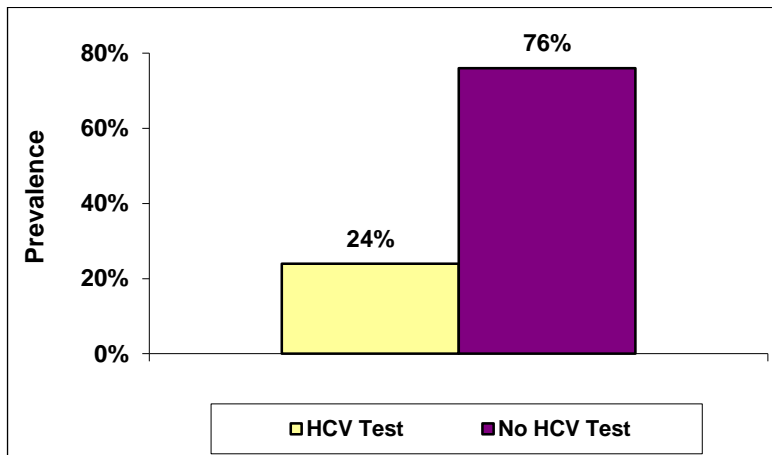
**Figure 17. Prevalence Estimates of Injection Drug Users in the Dallas Metropolitan Division who were Tested for HIV during Last Incarceration, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

Only 24% of the IDU in the Dallas Metropolitan Division who had been incarcerated were tested for the hepatitis C virus during their last incarceration (Figure 18). Of those, 21% did not receive their test results.

**Figure 18. Prevalence Estimates of the Injection Drug Users in the Dallas Metropolitan Division who were Tested for HCV during Last Incarceration, 2009**



Source: Texas Department of State Health Services, NHBS IDU2 Data, Dallas Metropolitan Division, 2009.

## LIMITATIONS

Data are self reported and thus may be subject to certain biases. Because participants are asked about sexual or drug-use behaviors that may be interpreted as undesirable, the IDU2 data are prone to social desirability bias (Gallagher et al., 2007). Social desirability bias is described as the tendency of individuals to say things that will make them look good (Cohen, 2008). However, because the interview is anonymous and participants are assured that their responses will be kept confidential; this bias most likely has a minimal impact on the findings. Participants had to remember past behaviors to answer interview questions; therefore, recall bias may affect study results since the quality and completeness of the data collected is limited by participants' ability to correctly recall certain facts and details. Furthermore, given the sensitive nature of this study, positive HIV status may be underreported due to the fact that an interviewer directly asks the participant questions related to HIV risk behaviors. This method of questioning can lead to inflated estimates of individuals who are unaware of his/her HIV infection. There may be underreporting in the areas of drug use and sexual behaviors (especially among non-gay identified MSM) due to stigma associated with engaging in risky behaviors or being infected with HIV. In addition, the data is a snapshot of risky behaviors among injection drug users in the Dallas Metropolitan Division population and cannot be generalized beyond this population.

## Respondent Driven Sampling

Potential biases associated with utilization of Respondent Driven Sampling are as follows (Behavioral Surveillance Team NCHHSTP/DHAP-SE/BCSB, 2010):

- Groups may be more likely to recruit within their own network, leading to over- or under-representation in the study sample;
- Groups with larger networks may be overrepresented in the sample because more recruitment paths lead to their members; and

- Groups less willing to participate in the survey may be underrepresented in the sample.

In order to minimize the impact of these biases, IDU2 project staff were encouraged to ensure diversity among the initial seeds in terms of race/ethnicity, gender, age, geographic location and to conduct adequate formative research to determine the proper placement of field sites that may reduce barriers for individuals who want to participate in IDU2 survey activities.

## REFERENCES

- AIDS Action. Incarcerated Populations and HIV/AIDS. 2001. Available at: <http://img.thebody.com/legacyAssets/37/72/incarcerated.pdf>
- Behavioral Surveillance Team NCHHSTP/DHAP-SE/BCSB. National HIV Behavioral Surveillance System: Heterosexuals at Increased Risk of HIV. Version: February 5, 2010.
- Centers for Disease Control and Prevention. HIV Prevention Strategic Plan Through 2005. 2001. Available at: <http://www.cdc.gov/hiv/resources/reports/psp/pdf/prev-strat-plan.pdf>
- Centers for Disease Control and Prevention. HIV/AIDS Statistics and Surveillance, 2011. Available at: [http://www.cdc.gov/hiv/idu/resources/slides/slides/idu\\_4.pdf](http://www.cdc.gov/hiv/idu/resources/slides/slides/idu_4.pdf)
- Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Reports: HIV-Associated Behaviors Among Injecting Drug Users 23 Cities, United States, May 2005-February 2006, 2009. Available at: [http://www.cdc.gov/hiv/resources/reports/mmwr/mm5813\\_err.htm](http://www.cdc.gov/hiv/resources/reports/mmwr/mm5813_err.htm)
- Centers for Disease Control and Prevention. Viral Hepatitis and Injection Drug Users, 2002. Available at: [http://www.cdc.gov/idu/hepatitis/viral\\_hep\\_drug\\_use.pdf](http://www.cdc.gov/idu/hepatitis/viral_hep_drug_use.pdf)
- Cohen E. 2008. Research Methods and Design - Measurement. Available at: <http://www.sjsu.edu/people/edward.cohen/courses/298/s6/Week%204%20handout%20Measurement.pdf>
- DiNenno EA. Characterizing HIV Risk Behaviors: CDC's National HIV Behavioral Surveillance System. 17<sup>th</sup> Annual HIV/STD Conference, Austin, TX, May 26, 2010.
- Gallagher KM, Sullivan PS, Lansky A, Onorato IM. Behavioral surveillance among people at risk for HIV infection in the US: the National HIV Behavioral Surveillance system. *Public Health Reports*. 2007; 122(Suppl I) 32-38.
- Heckathorn DD. Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems* 1997; 44 (2), 174-199.
- Heckathorn DD. Respondent-driven sampling II: Deriving valid population estimates from chain referral samples of hidden populations. *Social Problems*. 2002; 49:11-34.
- Heckathorn DD. Extensions of respondent-driven sampling: Analyzing continuous variables and controlling for differential degree. *Sociological Methodology*. 2007; 37:151-207.

Higgins DL, O'Reilly KR, Tashima N, et al. Using formative research to lay a foundation for HIV prevention: An example from the AIDS Community Demonstration Projects. *Public Health Reports*. 1996; III (supplement):28-35.

National Institute on Drug Abuse. 2005. Linked Epidemics - Drug Abuse and HIV/AIDS. Available at: <http://www.drugabuse.gov/publications/topics-in-brief/linked-epidemics-drug-abuse-hivaids>

Texas Department of State Health Services. 2010 Texas Integrated Epidemiologic Profile for HIV/AIDS Prevention and Services Planning: HIV/AIDS in Texas, 2010. Available at: [www.dshs.state.tx.us/hivstd/reports/HIVandAIDSinTexas.pdf](http://www.dshs.state.tx.us/hivstd/reports/HIVandAIDSinTexas.pdf)

Ulin PR, Robinson ET, and Tolley EE. Qualitative methods in public health research. A field guide for applied research. Jossey-Bass, San Francisco, CA, 2005.