

# Partner Study Data Summary

Results from the National HIV Behavioral Surveillance  
Heterosexual Cycle

2006-2007

Detroit, MI

Michigan Department of Community Health  
HIV/STD/VH/TB Epidemiology Section  
Division of Communicable Diseases  
Bureau of Epidemiology



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## **Section 1. Overview, Background, and Methods**

### **Overview**

The Partner Study was a one-time study conducted in conjunction with the 2006-2007 heterosexual cycle (NHBS-HET1) of the National HIV Behavioral Surveillance (NHBS) survey. The study was initiated to give insight into the factors in minority female heterosexual relationships that may be putting minority females at risk of acquiring HIV infection. Specifically, the study aimed to characterize partnerships, identify risk behaviors of male partners of minority women (defined as blacks and Latinas/Hispanics), and describe the extent to which minority women's perceptions of their male partner's risk behaviors match the partner's reported behaviors. The study was funded by the Minority AIDS Initiative. Detroit was one of the 16 NHBS locations that participated in the Partner Study. Eligible black and Hispanic women who participated in the NHBS-HET1 cycle were invited to participate in the Partner Study interview and recruit up to two of their male sex partners. In Detroit, there were no Hispanic females who participated in the Partner Study. Eligible male partners completed the NHBS-HET1 interview and male version of the Partner Study questionnaire and took an HIV test.

### **Background**

Black females are disproportionately affected by HIV/AIDS in the Detroit area and nationwide.<sup>1,2</sup> Women account for 22% of prevalent HIV/AIDS cases in Michigan with black females making up 74% of all HIV/AIDS cases among females.<sup>3</sup> In Southeast Michigan, the rate of new HIV diagnoses among black females is 14.8 times the rate among white females.<sup>4</sup>

Heterosexual contact accounts for 62% of the prevalent black female HIV cases in Michigan.<sup>3</sup> The high rate of HIV infection acquired through heterosexual contact affecting minority women necessitates studies that examine risk behaviors of males and females in heterosexual partnerships. The Partner Study in particular sought to understand the risk behaviors of minority women's male sexual partners. Questions on male partner behavior included questions on whether the male had concurrent sexual relationships (sexual relationships that overlap in time), whether the male ever injected drugs or

used crack cocaine, whether the male had ever been arrested and in jail, and whether the male had sex with men during the couple's sexual relationship. Men who have sex with men (MSM) is the most affected behavioral group in Michigan and the Detroit Metro area, making up 52% of all HIV/AIDS reported cases.<sup>4</sup> The contribution of MSM activity to the disproportionate HIV risk among black females is unknown.

There are likely many reasons why black females are at a higher risk for HIV infection. Heterosexual HIV transmission is likely influenced by multiple sociocultural factors, both male and female individual sexual risk behaviors, sexual networks, the prevalence of HIV in the pool of potential sex partners, and other factors.<sup>5-7</sup> Reported condom use is low among heterosexuals of all racial and ethnic groups.<sup>8-10</sup> Black heterosexuals report more sex partners and higher partnership concurrency compared to other racial and ethnic groups.<sup>11-14</sup> Concurrent sexual partnerships have been shown to enhance the transmission of HIV and other sexually-transmitted infections (STIs) in mathematical modeling studies.<sup>15, 16</sup> The introduction of concurrency into a population accelerates the speed of STI transmission and the number of individuals who become infected after a certain time period in comparison to serial monogamous relationships for the same number of partners per individual.<sup>17</sup> Differences in contextual factors between blacks and whites- such as income, education, unemployment rates, male: female sex ratio, marriage rates, and incarceration rates- influence sexual networks and sexual behaviors and contribute to the prevalence of concurrency and other HIV risk behaviors in these populations.<sup>7, 18, 19</sup> For women, sexual behavior decisions (such as persuading a male partner to wear a condom) are influenced by social and cultural norms, gender dynamics, and relationship communication.<sup>6, 20</sup> For example, women may not engage in safer sex because of a perceived lack of control in the relationship.<sup>21, 22</sup>

The Partner Study was initiated with the intent of investigating agreement on relationship characteristics and sexual behavior in individual heterosexual couples and to identify risk behaviors of minority women's sex partners and assess the female's knowledge of the male's self-reported risk behaviors.

## **Methods**

### ***Recruiting Minority Women and Male Partners***

The NHBS-HET1 cycle used respondent-driven sampling to recruit participants living in a “high risk area” (HRA) and those with social connections to a HRA. A “high risk area” (HRA) was defined as a geographic area with high rates of heterosexually-acquired HIV and high rates of poverty. For the HET1 and Detroit Partner Study, HRAs were located in Southeast Michigan and were concentrated in and close to the city of Detroit. To be eligible, participants were either residents of a HRA (physical connection) or were recruited by a HRA resident (social connection) and lived in the Detroit Metropolitan Statistical Area.

Minority women were recruited for the Partner Study from the NHBS-HET1 interview based on their self-reported race/ethnicity. Informed consent for the Partner Study was obtained and up to two coupons (based on the female’s reported number of male partners during the three months prior to interview) were given to the female to recruit her male partner(s). Females who gave consent to participate were given training on how to recruit their male partner(s). The female version of the Partner Study questionnaire was administered which had questions about the male partner(s) she intended to recruit. Male partners brought a valid coupon to the study site and were interviewed using the HET1 survey and male version of the Partner Study questionnaire. Male recruits were also HIV tested and given an incentive. After at least one male partner was interviewed, the female recruiter could return to the study site to receive a recruitment reward and confirm the partner to whom she gave the coupon. Females were re-interviewed regarding the male partner who received the coupon if there was a mismatch between that male partner and the male that completed the Partner Study questionnaire. A variety of methods were used to ensure correct matching between the female recruiter and the male recruited partner, such as checking that male physical characteristics matched the descriptions given by the female recruiter.

Eligibility for female participants included self-identification as black or Hispanic, consent and completion of the HET1 survey and HIV test (either completed as part of HET1 activities or consent to HIV testing as part of the Partner Study), and having at least one male sexual partner in the three months

prior to interview. Eligibility for male partners included consent to the Partner Study and HET questionnaires, being at least 18 years old, and being a valid sex partner of the female recruiter during the three months prior to her HET1 interview (had vaginal and or anal sex with female recruiter in the past three months). There were 107 eligible matched dyads with complete data from all sources for the Detroit Partner Study.

Females who participated in the Partner Study received a \$20 incentive for the questionnaire and \$10 for each male partner recruited and interviewed (up to two male partners). Male partners received a \$70 incentive for completion of the HET1 questionnaire, the male version of the Partner Study questionnaire, and for HIV testing.

### ***Partner Study Questionnaire Content***

The Partner Study questionnaire was divided into three main sections: characteristics of the relationship between the recruiting female and recruited male, sexual behaviors in the past three months between the recruiting female and recruited male, and recruiting female's knowledge of her male partner's risk behaviors. Questions from both the HET1 questionnaire and the Partner Study questionnaire for each male-female pair formed the Partner study analysis data set.

Demographic information and HIV testing behaviors and sexual behaviors for females were taken from the HET1 survey (after de-duplicating the females that had two male partners and the one male partner that was recruited by two females). Female HIV testing behaviors and sexual behaviors were based on the 12 months prior to the HET1 interview. Male demographic information and HIV testing behaviors were also taken from the HET1 interview and de-duplicated.

The Partner Study questionnaire was composed of questions that were specific to a particular relationship/couple. The Partner Study questionnaire focused on sexual behavior during the three months prior to interview and questions on male risk behaviors (e.g., history of sexually transmitted diseases, incarceration, drug use, and HIV testing). Questions on male risk behaviors were based on whether or not the behavior ever occurred (e.g., whether or not the male had ever injected drugs).

### *Analysis of Partner Study Data*

There were a total of 107 eligible dyads (couples) that participated in the Detroit Partner Study. Fifteen females recruited two male partners and therefore are part of two dyads; 77 females recruited one male partner. One male was recruited twice by two different females and therefore was part of two dyads. For dyad-level analyses, each partnership was considered a unique dyad (couple).

Partnership linkages were identified via survey IDs. All of the data for an individual partnership (male and female versions of the Partner study questionnaire and the HET1 survey for both the male and female) was found in a single row in the partner study analysis data set. The unit of analysis was a unique partnership/dyad/couple for many of the Partner Study questions (dyad-level analysis). Separate descriptive statistics for female and male responses (response analysis) were provided for certain questions because it gave further insight and/or because the question was open-ended or had many response categories and therefore could not be easily analyzed at a dyad-level (e.g., the year the respondent first had sex with his/her partner and where respondent first met partner). Response analysis included the female and male duplicates because the responses were for different partners. Also some questions were analyzed at the individual level and so females and males were de-duplicated (demographics).

### *Dyad-level analysis*

Agreement was calculated by dividing the total number of concordant dyads (for example, for questions with “yes” and “no” response options, all “yes-yes” and “no-no” dyads) by the total number of dyads. The percent agreement can be divided into the percent of dyads in agreement that the behavior/condition did occur, and the percent that agree the behavior/condition did not occur. The percent of couples in disagreement is simply 100 minus the percent agreement. Agreement/disagreement is limited because it does not take into account the amount of agreement from chance alone and also does not give information on any patterns that may be present in the dyads in disagreement. McNemar’s test was used to compliment agreement because it assesses whether there is asymmetry in disagreement.

McNemar’s test of symmetry for matched data was used to analyze questions with dichotomous outcomes (for example, questions with ‘yes’ or ‘no’ responses). McNemar’s test assesses the significance between two proportions which are not independent. In this study, McNemar’s test was used to determine whether or not males and females reported approximately the same frequency of a relationship behavior or characteristic. For example, the test determines whether there is a statistically significant difference between the proportion of males who responded ‘yes’ to a question compared to the proportion of females who responded ‘yes.’ The null hypothesis ( $H_0$ ) is that the proportion of males responding ‘yes’ is equal to the proportion of females responding ‘yes’ (known as marginal *homogeneity*).

$$H_0 = P(\text{Yes} \mid \text{male}) = P(\text{Yes} \mid \text{female})$$

Marginal *homogeneity* is reflected in the table below when  $(W + X) = (W + Y)$  or  $X=Y$ . The McNemar’s test evaluates the null hypothesis of marginal *homogeneity* from a 2x2 table as follows:  $\chi^2 = [(X - Y)^2] / (X + Y)$ . The McNemar’s test is a chi statistic  $\chi^2$  with one degree of freedom. The  $p$ -value calculated is from the chi square distribution when cells X and Y are large ( $>5$ ). When X or Y are  $<5$ , the  $p$ -value is calculated from the binomial distribution.

		Female Responses		
		Yes	No	Total
Male Responses	Yes	W	X	W+X
	No	Y	Z	Y+Z
	Total	W+Y	X+Z	N dyads

If marginal *homogeneity* was not met, that means males and females had different proportions of ‘yes’ responses and therefore there was asymmetry of disagreement. A difference in the proportion of males and the proportion of females reporting a behavior or relationship characteristic may suggest that males and females had different perceptions regarding the question topic (marginal *heterogeneity* or asymmetry in disagreement). If males and females reported the same frequency of a behavior, then there is marginal *homogeneity* (symmetry in disagreement). Importantly, complete marginal *homogeneity* (symmetry in disagreement) may occur even when there is substantial disagreement between female and male responses.

The proportion of females or males who responded “yes” is reported in the text but can also be found in the graphs in the report by adding the bars in dyad-level graphs that represent female “yes” responses or male “yes” responses together. The percentages may not always add up exactly to the proportion reported in the text because of rounding error. Dyads that had one member respond “Don’t know” were excluded from McNemar’s test analysis.

In the text, statistical significance was defined as  $p < 0.05$  but the table in Section 2 also includes questions that met a level of  $p < 0.10$ . A cut-off of  $p < 0.05$  is typically defined as “statistically significant” and values near but not reaching the  $< 0.05$  cut-off are still interesting and may suggest a trend.

There were a few questions in the Partner Study questionnaire that had more than two response categories (frequency of condom use and frequency of drug and/or alcohol use before or during sex). For these interval variables, Spearman’s rank correlation coefficient ( $r$ ) was used to assess the degree of association between female and male responses.

The data presented in this report describes the Partner Study sample only and cannot be generalized to other heterosexual partnerships in the Detroit area. Percentages presented in graphs, tables, and text in this document may not add up to 100% due to rounding error.

## Section 2. Executive Summary

### Demographics

- Low income with over half (55%) reported an annual income <\$10,000
- 38% unemployed at time of interview
- 28% had less than a high school education
- Almost half were 40 years old or older (48%)
- Almost half (46%) did not any have health coverage at time of interview

### Partnership characteristics

- Low agreement on communication of male's risk behaviors and using condoms in the three months prior to interview
- 21% of couples were in agreement that they had discussed the number of the male partner's current sex partners in the past three months
- Greater proportion of females compared to males reported that they had discussed whether the male was currently or had ever had sex with a man

### Dyad sexual behavior in the past three months

- Low condom use reported
  - 21% of dyads were in agreement that they EVER used condoms for vaginal sex
  - 54% of dyads in agreement that they NEVER used condoms for vaginal sex
  - 77% of dyads were in agreement that they did NOT consistently use condoms for vaginal sex
  - 6% of dyads were in agreement that they had anal sex and never used condoms for anal sex
- 50% of females reported that they never asked male partner to use a condom

### Female knowledge of male partner risk behavior

- High proportion of males reported concurrent partners during dyad sexual relationship (74%)
- 29% of all dyads had females unaware of male partner concurrency
- Few males reported MSM activity during dyad sexual relationship (3% of males)
- High incarceration; 72% of males reported ever being arrested and booked (in jail for at least 24 hours)
- 29% of all couples had females unaware that their male partner had ever been incarcerated

### Overall patterns in data

- There was a pattern in the partner study data based on the type of question
  - Questions regarding partnership characteristics, such as discussion of the male's risk behaviors and forced sex, were more often reported by females compared to males (summarized in first 5 rows in table below)
  - Questions regarding male partner risk behaviors, such as whether the male had extra-dyadic relationships, were more often reported by males compared to females (summarized in last 4 rows in table below). Additionally, for male risk factor questions there were many couples with females who responded "don't know."

**Table 1. Partner Study questions with a significant difference (defined as  $p < 0.05$ ) or nearly significance difference (defined as  $p < 0.10$ ) between the male and female responses, indicated by McNemar’s test of symmetry ( $p < 0.05$  bolded)**

	Proportion of female ‘Yes’ responses	Proportion of male ‘Yes’ responses	Significance level met
Current sexual relationship (at time of interview)	0.94	0.84	<b><math>p &lt; 0.01</math></b>
<i>Discussed</i> (during the past 3 months) whether male ever had sex with another man	0.37	0.18	<b><math>p &lt; 0.01</math></b>
<i>Discussed</i> (during the past 3 months) whether male currently has sex with men	0.30	0.13	<b><math>p &lt; 0.01</math></b>
<i>Discussed</i> (during the past 3 months) male partner’s STD history	0.38	0.26	$p < 0.10$
Male ever forced sex with female	0.13	0.06	$p < 0.10$
Male had extra-dyadic sexual relationship(s)	0.52	0.75	<b><math>p &lt; 0.001</math></b>
Male ever diagnosed with gonorrhea	0.12	0.23	$p < 0.10$
Male ever diagnosed with an STD (regardless of type reported by male and type perceived by female)	0.20	0.36	<b><math>p &lt; 0.01</math></b>
Male ever been in jail or prison for >24 hours	0.59	0.71	$p < 0.10$

## Section 3. Demographics

**Table 2. Partner Study Demographics\***

	Total (N=198)	Female (N=92)	Male (N=106)
<b>Gender</b>			
Female Recruiters	92		
Male Partners	106		
<b>Race/Ethnicity</b>			
Black	191 (96%)	91 (99%)	100 (94%)
White	4 (2%)	0	4 (4%)
Other/multiracial	3 (2%)	1 (1%)	2 (2%)
<b>Age</b>			
18-29	66 (33%)	33 (36%)	33 (31%)
30-39	37 (19%)	15 (16%)	22 (21%)
40-50	85 (43%)	44 (48%)	41 (39%)
51+	10 (5%)	N/A	10 (9%)
<b>Education</b>			
<High school	55 (28%)	26 (28%)	29 (27%)
High school diploma/GED	92 (46%)	39 (42%)	53 (50%)
Some college or technical school	42 (21%)	23 (25%)	19 (18%)
College graduate or beyond	9 (5%)	4 (4%)	5 (5%)
<b>Yearly Income</b>			
<\$10,000	108 (55%)	58 (63%)	50 (47%)
\$10,000-\$19,999	46 (23%)	21 (23%)	25 (24%)
\$20,000-\$29,999	15 (8%)	6 (7%)	9 (8%)
\$30,000+	26 (13%)	7 (8%)	19 (18%)
Unknown	3 (2%)	0	3 (3%)
<b>Employment Status</b>			
Employed	75 (38%)	32 (35%)	43 (41%)
Unemployed	76 (38%)	37 (40%)	39 (37%)
Disabled	20 (10%)	9 (10%)	11 (10%)
Other**	27 (14%)	14 (15%)	13 (12%)
<b>Homeless (past 12 months)</b>			
Currently homeless	7 (4%)	3 (3%)	4 (4%)
Formerly, not currently	17 (9%)	12 (13%)	5 (5%)
Not homeless last 12 months	174 (88%)	77 (84%)	97 (92%)
<b>Incarcerated (past 12 months)</b>			
Yes	28 (14%)	5 (5%)	23 (22%)
No	170 (86%)	87 (95%)	83 (78%)
<b>Health Coverage (at time of interview)</b>			
No health coverage	92 (46%)	33 (36%)	59 (56%)
Had health coverage	104 (53%)	59 (64%)	45 (42%)
Don't know	2 (1%)	0	2 (2%)
<b>Visited Health Care Provider (past 12 months)</b>			
Yes	128 (65%)	59 (64%)	69 (65%)
No	70 (35%)	33 (36%)	37 (35%)
<b>HIV Test Offered During Visit to Health Care Provider (n=128)†</b>			
Yes	33 (26%)	16 (27%)	17 (25%)
No	92 (46%)	42 (71%)	50 (72%)
Don't know	3 (2%)	1 (2%)	2 (3%)

\*Percent estimates may not add up to 100% due to rounding

\*\*Other includes homemaker, full-time student, retired, and other

†Question only asked of participants who visited a health care provider in the 12 months prior to interview

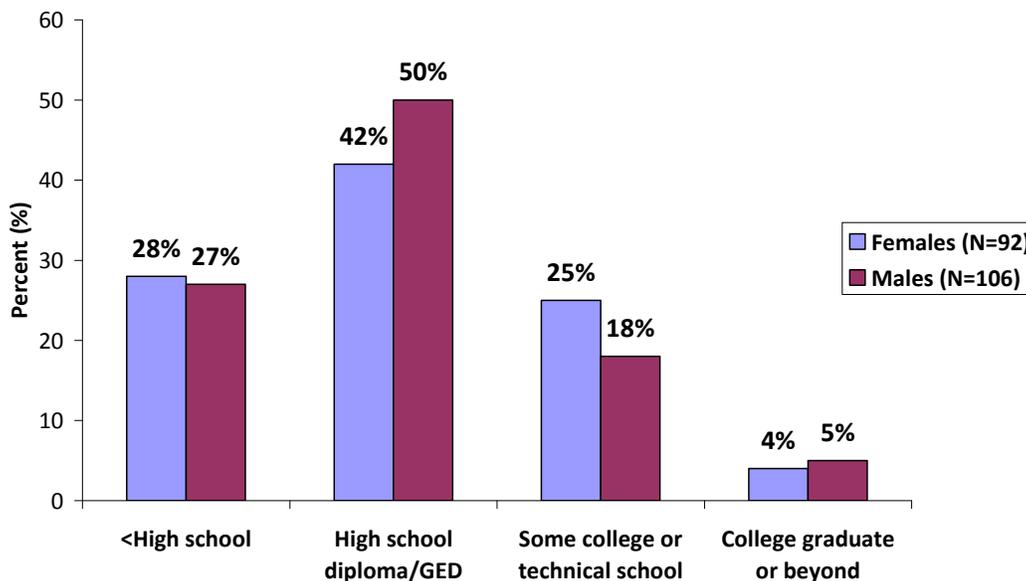
## Race, Sex and Age

A total of 198 individuals participated in the Detroit Partner Study (92 female recruiters and 106 recruited male partners) and almost all were black (191/199 or 96%). Ninety-nine percent of females were black and only 1% identified as multiracial. Ninety-four percent of males were black, 4% were white, and 2% were other/multiracial. Many participants were in the 40-50 year old age group (43%). The remaining were 18-29 (33%), 30-39 (19%), and  $\geq 51$  (5%).

## Socioeconomic Status

Twenty-eight percent of the Partner Study sample had less than a high school diploma and almost half (46%) had a high school diploma or equivalent. Only 5% had a college degree or beyond. Participants reported low annual household incomes with the majority (55%) reporting a yearly income of  $< \$10,000$ . This was not surprising because the sampling method targeted high-risk areas, which were defined party based on high rates of poverty. Only 13% reported a yearly income of  $\geq \$30,000$ .

### Highest Level of Education Completed (N=198)



**Combined Household Income for Previous Year (before taxes)  
(N=198)**



**Homelessness\***

Four percent of the Partner Study sample was homeless at the time of interview and an additional 9% were homeless during the 12 months prior to interview. More females reported homelessness in the past 12 months compared to males (13% of females and 5% of males).

*\*Defined as living on the street, in a shelter, or in a Single Room Occupancy Hotel (SRO)*

**Incarceration**

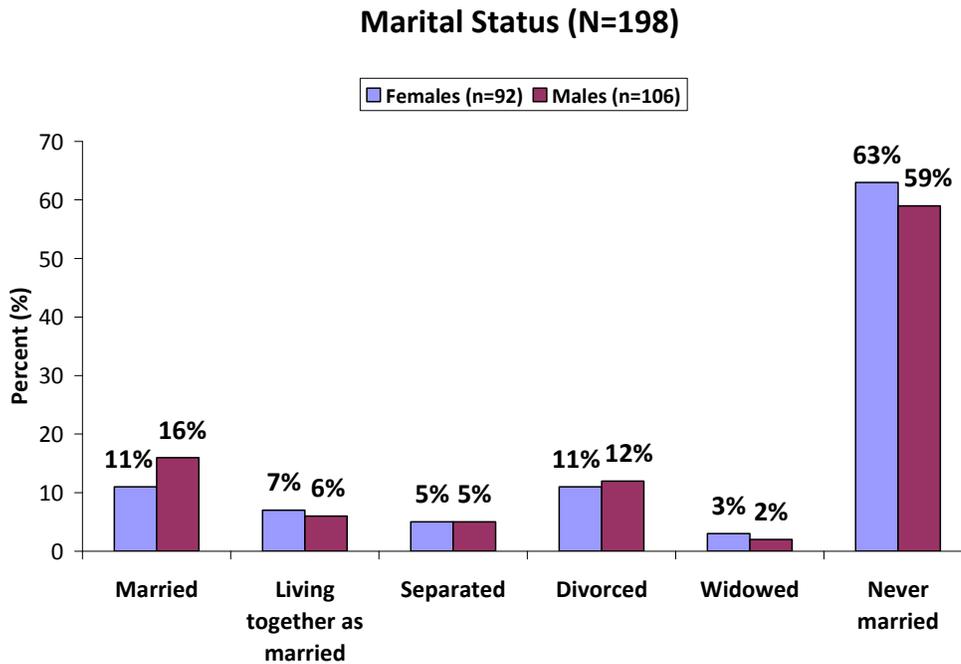
Fourteen percent of the Partner Study sample was incarcerated in the 12 months prior to interview. Incarceration was defined as being arrested and in prison or jail for at least 24 hours. Incarceration was more commonly reported in males (22%) compared to females (5%).

**Health Care and Coverage**

Almost half (46%) reported that they did not have health coverage at the time of interview. More females (64%) reported health coverage compared to males (42%). Almost two-thirds (65%) visited a health care provider in the 12 months prior to interview and only 26% were offered an HIV test during any of their visits during the past 12 months. In other words, almost three-quarters were not offered an HIV test at any of their visits to a health care provider during the 12 months prior to interview.

## Marital Status

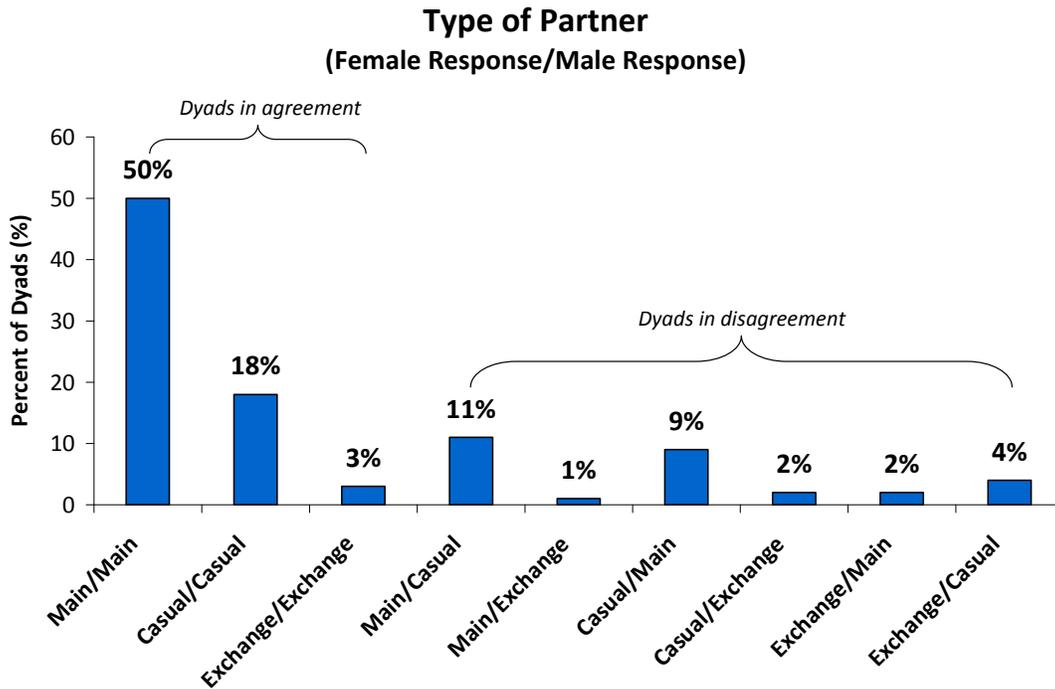
The majority of females (63%, n=58) reported that they were “never married” at the time of interview (11% reported they were married, 7% were living together as married, 5% were separated, 11% were divorced, and 3% were widowed). The majority of males (59%, n=64) also reported that they were “never married” at the time of interview (16% were married, 6% were living together as married, 5% were separated, 12% were divorced, and 2% were widowed).



## Section 4. Partnership Characteristics

### Partner Type- Response and dyad-level analysis

Participants were asked to classify their partner as a main partner, casual partner, or an exchange partner. A main partner was defined as someone you feel committed to above anyone else and someone you would call your boyfriend/girlfriend, husband/wife, significant other, or life partner. Half of the couples (50%) agreed that their partner was a main partner (see graph below). A casual partner was defined as someone you have sex with but do not feel committed to or don't know very well. Eighteen percent of couples agreed that their partner was a casual partner. An exchange partner was defined as someone you have sex with in exchange for things like money or drugs. Three percent of couples agreed that their partner was an exchange partner. Twenty-nine percent of couples were in disagreement about partner type.



There was no difference in the proportion of females classifying their partner as main, casual, or exchange partner and the proportion of males classifying their partner as main, casual, or exchange partner. Sixty-three percent of females classified their male recruit as a main partner (sum of the first,

forth, and fifth bar in the bar graph above) while 62% of males classified their female recruiter as a main partner (sum of the first, sixth, and eighth bar in the graph above). Twenty-nine percent of females classified their male recruit as a casual partner (sum of the second, sixth, and seventh bars in the graph above) and 33% of males classified their female recruiter as a casual partner (sum of the second, fourth, and ninth bar in the graph above). Eight percent of females classified their male recruit as an exchange partner and 6% of males classified their female recruiter as an exchange partner.

#### **Where Met Partner- Response and dyad-level analysis**

The most common place that females reported meeting their partner was on the street/hanging out (29%), followed by 'other' (24%) and a friend's house (16%). The most common place that males reported meeting their partner was on the street/hanging out (35%), a friend's house (19%), and 'other' (19%).\* Overall, 42% of couples were in agreement about where they first met. The percent agreement may have been low because there were many response categories to choose from for this question.

*\*Participants could choose one of the following: work, school, church/church activity, bar/night club/dance club, private party, on the street/hanging out, social organization/health club, at a friend's house, internet, other, refuse to answer, or don't know*

#### **Number of Years since First Sex with Partner- Response and dyad-level analysis**

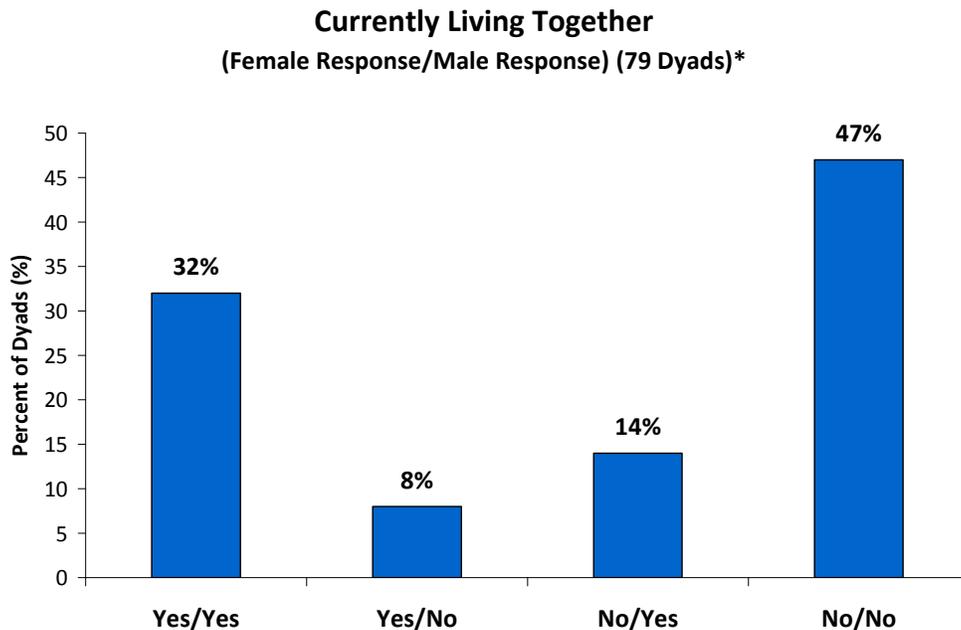
The median year females and males reported first having sex with their partner was four years prior to the interview year (female range: 17 years prior-current year of interview, male range: 20 years prior-current year of interview). Eleven percent of couples were in agreement that they first had sex <1 year ago and 33% of couples were in agreement that they first had sex  $\geq 5$  years ago.

#### **Current Relationship Status- Dyad-level analysis**

Eighty-six percent of couples were in agreement about their current sexual relationship status (82% reported that they had a current sexual relationship and 4% reported that they did not have a current sexual relationship). There was asymmetry in disagreement for the remaining 14% of couples. The McNemar's test indicates that significantly more female partners reported a current relationship than male partners ( $p < 0.01$ ). Some of the current relationship discrepancy may be explained by the time in between the female Partner Study questionnaire and the male Partner Study questionnaire. For example, the male

may have taken the Partner Study questionnaire several weeks after the female, and it is possible that at the time of the male interview, the dyad was no longer having a sexual relationship.

Of the 79 couples that both male and female reported a current sexual relationship, 78% were in agreement about whether they were currently living together at the time of interview (32% were living together, 47% were not living together, and 22% were in disagreement). There was no difference in the proportion of females and the proportion of males that responded ‘yes’ to currently living together at the time of interview (0.39 and 0.46, respectively; the proportion of females that responded ‘yes’ is the sum of the first and second bar in the graph below and the proportion of males that responded ‘yes’ is the sum of the first and third bar in the graph below).



*\*Among dyads that the female and male both reported a current sexual relationship*

### **Discussion of Risk Factors- response and dyad-level analysis**

The questions in the Partner Study regarding the discussion of issues related to HIV risk referred to whether or not the topics were discussed in the three months prior to interview. There were eight topics asked about in the interview and seven of the eight topics were specifically about the male partner's HIV-related risk behaviors. A response-level analysis including whether or not the McNemar's test indicated symmetry or asymmetry in disagreement is summarized in Table 3 below:

**Table 3. Discussion of Issues Related to HIV Risk during the Past Three Months**

<b>Topic</b>	<b>Proportion of female 'yes' responses</b>	<b>Proportion of male 'yes' responses</b>	<b>Symmetry of disagreement (<math>p &lt; 0.05</math>)</b>
Number of his current sex partners	0.41	0.38	Symmetry
Number of his past sex partners	0.42	0.32	Symmetry
<b>Whether male EVER had sex with a man</b>	0.37	0.18	Asymmetry
<b>Whether male CURRENTLY has sex with men</b>	0.30	0.13	Asymmetry
His HIV status	0.41	0.38	Symmetry
His drug use history	0.46	0.46	Symmetry
His STD history*	0.38	0.26	Symmetry
Using condoms	0.54	0.48	Symmetry

*\*STD history displayed asymmetry at the  $p < 0.10$  level*

#### ***Number of His Current Sex Partners***

Sixty-two percent of couples were in agreement about whether or not they had discussed the male's number of current sex partners (21% had discussed, 41% had not discussed, and 38% were in disagreement). There was no statistically significant difference in the proportion of males and the proportion of females that reported they discussed the number of the male partner's current sex partners (0.38 and 0.41, respectively).

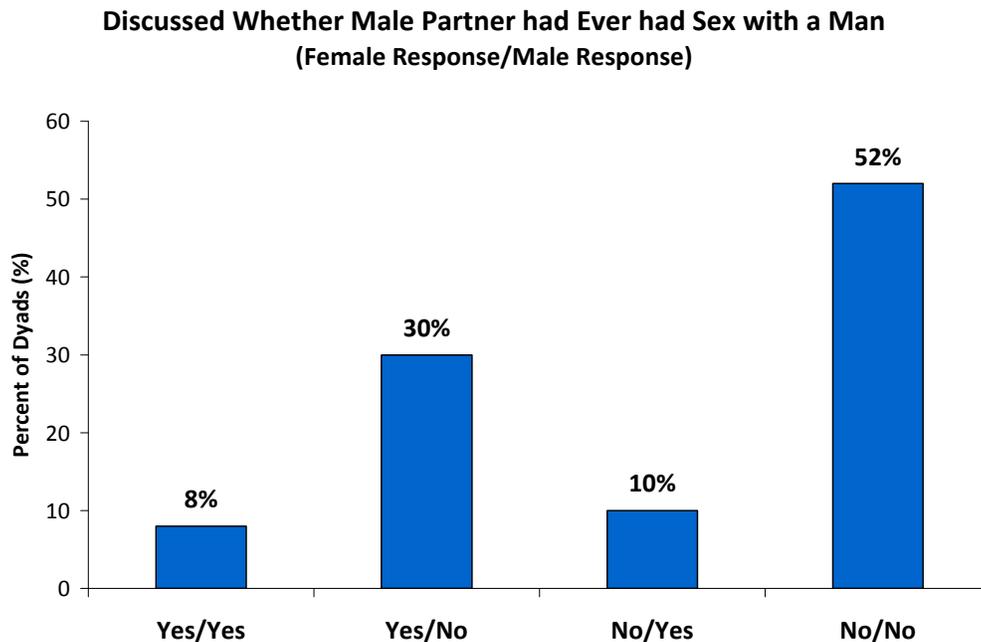
#### ***Number of His Past Sex Partners***

Fifty-two percent of couples were in agreement about whether or not they had discussed the male's number of past sex partners (13% had discussed, 39% had not discussed, and 48% were in disagreement). Although there was high disagreement (48%), there was no statistically significant

difference in the proportion of males and the proportion of females that reported they had discussed the number of the male partner's past sex partners (0.32 and 0.42, respectively).

***Whether Male had Ever had Sex with another Man***

Sixty-percent of couples were in agreement about whether or not they had discussed if the male had ever had sex with another man (8% had discussed, 52% had not discussed, and 40% were in disagreement). The McNemar's test indicated that significantly more female partners reported discussing whether or not the male had ever had sex with another man compared to male partners (37% of female responses were 'yes' compared to 18% of males;  $p < 0.01$ ). Males and females may have different perceptions about what constitutes a conversation about the male partner ever having sex with a male.

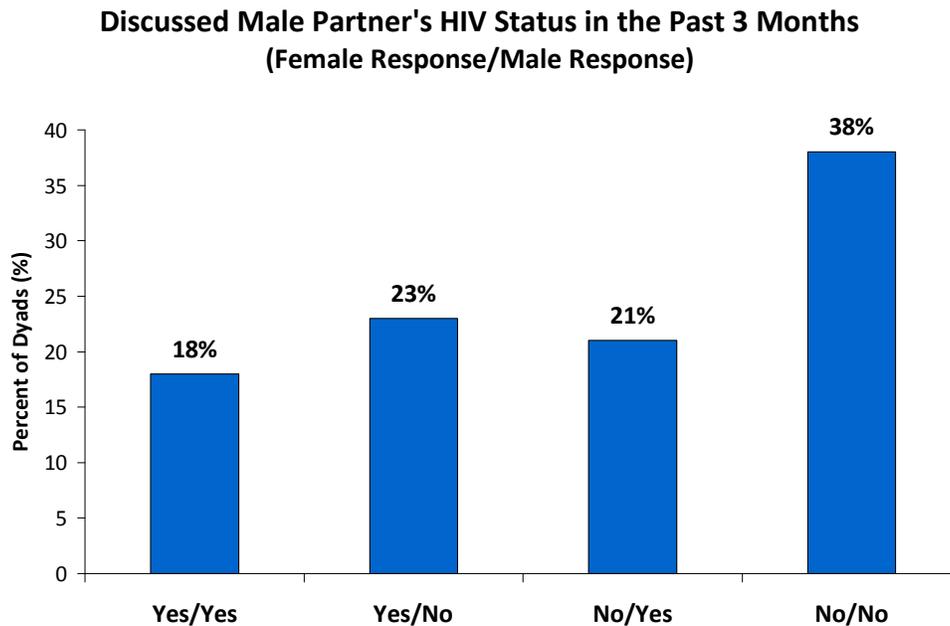


***Whether Male currently has Sex with Other Men***

Sixty-six percent of couples were in agreement about whether or not they had discussed if the male currently has sex with men (5% had discussed, 62% had not discussed, and 34% were in disagreement). Significantly more female partners reported having the discussion compared to male partners (30% of female responses were 'yes' compared to 13% of males;  $p < 0.01$ ).

### ***His HIV Status***

Fifty-six percent of couples were in agreement about whether or not they had discussed the male partner's HIV status (18% had discussed, 38% had not discussed, and 44% were in disagreement). The McNemar's test indicated that there was no difference in the proportion of female 'yes' responses (sum of the first and second bars in the graph below, 0.41) and the proportion of male 'yes' responses (first and third bars in the graph below, 0.38).



### ***His Drug Use History***

Fifty-three percent of couples agreed that they had discussed the male partner's drug use history (22% had discussed, 31% had not discussed, and 47% were in disagreement). Although the percent of dyads in disagreement was high (47%), the disagreement displayed symmetry (46% of female responses and 46% of male responses were 'yes').

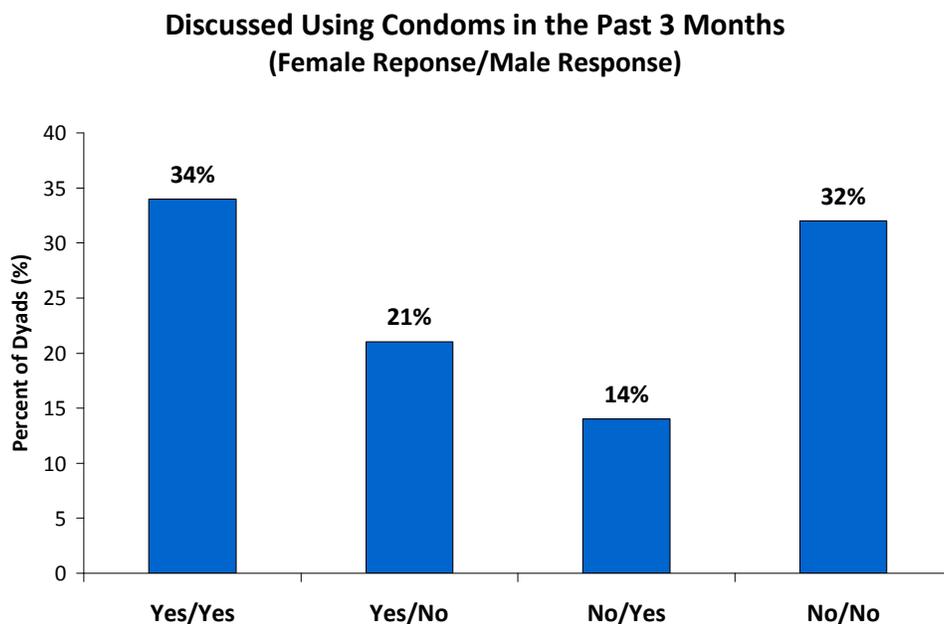
### ***His Sexually Transmitted Disease History***

Fifty-six percent of couples agreed that they had discussed the male's sexual transmitted disease (STD) history (10% had discussed, 46% had not discussed, and 44% were in disagreement). More females reported that they discussed the male's STD history compared to the proportion of males

reporting they had discussed their STD history, but the difference did not reach statistical significance (38% of female responses were ‘yes’ compared to 26% of males;  $p=0.06$ ).

### ***Using Condoms***

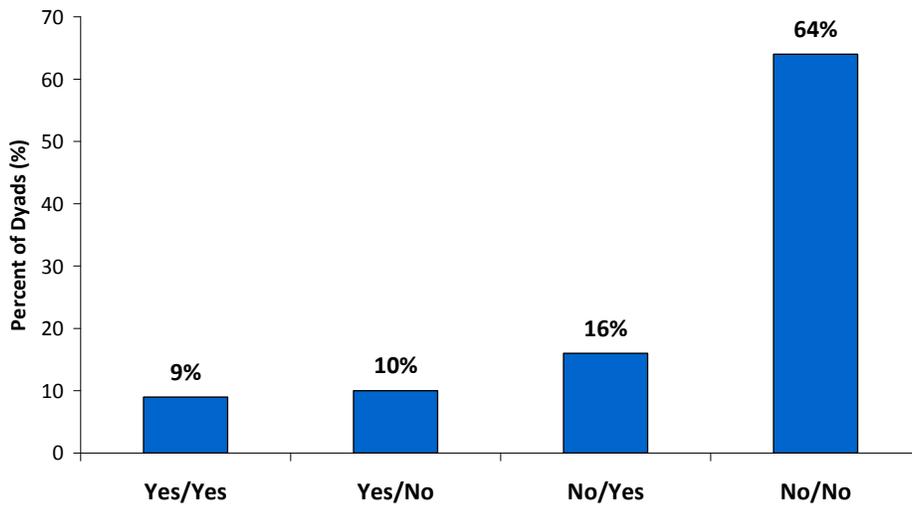
Sixty-five percent of couples agreed that they had discussed using condoms with their partner (34% had discussed, 32% had not discussed, and 35% were in disagreement). The McNemar’s test indicated that there was no significant difference in the proportion of females who responded ‘yes’ (first and second bars in the graph below) and the proportion of males who responded ‘yes’ (first and third bars in the graph below; 0.54 and 0.48, respectively).



### ***Physical Abuse and Forced Sex- Response and dyad-level analysis***

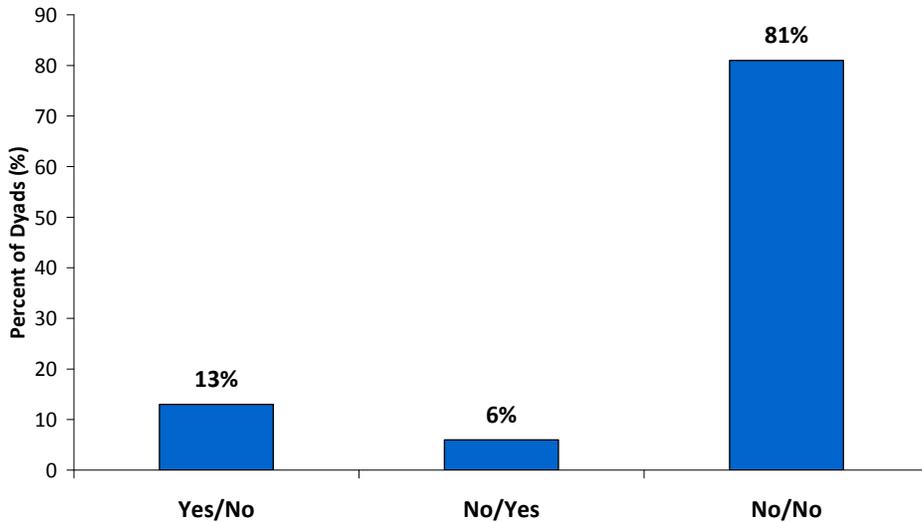
Seventy-four couples agreed on whether or not the male had ever physically abused the female (9% agreed male had physically abused female, 64% agree the male had not physically abused the female, and 26% were in disagreement). There was no statistically significant difference in the proportion of females and males that responded ‘yes’ (20% of females and 25% of males responded ‘yes’).

**Male Ever Physically Abused Female  
(Female Response/Male Response)**



Eighty-one percent of couples agreed that the male had never forced sex on the female (19% were in disagreement). More females reported that the male had ever forced sex compared to males, but this difference did not reach statistical significance (13% of females responses were 'yes' and 6% of male responses were 'yes';  $p=0.07$ ).

**Male Ever Forced Sex  
(Female Response/Male Response)**

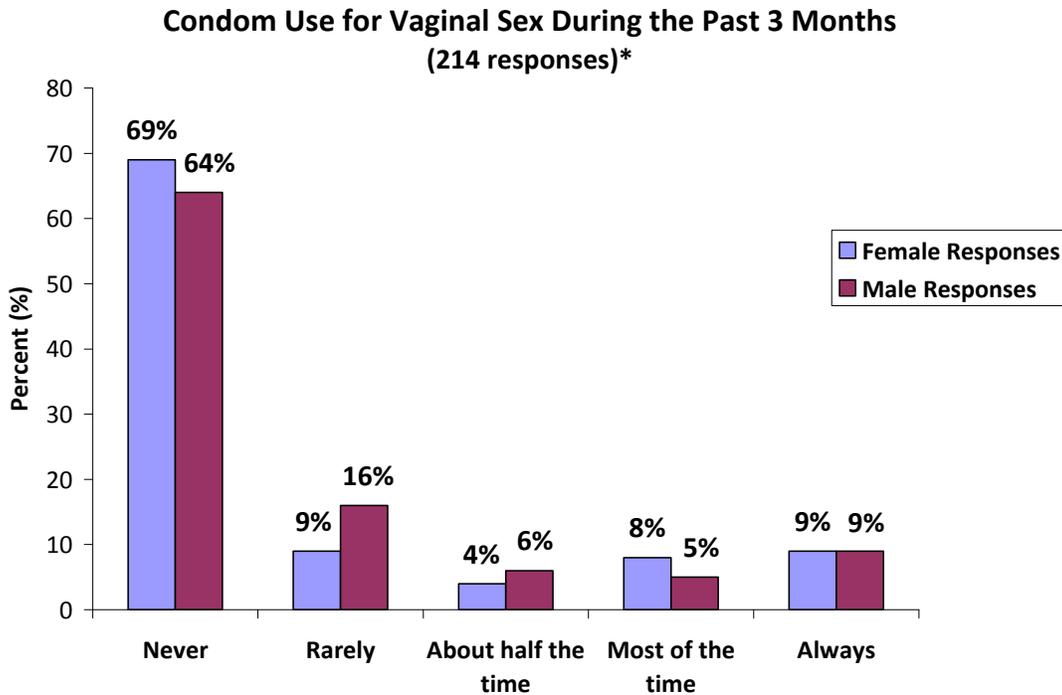


## Section 5. Sexual Behavior in the Past Three Months

### Vaginal Sex and Condom Use

#### *Response analysis*

Of the 107 unique dyads, 69% (n=74) had females that reported they never used condoms with their recruited male partner during the three months prior to interview (see graph below). Sixty-four percent of dyads had male members report they never used condoms with their female partner during the three months prior to interview (n=69).

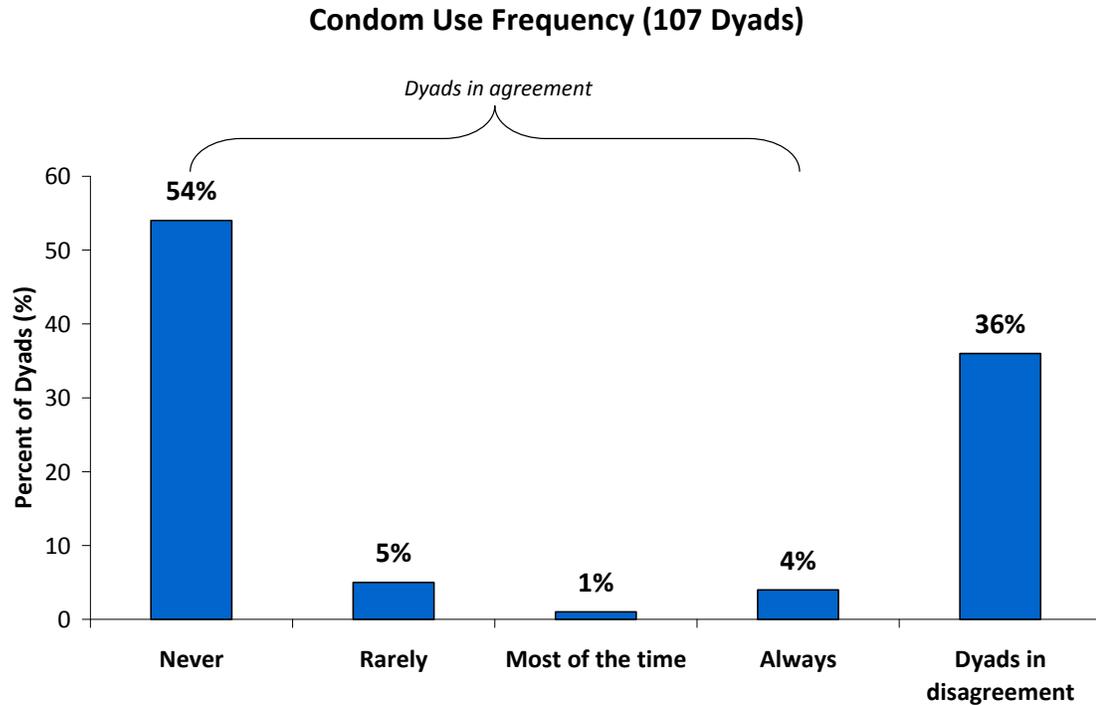


*\*The data shown include the female and male response for each unique dyad and therefore include the female and male duplicates.*

#### *Dyad-level analysis*

All couples reported that they had vaginal sex with their partner in the three months prior to interview. Sixty-four percent of couples agreed on the frequency of condom use for vaginal sex (54% agree they never use condoms, 5% rarely use condoms, 1% use condoms most of the time, and 4% use condoms always; frequency of condom use during vaginal sex was categorized as never, rarely, about half the time, most of the time, and always). Overall there is moderate agreement between female and male

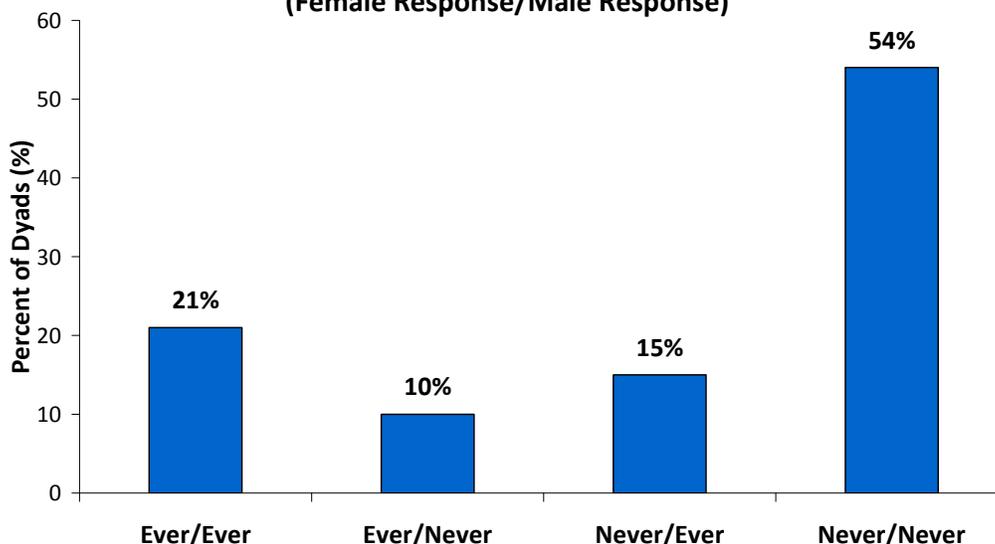
responses regarding frequency of condom use for vaginal sex ( $R=0.46$ ; Spearman's rank correlation coefficient).



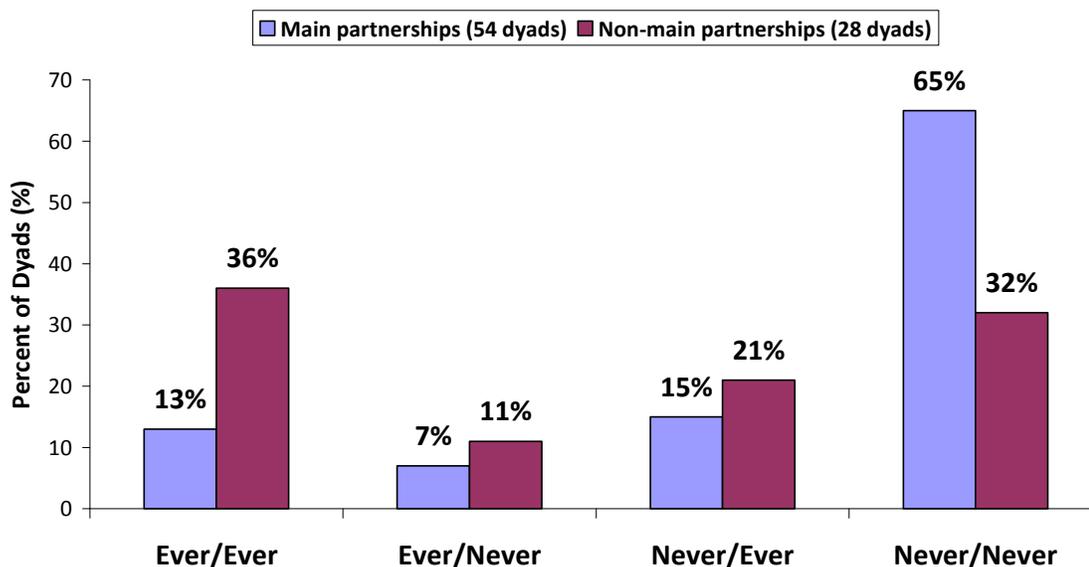
The frequency of condom use was dichotomized in two different ways. One way of dichotomizing condom use separated “ever” versus “never” condom use (collapsing the categories always, most of the time, about half the time, and rarely into a single “ever” category). Seventy-five percent of couples agreed on “ever” or “never” condom use, with 21% in agreement that they ever used condoms and 54% in agreement that they never used condoms (25% in disagreement).

Breaking “ever” versus “never” condom use down by partner type demonstrates that more main partnerships (both male and female in agreement that their partner was a main partner, 54 dyads) compared to non-main partnerships (both male and female in agreement that their partner was either a casual or exchange partner) were in agreement that they never used condoms for vaginal sex during the past three months (65% of main partnerships and 32% of non-main partnerships).

**Ever vs. Never Condom Use for Vaginal Sex  
During the Past 3 Months  
(Female Response/Male Response)**



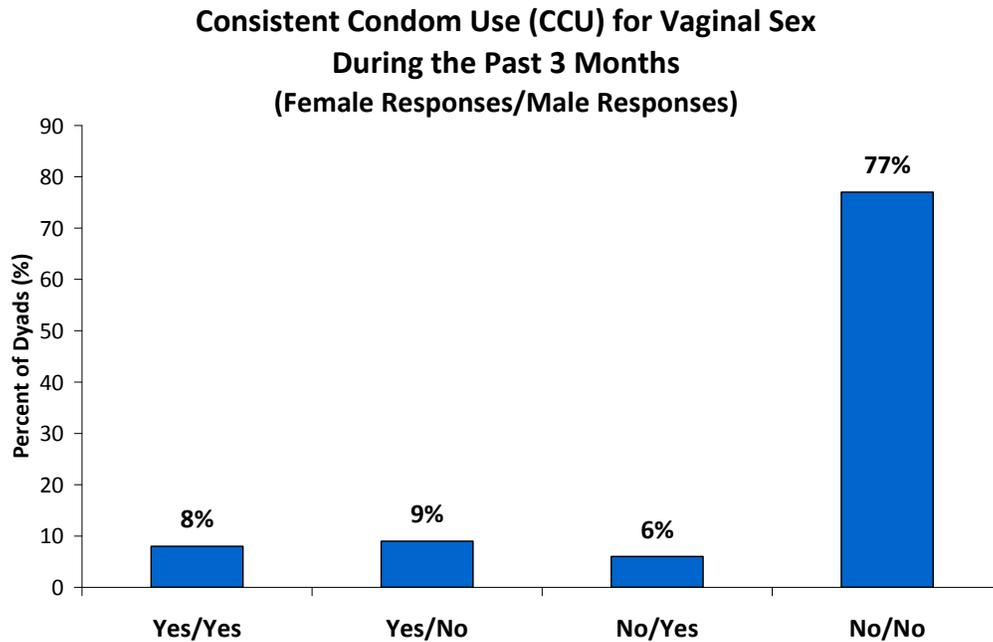
**Ever versus Never Condom Use for Vaginal Sex  
Main and Non-Main partnerships\*  
(Female Response/Male Response)**



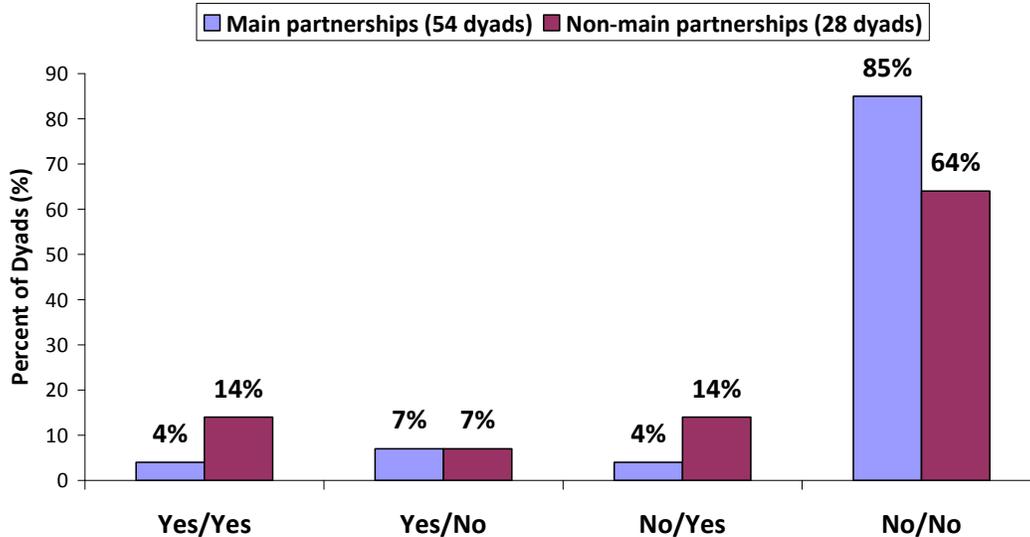
\*Compares dyads in agreement that their partner was a main partner (main/main) with dyads in agreement that their partner was a non-main partner (casual/casual, casual/exchange, exchange/casual, and exchange/exchange). Excludes dyads in disagreement on whether partner was a main or non-main partner (25 dyads)

Another way of dichotomizing the frequency of condom use is separating consistent condom use (CCU) and no consistent condom use (CCU includes “always” and “most of the time”). Eighty-five percent of couples agree on CCU, with 8% in agreement that they consistently use condoms and 77% in agreement that they do not consistently use condoms (15% in disagreement). The McNemar’s test indicated no difference in the proportion of females and proportion of males who reported “ever” condom use and consistent condom use.

Breaking consistent condom use down by partner type demonstrates that more main partnerships compared to non-main partnerships were in agreement that they did NOT consistently use condoms for vaginal sex during the past three months (85% of main partnerships and 64% of non-main partnerships).



**Consistent Condom Use (CCU) for Vaginal Sex  
Main versus Non-Main Partnerships\***  
(Female Response/Male Response)



\*Compares dyads in agreement that their partner was a main partner (main/main) with dyads in agreement that their partner was a non-main partner (casual/casual, casual/exchange, exchange/casual, and exchange/exchange). Excludes dyads in disagreement on whether partner was a main or non-main partner (25 dyads)

## Reasons for Using Condoms

### *Response analysis*

Of the participants that reported ever using condoms for vaginal sex, the majority of female responses (73%) were ‘both’ for the reasons why condoms were used (both refers to both HIV/STD and pregnancy prevention). The majority of males (63%) also reported ‘both’ for the reasons why condoms were used.

### *Dyad-level analysis*

Only 21% couples (22 dyads) agreed on ‘ever’ using condoms (and therefore only 22 dyads in which both the male and female of the dyad were asked a question on reasons for using condoms). Of these 22 couples, 50% of couples agreed on why condoms were used (agreement on using condoms for ‘both,’ meaning both HIV/STD and pregnancy prevention). Interestingly, there were five dyads where the females responded ‘both’ and males responded ‘pregnancy’ (meaning pregnancy only).

### **Pregnancy Prevention- Dyad-level analysis**

Of the 58 couples that agreed they never use condoms for vaginal sex, 57% were in agreement on the use of other methods (other than condoms) for pregnancy prevention (9% agreed they used methods, 48% agreed they did not, and 43% were in disagreement). The McNemar's test indicated no difference in the proportion of females and the proportion of males reporting other methods of pregnancy prevention.

A separate question on additional pregnancy prevention methods was asked of participants who reported they ever use condoms to prevent pregnancy (of the 22 dyads who agreed on 'ever' using condoms, 17 dyads agreed on using condoms to prevent pregnancy or pregnancy and HIV/STDs). Of the 17 dyads, 59% were in agreement that other pregnancy methods were or were not used (6% agreed other methods were used, 53% agree other methods were not used, and 41% were in disagreement).

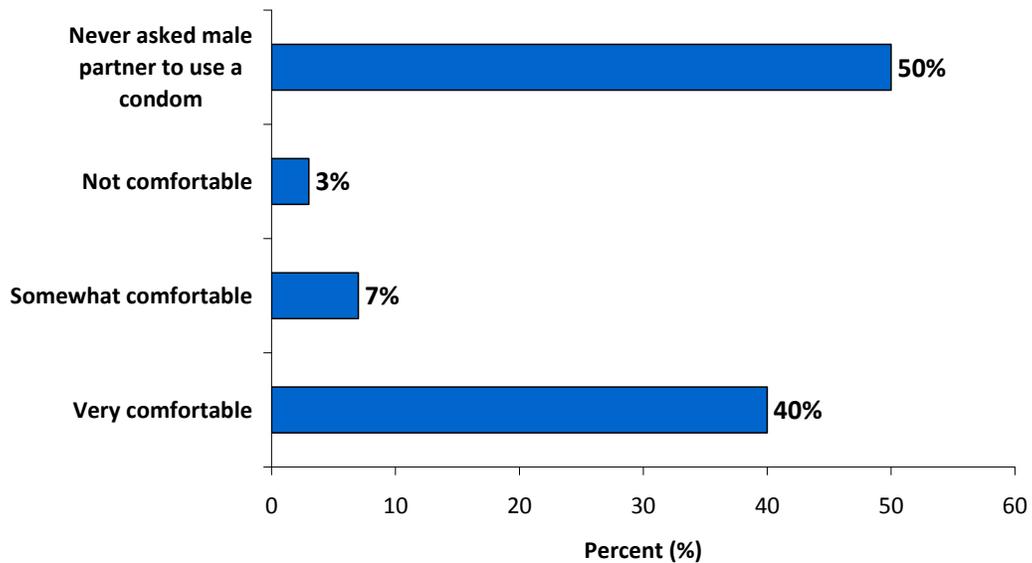
### **Female Level of Comfort Asking Male to Use Condoms\*- Response analysis**

Half of the unique partnerships were composed of females that reported they had never asked their male partner to use a condom in the three months prior to interview. There was no follow-up question to this question therefore we do not know the reason(s) why half of the females never asked their male partner to use a condom. Only 3% of unique partnerships had a female who was not comfortable asking her male partner to use a condom. Forty percent of the unique partnerships were composed of females that reported they were very comfortable asking their male partner to use a condom.

Interestingly, of the 43 partnerships with females who were very comfortable asking their male partner to use a condom, 33% of partnerships agreed on never using condoms and only 9% agreed on always using condoms for vaginal sex. Out of the 43 partnerships with female members reporting they were very comfortable asking their male partner to use a condom, over half of the females (54%) also reported they "never" or "rarely" actually used condoms for vaginal sex with that male partner during the previous three months. This demonstrates that there are other factors that influence condom use frequency in a couple.

*\*This question was part of the Female Partner Study questionnaire only*

### Female's Level of Comfort Asking Male Partner to Use a Condom (107 female responses)



#### **Anal Sex and Condom Use- *Dyad-level analysis***

Eighty percent of couples agreed on whether or not they had anal sex (9% had, 71% had not, and 20% were in disagreement). The McNemar's test indicated no significant difference in the proportion of females and proportion of males reporting anal sex. Of the 10 couples that were in agreement that they had anal sex, 60% agreed that they never used condoms for anal sex (40% were in disagreement).

#### **Used Alcohol and/or Drugs Before or During Sex- - *Dyad-level analysis***

Forty percent of couples were composed of partners that reported that they never or rarely used alcohol or drugs before or during sex. Conversely, 16% of couples were composed of partners that reported they always or most of the time used alcohol or drugs before or during sex (frequency of alcohol and/or drug use was categorized as never, rarely, about half the time, most of the time, and always). Overall 30% of couples reported the same frequency of alcohol and/or drugs use before or during sex. There was no statistical association found between the frequency of alcohol and/or drug use before or during sex for males compared to females in dyads ( $R=0.37$ ; Spearman's rank correlation coefficient).

## **Section 6. Female Knowledge of Male Partner Risk Behavior**

The Partner Study Questionnaire had questions for females about their male partner's risk behaviors but did not include questions for males about their female partner's risk behaviors. The study design primarily sought to investigate female knowledge of male risk behaviors. As a result, the following section only includes female perceptions about male partner risk behaviors and not vice versa. Females from the NHBS-HET1 cycle also reported high prevalence of HIV risk behaviors (Detroit NHBS-HET1 data), and we recommend that future partner studies examine both female knowledge and male knowledge of their sex partner's HIV risk behavior as both may give clues to the factors contributing to the high rate of heterosexually acquired HIV infection among minority women.

The analysis of female knowledge of male risk behavior assumed that recruited male partners reported the truth about their risk behaviors. Therefore, if male and female responses did not match, the female was assumed to have an incorrect perception.

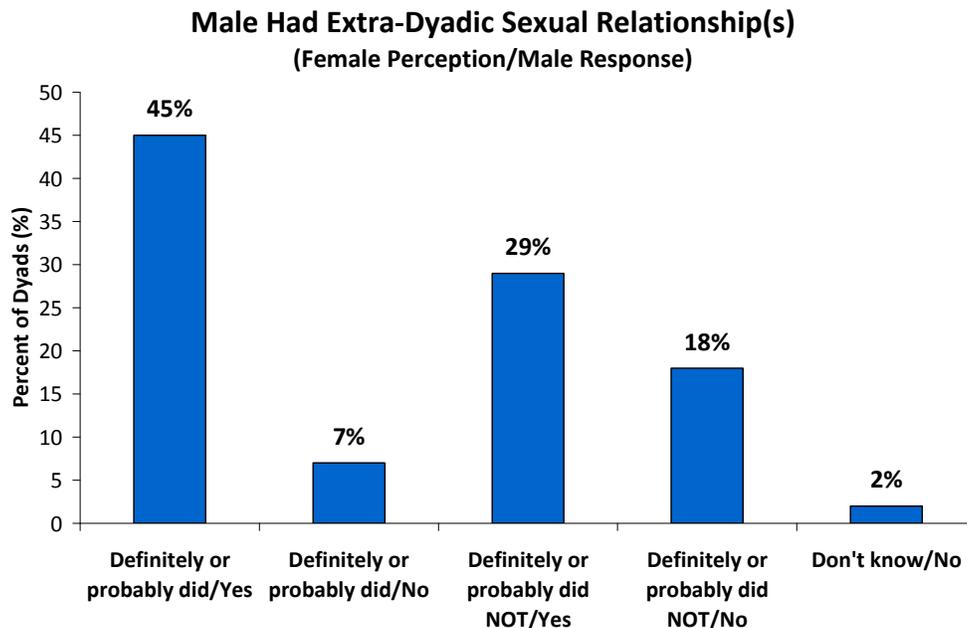
### **Male Partner Concurrency- *Response analysis***

Concurrency in the Partner Study questionnaire referred to any sexual relationship that overlapped in time with the couple's sexual relationship and so the time period for the question varied from couple to couple (according to the male partner's reports, many of the sexual relationships were around 4 years in duration but ranged from less than one year to 20 years long). A large percent of couples had male members report extra-dyadic sexual relationships (74%, n=79). Of these 79 male responses, 75% (n=59) reported >1 extra-dyadic sexual relationships. The median number of extra-dyadic relationships reported by males was 3 (range: 1-39). When the concurrent sexual relationship occurred during the course of the couple's sexual relationship and the duration of concurrency are unknown; such factors influence the female partner's risk of acquiring sexually-transmitted infections.

### **Female Perception of Male Partner Concurrency- *Dyad-level analysis***

Sixty-four percent of couples were in agreement that the male partner had sex with other people during the dyad's sexual relationship (45% agreed the male had, 18% agreed the male had not, 36% of

couples had a female with an incorrect perception, and 2% of couples had a female who didn't know). Twenty-nine percent of couples (31 dyads) were composed of females who were unaware that their male partner had extra-dyadic sexual relationships (combining the female perceptions "definitely did" and "probably did," as awareness of partner concurrency, and "definitely did not" and "probably did not" as unawareness of partner concurrency). The McNemar's test indicated that significantly more males reported concurrency compared to females who perceived male partner concurrency ( $p < 0.001$ , excluding females who responded 'don't know'). Fifty-two percent of females responded 'definitely did' or 'probably did' when asked if their male partner had other sexual partners during their sexual relationship while 75% of males responded 'yes' to concurrent partners during the dyad's sexual relationship.



Among the dyads with females who were aware of partner concurrency (male and female reported male concurrency, 48 dyads), 40% of dyads (19 dyads) had females who reported they didn't know how many extra-dyadic sexual partners their male partner had.

Among the dyads with females who were aware of partner concurrency and provided an estimate of the number of male extra-dyadic relationships (29 dyads), female estimates were overall lower than

what the male reported. The median number of estimated partners given by the females was 2 (range: 1-10) and the median number of partners reported by the males was 4 (range: 1-39).

***Male Partners who Reported Sex with Men- Individual analysis and dyad-level analysis***

There were three male partners that reported having sex with men during the dyad sexual relationship (4% of males who reported extra-dyadic relationships and 3% of all male partners). None of the three corresponding female recruiters were aware that their partner was currently having sex with men (one female reported that her male partner “definitely did not” have any extra-dyadic sexual relationships, while the other two females suspected partner concurrency but believed their male partner had sex with women only). All three couples agreed that they did not discuss whether or not the male had ever or was currently having sex with men.

Of the three male partners who reported having sex with men during the dyad sexual relationship, two identified as bisexual and one identified as ‘other’ (a total of four males in the Partner Study identified as bisexual; of these, only one reported that his spouse/partner was aware). All three males had at least one HIV test in the two years prior to interview and all tested negative (all three also received HIV negative test results from the Partner Study HIV test).

Two of the males reported one male partner and both of them reported unprotected anal sex. One of these males reported never using condoms for vaginal sex with the recruiting female and the other reported using condoms about half the time for vaginal sex with the recruiting female.

One male reported three male partners and unprotected receptive anal sex with two male partners and no insertive anal sex. The male reported rarely using condoms for vaginal sex with the recruiting female partner.

In addition to the three male partners that reported having sex with men *during the dyad sexual relationship* discussed above, there were another 10 males that participated in the Partner Study that reported *ever* having sex with a man (taken from the male HET1 survey for all the males that participated in the Partner Study). Four of these males reported one or more male sex partners in the 12 months prior to interview. Only two of these 10 males were tested for HIV in the two years prior to interview.

### ***Dyads that Reported Never Using Condoms for Vaginal Sex***

Sixty-six percent of the 58 couples who were in agreement that they never use condoms for vaginal sex (during the three months prior to interview) had males with at least one extra-dyadic sexual relationship. Of the 58 dyads, 31% were composed of females who were unaware of male partner concurrency. A total of 60% of the 58 dyads were composed of males who had unprotected sex with at least one extra-dyadic partner.

### ***Discussion of Male Partner's Current Sexual Partners***

There were 31 dyads with females who were unaware that their male partner had extra-dyadic sexual relationships. Interestingly, of these 31 dyads, 26% (8 dyads) were in agreement that they had discussed the number of the male's current sex partners (42% agreed they had not discussed the number of his current sex partners, and 32% were in disagreement).

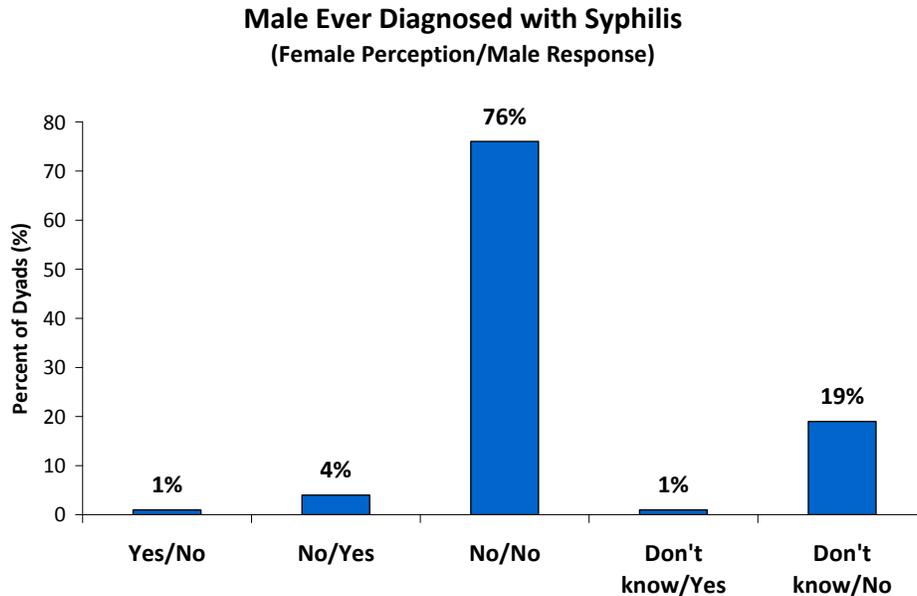
### ***Male Extra-Dyadic Unprotected Sex***

Of the 79 dyads with males that reported one or more extra-dyadic partners, 68 had unprotected sex with one or more extra-dyadic partners (86%). Thirty-seven percent of the 68 dyads were composed of females who were unaware of partner concurrency.

## Male Ever Diagnosed with STDs

### *Syphilis*

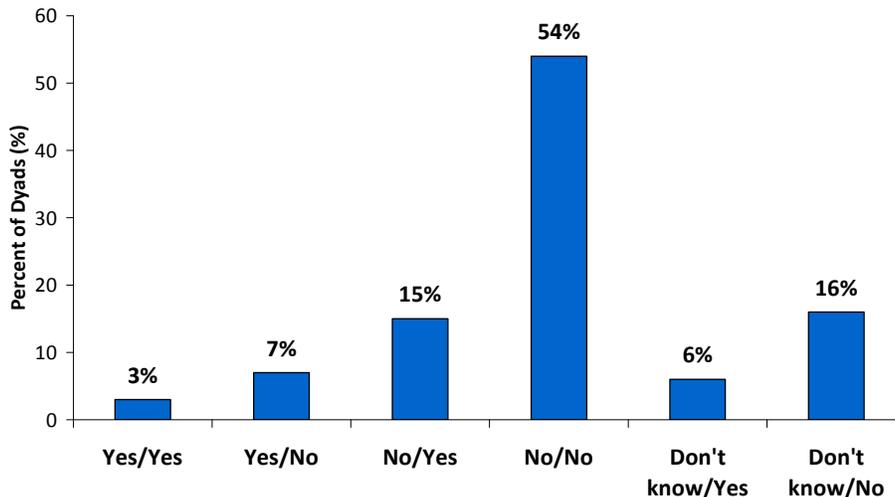
Seventy-six percent of couples agreed that the male had never been diagnosed with syphilis (5% of couples had females with incorrect perceptions and 20% of couples had females who didn't know).



### *Gonorrhea*

Fifty-seven percent of couples agreed on whether or not the male had ever been diagnosed with gonorrhea (3% agreed he had, 54% agreed he had not, 21% of couples had females with incorrect perceptions, and 21% of couples had females who didn't know). More males reported ever being diagnosed with gonorrhea (23%) compared to females who perceived their male partner had ever been diagnosed with gonorrhea (12%; excludes dyads with females that responded "don't know") but the difference did not reach statistical significance ( $p=0.06$ ). A likely explanation of this discrepancy is that males have knowledge of what they have personally experienced. Additionally the time frame of 'ever' being diagnosed may mean that males did not communicate past STD diagnoses since they may not have been a relevant risk factor for current female sex partners.

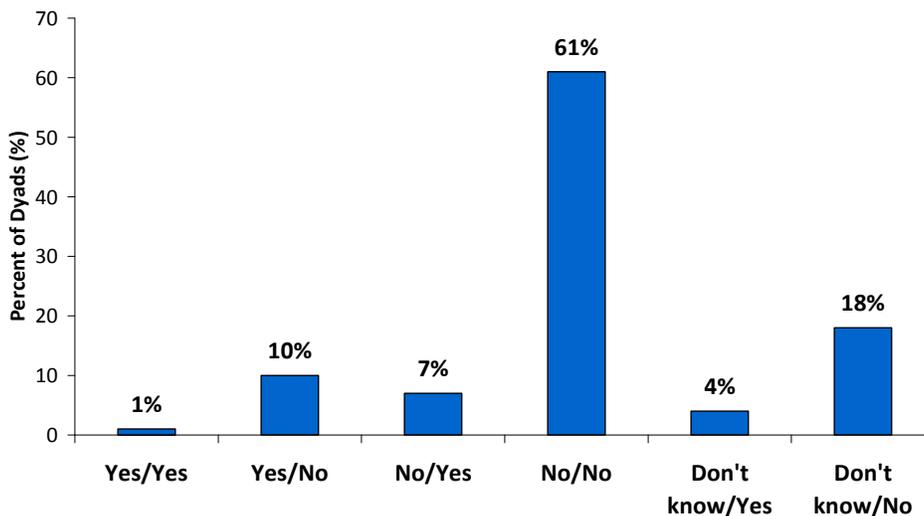
**Male Ever Diagnosed with Gonorrhea  
(Female Perception/Male Response)**



***Chlamydia***

Sixty-two percent of couples agreed on whether or not the male had ever been diagnosed with chlamydia (only 1% agreed he had, 61% agreed he had not, 17% of couples had females with incorrect perceptions, and 21% of couples had females who didn't know). It should be noted that males are diagnosed less frequently than females because chlamydia screening is targeted specifically to females (MDCH, Epi Profile 2010).

**Male Ever Diagnosed with Chlamydia  
(Female Perception/Male Response)**

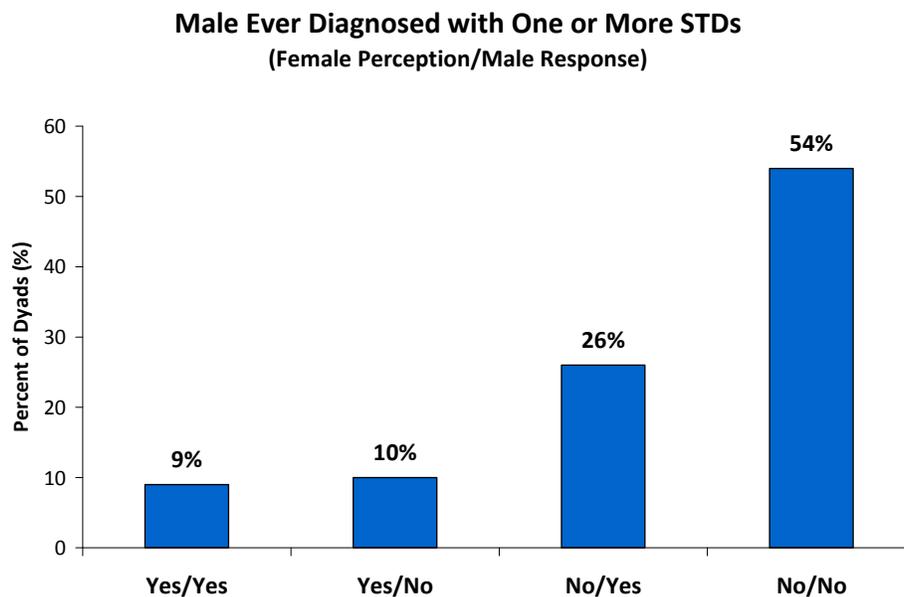


### ***Other STDs***

Herpes (HSV), genital warts (HPV), and any other STDs were included in the partner study questionnaire but the number of males reporting ever having the STD was very low (only 1 male reported ever having HSV, only one reported HPV, and only 5 reported other STDs) and so these questions for these specific STDs were not further analyzed.

### ***Male Ever Been Diagnosed with an STD***

Female knowledge of whether or not her male partner had ever been diagnosed with an STD, regardless of knowledge on specific type of STD, may alter condom use behavior.<sup>23</sup> Variables were created that summarized whether or not the male reported any STD (if reported “yes” for any of the following: syphilis, gonorrhea, chlamydia, herpes, genital warts, or other STD) and whether or not the female reported that the male had ever been diagnosed with an STD (regardless of the type(s) reported). For example, the male may have reported that he had been diagnosed with gonorrhea while the female perceived that he was diagnosed with syphilis; this dyad would be considered concordant (in agreement). Sixty-four percent of couples agreed on whether or not the male had ever been diagnosed with one or more STDs (9% agreed he had, 54% agreed he had not, and 35% were in disagreement). The McNemar’s test indicated that significantly more males reported ever being diagnosed with an STD (36%) compared to the proportion of females who perceived that their male partner had ever been diagnosed with an STD (20%) ( $p < 0.01$ ).

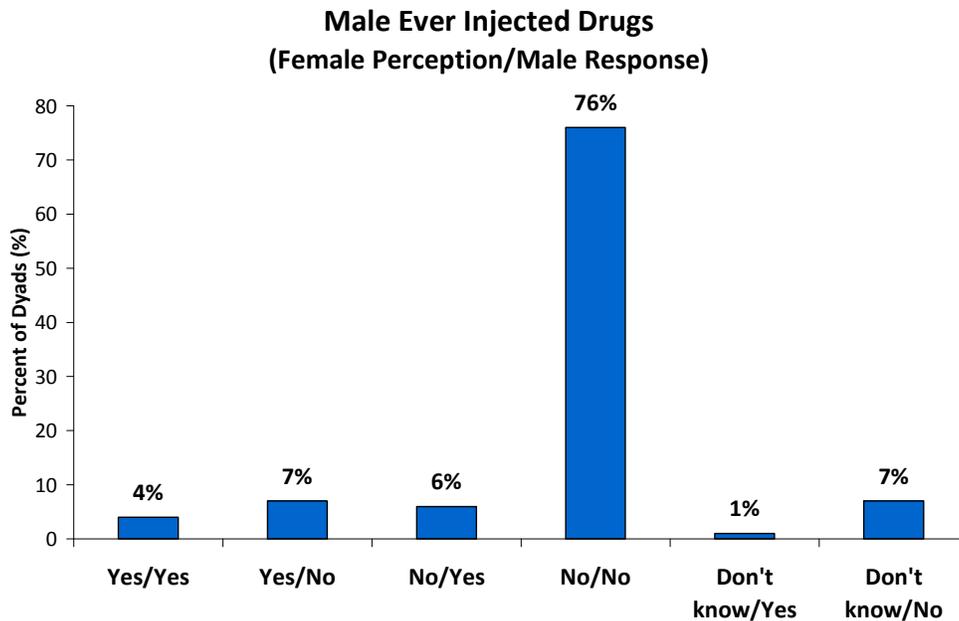


## Male Ever Injected Drugs

Ten percent of males (n=11) reported that they had ever injected drugs (Partner Study questionnaire) and 4% (n=4) injected drugs during the 12 months prior to interview (HET1 questionnaire).

Seventy-nine percent of couples agreed on whether or not the male had ever injected drugs (4% agreed he had, 76% agreed he had not, 12% of couples had females with incorrect perceptions, and 8% of couples had females who didn't know).

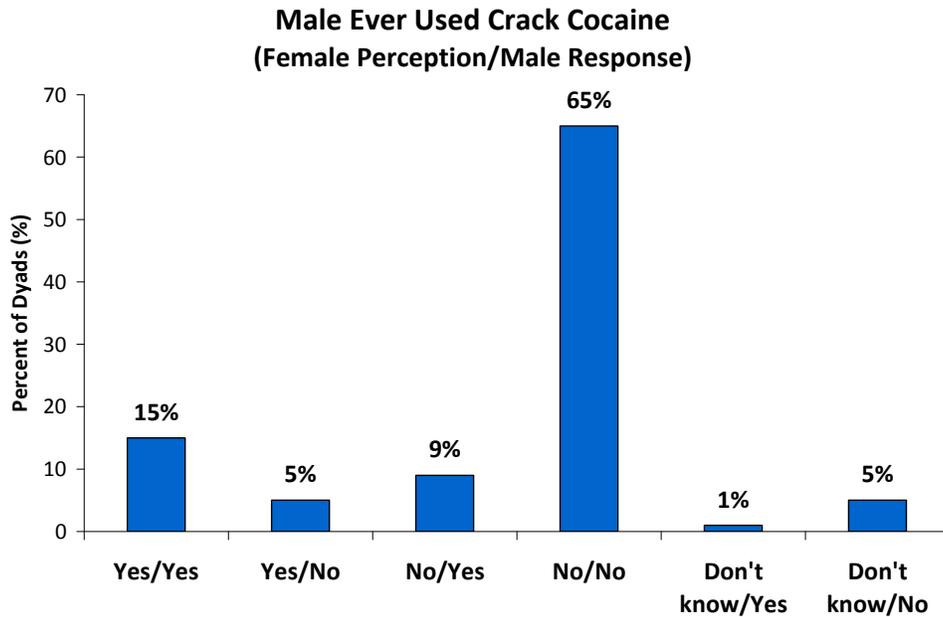
Among the "No/Yes" dyads (six dyads; female perceived the male never injected drugs and the male reported that he had injected drugs), there were 4 dyads (67%) in which the male reported recent injection drug use (during the 12 months prior to interview).



### Male Ever Used Crack Cocaine

Twenty-five percent of males (n=26) who participated in the Partner Study had ever used crack cocaine.

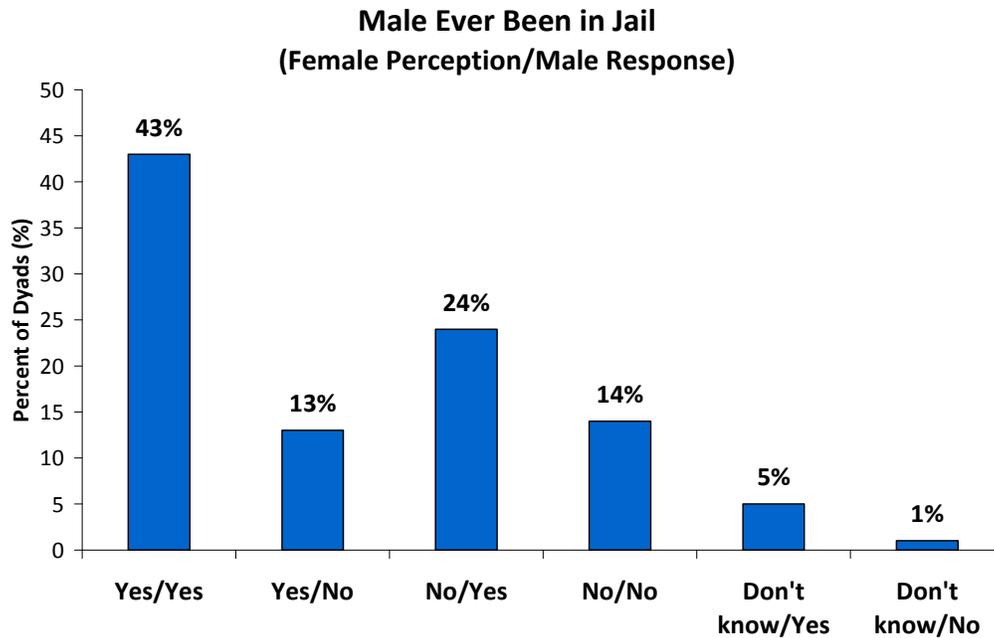
Eighty percent of couples agreed on whether or not the male had ever used crack cocaine (15% agreed he had, 65% agreed he had not, 14% of couples had females with incorrect perceptions, and 6% of couples had females who didn't know). The McNemar's test indicated that there was no statistically significant difference between the proportion of males who reported ever using crack and the proportion of females who perceived their male partner ever used crack.



### Male Ever Been in Jail or Prison

Seventy-two percent of all males (n=76) reported that they had *ever* been arrested by the police and booked and 25% (n=19) reported that they had been arrested in the previous 12 months. Among those arrested *before* the previous 12 months (n=57), the median length of stay in detention, jail, or prison for the most recent arrest was 23 days (mean: 172 days; range: <1 day to 1825 days).

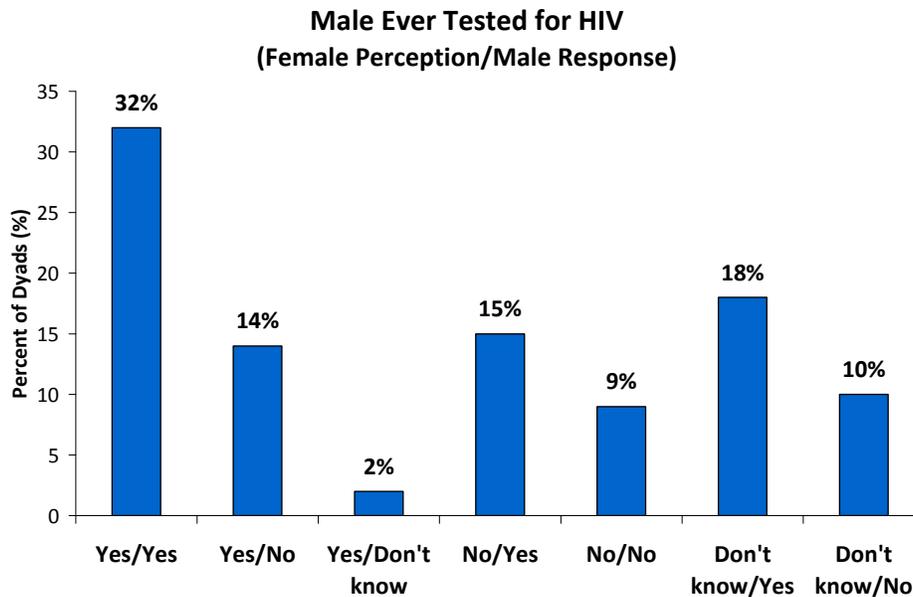
Fifty-seven percent of couples agreed on whether or not the male had *ever* been in jail or prison for >24 hours (43% agreed he had, 14% agreed he had not, 37% of couples had females with incorrect perceptions, and 6% of couples had females who didn't know). More males reported that they had ever been in jail or prison (71%) compared to the number of females who perceived that their male partner had ever been in jail or prison (59%) but this difference did not reach statistical significance (p=0.06).



### Male Ever Tested for HIV

A total of 64% of males (n=68) reported that they had ever been tested for HIV (34% had never been tested and 2% did not know if they had ever been tested).

Over a quarter of couples were composed of females that reported they didn't know whether or not their male partner had ever been tested for HIV (28%). Forty-one percent of couples agreed on whether or not the male had ever been tested for HIV (32% agreed he had, 9% agreed he had not, 29% of couples had females with incorrect perceptions, and 28% of couples had females who didn't know).



Of the 51 partnerships with females who reported that their male partner had ever been tested for HIV, 86% correctly reported their partner's HIV status (all reported HIV negative; subsequent HIV testing done as part of the Partner Study had no positive HIV test results for males). Of these 44 partnerships, 28 (64%) had both members agree that the male had been tested for HIV and was HIV negative. Another 14 partnerships (32%) were composed of females who reported their male partner was tested and was HIV negative and the male reported he was never tested for HIV. The remaining two partnerships (5%) were composed of females who reported their male partner was tested and HIV negative while the male reported that he didn't know if he was ever tested.

### Summary: Male Partner's Risk Factors/Behaviors and Female Awareness

Table 4 summarizes the percent of couples with males reporting the HIV-related risk factor or behavior and the percentage of corresponding female partner's that reported they were aware of the behavior. For example, 36% of couple's had males report they had ever been diagnosed with an STD and among those couples, 26% of the female partners were aware.

**Table 4. Male Partner's Risk Behaviors and Female Awareness**

<b>Male risk factor/behavior</b>	<b>Percent of male 'yes' responses</b>	<b>Female partner aware</b>
Had other partners during sexual relationship (concurrent partners)	74%	61%*
Ever diagnosed with an STD	36%	26%
Ever injected drugs	10%	36%**
Ever used crack cocaine	25%	59%
Ever been arrested and in jail or prison	72%	60%

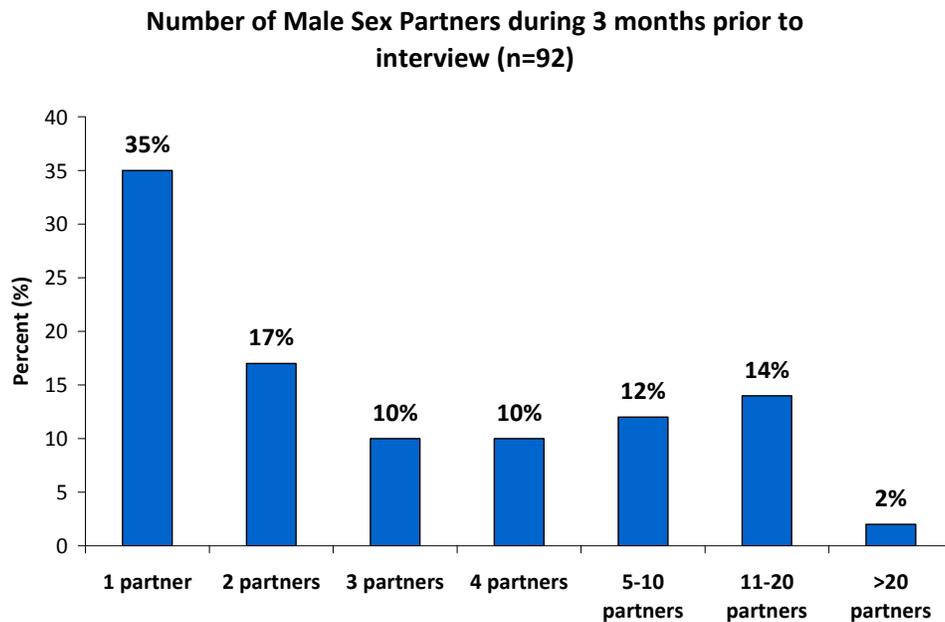
*\*Female reported "definitely did" or "probably did"*

*\*\*Only 11 dyads had males report they had ever injected drugs and 4/11 dyads the female was aware*

## Section 7. Female Risk Behaviors (n=92)

### Number of Male Sex Partners- three months prior to interview

As part of the Partner Study eligibility criteria, if a female self-reported black or Hispanic race/ethnicity a question was asked about how many male sex partners she had three months prior to interview during the HET1 interview. Thirty-five percent of the females (n=32) that participated in the Partner Study reported having one sex partner in the three months prior to the Partner Study interview (presumably the male partner that was recruited for the Partner Study). Conversely, 65% of females (n=60) reported two or more sex partners and therefore may have had extra-dyadic sexual relationships (or sequential monogamous relationships). The median number of sex partners was two (range: 1-200).



*The following data are taken from the female HET1 survey questions for the females that participated in the Partner Study.*

### Age at Sexual Debut

The median age at first vaginal or anal sex for the females who participated in the Partner Study was 15 (range: 10-21).

### **Injection Drug Use**

Ten percent of females (n=9) in the Partner Study reported ever injecting drugs. Of these, three reported injecting drugs in the 12 months prior to the HET1 interview.

### **Crack Cocaine Use**

Sixteen percent of females (n=15) reported crack cocaine use during the 12 months prior to interview, with 12% of females (n=11) reporting using crack cocaine at least once a week.

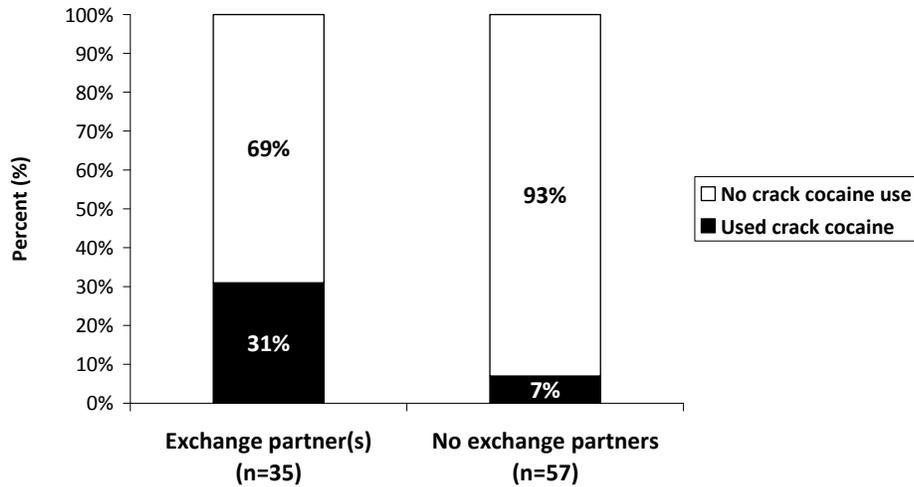
### **Male Sex Partners- 12 months prior to interview**

Five percent of females (n=5) reported no unprotected vaginal sex during the 12 months prior to HET1 interview. Conversely, 95% of females (n=87) reported unprotected vaginal sex with one or more male partners.

Twenty-nine percent of females (n=27) reported anal sex in the 12 months prior to interview. The majority (85%, n=23) reported any unprotected anal sex with one or more male partners.

Thirty-eight percent of females reported one or more exchange partners during the 12 months prior to the HET1 interview with 16% reporting 10 or more exchange partners. Females who reported an exchange partner were more likely to report using crack cocaine during the 12 months prior to interview compared to females who did not report an exchange partner (11/35 or 31% of females with an exchange partner reported crack use while 4/57 or 7% of females without an exchange partner reported crack use; Fisher's exact test  $p < 0.01$ ).

**Exchange Partner(s) and Crack Cocaine Use  
During the Past 12 Months (n=92)**



Forty-seven percent of females (n=43) reported having one or more new sex partners in the 12 months prior to interview. Of these, 95% (n=41) did not discuss HIV status with one or more new sex partners before first sex.

**Last Sexual Encounter**

Ninety-eight percent of females (n=90) reported vaginal sex at last sex and only 11% (n=10) reported using a condom. Of those who reported using a condom at last vaginal sex, 90% (n=9) used the condom the whole time. Six percent of females (n=6) reported anal sex at last sex and none reported using a condom for last anal sex.

Eleven percent of females (n=10) reported an exchange partner as their last sexual partner.

Sixty-eight percent of females (n=63) reported that they didn't know their last partner's HIV status. All females that reported knowledge of their last partner's HIV status reported that he was HIV-negative.

During the previous 12 months (for last sex relationships  $\geq$ 12 months long) or during the length of the sexual relationship with their most current sexual partner (if relationship was <12 months long), 71% of females (58/82; excluding females who reported an exchange partner) reported having sex with other people.

## **Section 8. Female HIV Testing Behaviors**

Data in this section are taken from the female HET1 survey questions for the females that participated in the Partner Study.

### **Ever Tested for HIV (n=92)**

Seventy-one percent of females (n=65) who participated in the Partner Study had ever been tested for HIV (prior to the HIV test conducted as part of the Partner Study). Conversely, 29% of females had never been tested for HIV prior to the Partner Study (n=27).

Of those who had ever been tested (n=65), 35% of females (n=23) reported that their most recent test was anonymous and 49% (n=32) reported that their most recent test was a rapid test. Nine percent of females never obtained the result of their most recent test and the remaining 91% tested HIV negative.

### **Location of Most Recent HIV Test (n=65)**

The most common locations reported for the most recent HIV test were prenatal/obstetrics clinic (15%), emergency room (14%), community health center/public health clinic (12%), HIV counseling and testing site (11%), and hospital (inpatient) (9%).

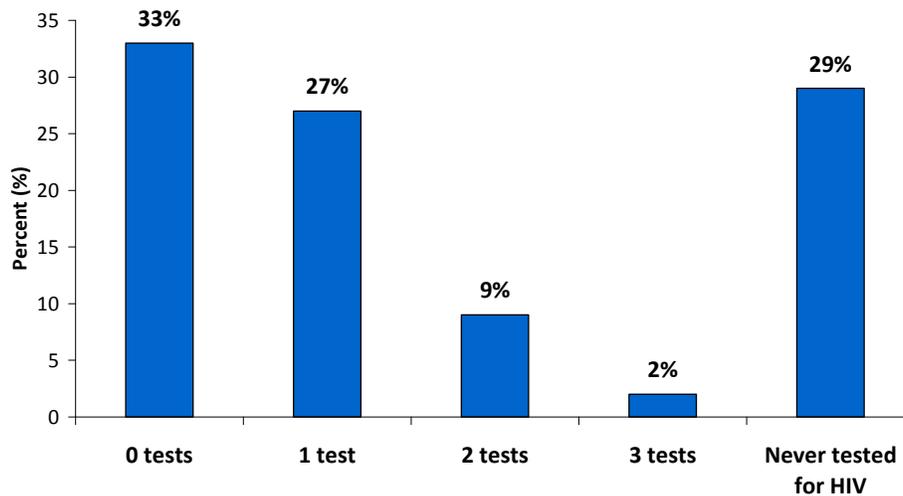
### **Reasons for Most Recent HIV Test (n=65, not mutually exclusive categories)**

The most common reasons for getting an HIV test were checking to make sure HIV negative (71%), pregnant (29%), and get tested regularly (23%).

### **HIV Tests in the Past 2 Years (n=92)**

Thirty-eight percent (n=35) of females in the Partner Study had one or more HIV tests during the two years prior to interview.

**Number of Times Females Tested for HIV in the Past Two Years (n=92)**



Of the females who received an HIV test in the past two years, 94% got the result of one or more HIV tests.

#### **Reasons for Not being Tested in the Past 12 Months (n=76)**

Seventeen percent of females (n=16) had been tested for HIV during the 12 months prior to interview. Conversely, 83% of females (n=76) had not been tested for HIV in the past 12 months. Participants were asked all the reasons for not being tested *and* the most important reason for not being tested during the 12 months prior to interview. The most common reasons (not mutually exclusive categories) for not being tested were don't like needles (45%), didn't have time (32%), and no money or insurance to pay (30%). The most important reason (mutually exclusive) for not being tested in the past 12 months were afraid of finding out (28%), think low risk for HIV (18%), and didn't have time (13%) (n=68; excludes those who were tested in the past 12 months, n=16, and those who did not select any reasons for not being tested, n=8).

#### **Perceive Low Risk for HIV (n=21)**

A total of 21 females reported that one of the reasons they had not been tested in the prior 12 months for HIV was because they perceived themselves as being low risk. Yet 62% of the 21 females were in at least one dyad that participated in the Partner Study that had partnership concurrency (n=13).

In addition, seven of the 21 females were in at least one dyad in which the dyad was in agreement that they never use condoms for vaginal sex and there was male partner concurrency (33%).

## **Section 9. Male HIV Testing Behaviors**

Data in this section are taken from the male HET1 survey questions for the males that participated in the Partner Study.

### **Ever Tested for HIV (n=106)**

Sixty-four percent of males (n=68) who participated in the Partner Study had ever been tested for HIV (prior to the HIV test conducted as part of the Partner Study). Conversely, 34% of males (n=36) had never been tested for HIV (2% of males did not know if they had ever been tested).

Of those who had ever been tested (n=68), 49% of males (n=33) reported that their most recent test was anonymous and 53% (n=36) reported that their most recent test was a rapid test. No males had ever tested positive; 99% of males (n=67) reported that their most recent HIV test was negative and 1% (n=1) reported they didn't know the result of their most recent HIV test but had never tested positive before.

### **Location of Most Recent HIV Test (n=68)**

The most common locations reported for the most recent HIV test were community health center/public health clinic (38%), HIV counseling and testing site (13%), correctional facility (jail or prison) (12%), private doctors office (9%), and HIV/AIDS street outreach program/mobile unit (7%).

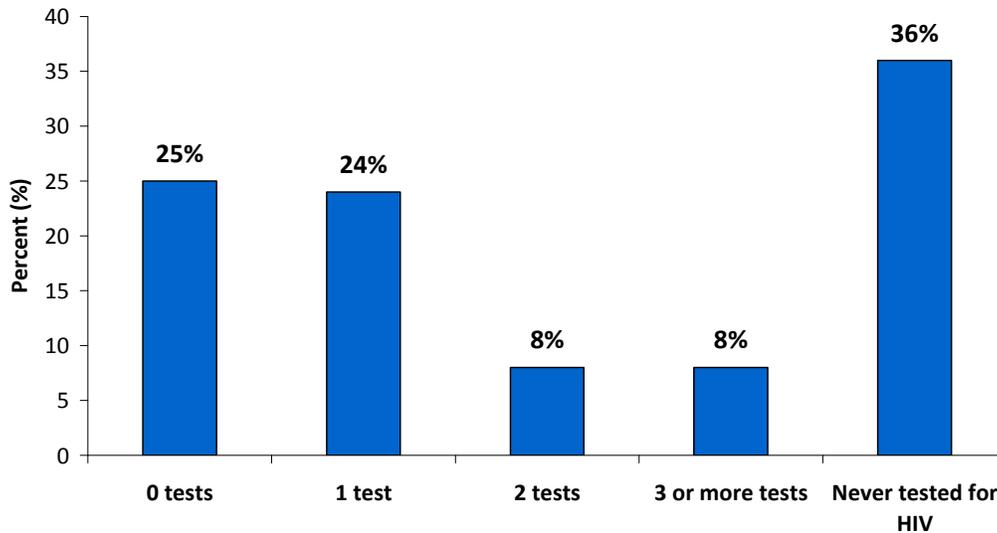
### **Reasons for Most Recent HIV Test (n=68, not mutually exclusive categories)**

The most common reasons for getting an HIV test were checking to make sure HIV negative (82%), get tested regularly (22%), and worried exposed to HIV during the past six months (16%).

### **HIV Tests in the Past Two Years (n=106)**

Forty percent of males (n=42) who participated in the Partner Study had one or more HIV tests during the two years prior to interview. All males who had a test in the past two years received all of their HIV test results.

**Number of Times Males Tested for HIV in the Past Two Years  
(n=106)**



**Reasons for Not being Tested in the Past 12 Months (n=73)**

Twenty-nine percent of males had been tested for HIV in the 12 months prior to interview (another 2% of males didn't know if they had ever been tested for HIV). Conversely, 69% of males (n=73) had not been tested for HIV during the 12 months prior to interview. Participants were asked all the reasons for not being tested *and* the most important reason for not being tested during the 12 months prior to interview. The most common reasons (not mutually exclusive categories) for not being tested were think low risk for HIV (48%), don't like needles (29%), and no money or insurance to pay (27%). The most important reason (mutually exclusive) for not being tested in the past 12 months included think low risk for HIV (38%), afraid of finding out (25%), and don't like needles (8%) (n=61; excludes those who were tested in the past 12 months or didn't know if they had ever been tested, n=33, and those who did not select any reasons for not being tested, n=12).

## **Section 10. HET1/Partner Study HIV Final Test Results**

All final HIV test results for males were negative. There was one positive HIV final test result for a female (1%). The female participant reported never being tested for HIV and was therefore unaware of her HIV status (prior to the HET1 HIV test). The female participant also reported one male partner in the 12 months prior to interview and no unprotected sex. The female reported she had never injected drugs. There were two male and four female HIV initial and final test result records that were missing.

## Section 11. Limitations

There are several limitations of the study that are shared among studies with similar designs. All of the data are self-reported and the validity of respondent's answers cannot be verified (with the exception of the HIV testing results). Additionally there may have been reporting bias toward "socially acceptable" behaviors because interviews were conducted face-to-face.

Individuals may differ in their interpretation of questions and responses. For example, there may be variability in how participants assign their perceived frequency of condom use into one of the five ordinal categories (always, most of the time, about half the time, rarely, and never).<sup>22</sup> Additionally individuals may have different cognitive strategies for recalling the frequency of sexual behaviors which could lead to differences in precision. For example, some may be able to recall events separately while others use a more general method of estimation.<sup>23</sup> Differences in interpretations of questions may have resulted in disagreement among couples.

Recall accuracy may have affected the data (may have contributed to high disagreement in some questions) because many questions may have referred to a long time ago in the past for some participants (when first met partner, where first met partner, when first had sex with partner, etc.). Recall periods of three months for most sexual behavior questions (see Section 5) likely produce more reliable data than recall periods of 12 months.<sup>24</sup>

Male partner participation was dependent on who the female's recruitment choices and on who the female was comfortable recruiting.

The length of time between the female interview and her male partner taking the interview varied from couple to couple. The median number of days between the female taking the Partner Study questionnaire and her male partner taking the questionnaire was 23 days.

The data presented describe the Partner Study sample only. Results can not be generalized to other heterosexual populations because of the restricted criteria used to define eligible females for the partner study (see Section 1, Methods). Also the potential for participation bias was not assessed; it is

possible that there were differences in the females who chose to participate in the Partner Study compared to nonparticipants.

## Questions about the Partner Study?

- If you have any questions regarding the Partner Study, please feel free to contact:

Emily Higgins, MPH  
(313) 876-0176  
[HigginsE@michigan.gov](mailto:HigginsE@michigan.gov)

Vivian Griffin, BS  
(313) 876-0352  
[GrffinV@michigan.gov](mailto:GrffinV@michigan.gov)

Eve Mokotoff, MPH  
(313) 876-4769  
[MokotoffE@michigan.gov](mailto:MokotoffE@michigan.gov)

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## More Information

Michigan National HIV Behavioral Surveillance Website  
[http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_2982\\_46000\\_46002-165551--\\_00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2982_46000_46002-165551--_00.html)

MDCH HIV Statistics Online  
[www.michigan.gov/hiv-std](http://www.michigan.gov/hiv-std)  
Click “HIV/AIDS”  
Click “Statistics and Reports”

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