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## HIV Risk-Related Behaviors in the United States Household Population Aged 15–44 Years: Data from the National Survey of Family Growth, 2002 and 2006–2010

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### Abstract

*Objective*—This report presents national estimates of selected HIV risk-related behaviors among men and women 15–44 years of age in the United States, based on the 2006–2010 National Survey of Family Growth (NSFG). Data from the 2006–2010 NSFG are compared with data from the 2002 NSFG.

*Methods*—Data for 2006–2010 were collected through in-person interviews with a national sample of 22,682 men and women aged 15–44 years in the household population of the United States. The measures presented in this report were collected using audio computer-assisted self-interviewing (ACASI), in which the respondent enters his or her own answers into the computer without telling them to an interviewer. The response rate for the 2006–2010 NSFG was 77%, 78% for women and 75% for men. HIV risk-related behavioral measures examined in this report include sexual risk, drug risk, and recent STD treatment.

*Results*—Approximately 10% of men and 8% of women in 2006–2010 reported at least one of the HIV risk-related behavioral measures examined in this report, representing 6.5 million men and 4.9 million women in the general U.S. household population. This represents a decline from the 13% of men and 11% of women who reported one or more of these measures in 2002. This decline appears to be due to a decrease in sexual risk behaviors reported in 2006–2010, however further analysis as well as comparisons with other household surveys are needed to fully understand and describe trends over time. Significant variations were seen by demographic and socioeconomic characteristics including age, race and Hispanic origin, sex, education, and poverty level income. Among men, those with recent prison experience were more likely than other men to report one or more HIV risk-related behaviors in the past year.

**Keywords:** sexual risk behaviors • illicit drug injection • exchange sex • male-to-male sex

### Introduction

This report provides reliable national estimates of some basic measures of sexual and drug use behavior that may be related to an elevated risk for acquiring human immunodeficiency virus or HIV, the virus that causes acquired immunodeficiency syndrome (AIDS). The approach follows previous survey analyses in describing behaviors that have been associated with the transmission of HIV in epidemiologic studies (1–4). Reducing the number of people who become infected with HIV is one of the three primary goals of the National HIV/AIDS Strategy (5). At the end of 2008, an estimated 1.2 million persons in the United States were living with HIV, with 20% undiagnosed and unaware of their HIV status (6). In addition, an estimated 48,100 people were newly infected with HIV in 2009 (7). The year 2011 marks the 30th anniversary of the first diagnosed case of HIV, and it remains important to understand and measure behaviors associated with risk for acquiring HIV.

The data used for this report are from the 2006–2010 National Survey of Family Growth (NSFG), conducted by



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Disease Control and Prevention  
National Center for Health Statistics



the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). This report updates and builds on a previous report that used data from the 2002 NSFG to generate national estimates of HIV risk-related behaviors in the general United States population (8). This report also builds on a recent report on sexual behavior, sexual attraction, and sexual identity using the 2006–2008 NSFG (9).

The current report contains data from the 2006–2010 NSFG on select HIV risk-related behaviors and measures in the 12 months before the survey, as reported by men and women aged 15–44 years (Tables 1–6). Data are shown by race and Hispanic origin and other background characteristics that have been correlated in prior studies with reporting of these behaviors. The final table in the report focuses on a select HIV-preventive behavior, condom use at last sexual encounter among those with at least one sexual partner in the past year, and examines variation in condom use among selected groups reporting HIV risk-related behaviors (Table 7). Where appropriate throughout the report, comparisons are made to findings from the 2002 NSFG.

## Methods

### Data source

NSFG has been conducted seven times by CDC's NCHS: in 1973 and in 1976 with samples of married and formerly married women; in 1982, 1988, and 1995 with samples of women of all marital status categories; and in 2002 and 2006–2010 with national samples of both women and men aged 15–44 years. Each time, the NSFG interviews were conducted in person by trained female interviewers in the selected persons' homes. The current report is based on interviews conducted from June 2006 through June 2010. The 2006–2010 NSFG was based on 22,682 face-to-face interviews—12,279 with women and 10,403 with men aged 15–44 years in the household population of the United States.

The 2006–2010 sample is a nationally representative multistage area probability sample drawn from 110

areas, or Primary Sampling Units (PSUs) across the country. The sample is designed to produce national estimates and not state-specific estimates. Large areas (counties and cities) were selected first; then within each large area or PSU, groups of adjacent census blocks, called segments, were selected at random. In each segment, all addresses were listed, and some of the listed addresses were selected at random. The sampled addresses were visited in person, and a short screener interview was conducted to determine whether anyone aged 15–44 and eligible for the survey lived there. To protect the respondent's privacy, only one person in each selected household was chosen and invited to participate in the interview. In 2006–2010, as well as in 2002, teenagers and black and Hispanic adults were oversampled, to produce more reliable estimates for these groups. Men and women living on military bases or in institutions were not included in the survey. The sample included persons temporarily living away from the household in a college dormitory, sorority, or fraternity (10).

All respondents were given written and oral information about the survey and informed that participation was voluntary. Adult respondents aged 18–44 years were asked to sign a consent form but were not required to do so. For minors aged 15–17 years, signed consent was required first from a parent or guardian, and then signed assent was required from the minor: If either the parent or the minor declined to give written consent, the minor did not participate in the survey. The response rate for the 2006–2010 NSFG was 77% overall, 78% for women and 75% for men.

Over the course of fieldwork in 2006–2010, about 110 female interviewers were hired and trained by the survey contractor, the University of Michigan's Institute for Social Research, under the supervision of NCHS. During the data collection period, approximately 40–45 interviewers were in the field at any time conducting NSFG interviews. Respondents in the 2006–2010 survey were offered \$40 as a token of

appreciation for their participation. NSFG questionnaires and materials were reviewed and approved by both the CDC/NCHS Research Ethics Review Board and the University of Michigan Institutional Review Board. The female questionnaire required an average of about 80 minutes, and the male questionnaire averaged about 60 minutes. More detailed information about the methods and procedures of NSFG and its sample design, weighting, imputation, and variance estimation has been published (10,11).

### Use of audio computer-assisted self-interviewing (ACASI)

Much of the data in the survey were collected by computer-assisted personal interviewing, or CAPI, in which the questionnaire was stored on a laptop computer, with the questions asked by an interviewer. But most of the variables described in this report were collected using audio computer-assisted self-interviewing (ACASI). In ACASI, the respondent listens to the questions through headphones, reads them on the screen, or both, and enters the response directly and privately into the computer. This method avoids asking the respondent to give his or her answers to the interviewer, and it has been found to yield more complete reporting of sensitive behaviors (12). ACASI may also make it possible for persons with lower literacy to complete the self-interview by listening to the questions instead of having to read them on-screen (13).

The ACASI portion of the NSFG interview was significantly expanded for the 2002 and 2006–2010 surveys to provide reliable, general population-based statistics on sexual and drug use behavior related to HIV/AIDS and other sexually transmitted diseases (STDs) (12–15). The staff of the NSFG worked with CDC's Divisions of HIV/AIDS Prevention and STD Prevention, other collaborating agencies, and experts who had conducted surveys on closely related topics (16–22), to develop appropriate questions for this purpose within ACASI.

## Rationale for HIV risk-related measures used in this report

The National HIV/AIDS Reporting System (HARS) defines the most probable route of transmission for each reported case of HIV and AIDS diagnosis in terms of broad categories (male-to-male sexual contact, illicit drug injection, and heterosexual contact) and not specific acts (3). Among the new estimated HIV infections in 2009 reported by HARS, 61% were among men who have sex with men (MSM), 27% were attributable to heterosexual contact, and 9% were attributable to illicit drug injection (7). This NSFG-based report provides estimates for self-reported individual-level HIV risk-related behaviors in accordance with these primary HARS transmission categories, including direct reports of male-to-male sex and illicit drug injection. In addition, the report provides estimates for some other behaviors associated with higher risk for HIV or other sexually transmitted infections, such as higher numbers of opposite-sex partners (23–25), use of select illicit drugs that may or may not be injected (26–27), exchange of sex for money or drugs, and recent treatment for an STD (28). This approach of categorizing individual-level behaviors that potentially place persons at higher risk for HIV, has been employed in previous analytic studies that make use of self-reported survey data (1,29,30). Individuals reporting such behaviors may be at increased risk and are often targeted for more frequent STD and HIV testing, in accordance with the 2010 STD Treatment Guidelines (31).

Potentially higher-risk sexual contact among opposite-sex partners can be defined based on several measures collected in NSFG ACASI, and these are described in greater detail in the next section. Because one primary goal of this report is to provide estimates from the current data comparable to those published from the 2002 NSFG, not all HIV risk-related behaviors among opposite-sex partners have been included in this report, such as having concurrent sexual partnerships or having a nonmonogamous sexual partner (i.e., a

partner who had other partners around the same time as having sex with the respondent). (Prior studies with the 1995 and 2002 NSFG (32–35) have examined several definitions of concurrency, but they are limited to vaginal intercourse partners as reported in the interviewer-administered portion of the survey. There is no information on concurrency of the respondent's own sexual partners reported in ACASI, with whom the respondent may have had vaginal, oral, or anal sex. There is an ACASI item on whether the respondent has had a nonmonogamous opposite-sex partner in the past year, that is, whether the respondent's *partners* have possibly had other sexual partners concurrently with the respondent. However, this item on partners' nonmonogamy has not been included for this analysis because a comparable measure does not exist for the respondents themselves within the 2002 nor the 2006–2010 NSFG ACASI.) The current report does present data on individuals who report five or more opposite-sex sexual partners in the past year, which is available in 2002. Some studies find that having larger numbers of recent sexual partners tend to be associated with greater risk for sexually transmitted infections, particularly due to correlation with having concurrent sexual partnerships themselves or having a nonmonogamous sexual partner (24,25,32–36). Other groups, not explicitly part of the primary HARS transmission categories, are considered to be at potentially higher risk for HIV and are included in this report: women who report having male sexual partners who had sex with other men; persons who report having sexual partners who inject illicit drugs; persons who report having sexual partners who are HIV-positive; and persons who report exchanging sex for drugs or money (37–39). In this report, the receipt of any STD treatment in the past year is examined as a marker of potentially high-risk sexual behavior. It is not included in the summary measure of “sexual risk”; however, for comparison to the 2002 measures, recent STD treatment is included in the overall measure of HIV risk that includes

sexual risk and drug risk behaviors. In addition, recent crack cocaine use is classified as potentially high-risk for HIV. Unlike injection drug use, crack use does not provide a direct route for HIV transmission but is widely considered an HIV risk factor because of its strong association with high-risk sexual behavior and other drug use, as well as its consistent linkage to HIV infection in epidemiologic studies (27,40–42). Similar to crack cocaine use, crystal methamphetamine use in the past year is included because of its strong correlation with potentially high-risk sexual behaviors (26,43,44).

Male condom use is an important part of HIV prevention strategies to reduce the risk of either acquiring or transmitting HIV. For those who had been sexually active in the year before interview, this report examines condom use at *last sexual encounter* with respect to measures of HIV risk. This measure, although not complete, is often used as a reasonable proxy of the individual's general behavior with regard to condom use (45).

## Description of HIV risk-related measures in NSFG ACASI used in this report

*Sexual behavior risk for HIV (measures 1–6)*—Within ACASI, each NSFG respondent answers questions about sexual contact, including vaginal, oral, or anal sex, they have had with opposite-sex and same-sex partners. If they have reported any such contact, they are asked for their total numbers of opposite-sex and same-sex partners to this point in their lives and within the past 12 months. These questions have been described in detail in prior reports (9). Male-to-male sex (measure 1 in Tables 1 and 2) gives the percentage of men who reported any male sexual partners in the past year. Women with male partners who had sex with other males (measure 4) is defined only for women who have reported at least one male partner in the past year, and is based on a “yes” response to this question: *Have any of your male partners in the last 12 partners ever had sex with other males?*

All other HIV risk-related sexual behavior measures (2,3,5,6) are based on ACASI questions asked only of men and women who have reported at least one opposite-sex sexual partner in the past 12 months and describe their own behavior or that of their opposite-sex partners *within the past 12 months*:

- Five or more opposite-sex sexual partners in the past 12 months (measure 2): When NSFG respondents report their numbers of opposite-sex sexual partners in ACASI, they include partners with whom they have had vaginal, oral, or anal sex. Almost all persons who reported five or more opposite-sex partners in the past year reported having either vaginal or anal sex; less than 1% of respondents with five or more opposite-sex partners reported having only had oral sex.
- Sex in exchange for money or drugs (measure 3): The percentage that exchanged sex for drugs or money is based on questions involving both receipt of sex and payment for sex. Men who report such exchange have typically paid money or drugs to receive sex, and women who report such exchange have typically given sex for money or drugs.
- Sex partner who injects illicit drugs (measure 5) is based on the percentage that had sex with a partner *“who takes or injects street drugs with a needle.”*
- HIV-positive sex partner (measure 6) is based on the percentage that had sex with an HIV-positive partner within the past year.

*Drug behavior risk for HIV (measures 7–9)*—Drug use questions within ACASI are asked of all respondents regardless of age or sexual experience. Illicit drug injection (measure 7) is based on this ACASI question: *“During the last 12 months, how often have you shot up or injected drugs other than those prescribed for you? By shooting up, we mean anytime you might have used drugs with a needle, by mainlining, skin-popping, or muscling.”* If the respondent gave any answer other than “never,” he or she was counted as having injected any

illicit drugs in the past year. A separate question was asked in the 2002 and the 2006–2010 NSFG about use of crack cocaine in the past year (measure 8). In the 2006–2010 NSFG, a new question on the use of crystal methamphetamine in the past year (measure 9) was added: *“During the last 12 months, how often have you used Crystal or meth, also known as tina, crank, or ice?”*

*STD treatment in past year (measure 10)*—All NSFG respondents, regardless of sexual experience, are asked this question in ACASI: *In the last 12 months, have you been treated or received medication from a doctor or other medical care provider for a sexually transmitted disease like gonorrhea, Chlamydia, herpes, or syphilis?* Measure 10 gives the percentage answering “yes” to this question.

*Condom use at last sexual encounter (Table 7)*—For women, this measure reflects use of a male condom use at their last vaginal intercourse in the past year and is based on a single question asked within ACASI: *“Was a condom used the last time you had vaginal intercourse with a male?”* For men, this measure includes male condom use at last sex of any kind within the past year, whether oral, anal, or vaginal, and whether opposite-sex or same-sex. Men were classified as having used condoms at last sex if they answered “yes” to either of these questions in ACASI:

- *Did you use a condom the last time you had vaginal intercourse with a female?”*
- *The last time you had oral or anal sex with a male partner, was a condom used?”*

## Demographic variables used in this report

The data on HIV-related risk behaviors presented in this report are shown with respect to several key background or demographic characteristics including age, marital or cohabiting status, educational attainment, metropolitan residence, percent of poverty level of household,

and Hispanic origin and race. All characteristics reflect status at time of interview. Educational attainment is shown based only on respondents aged 22–44 years because large percentages of those aged 15–21 are still attending school. The definition of marital or cohabiting status used in this report includes only those relationships with opposite-sex spouses or partners, in keeping with the marital or cohabiting status variables that have been defined across all NSFG surveys to date. Those who are not cohabiting and have never been married are shown separately by their experience with vaginal intercourse with an opposite-sex partner. Some individuals who have never had vaginal intercourse may have had sexual experience of other types, such as oral and anal sex; this information is only collected within ACASI and is included in the measures of opposite-sex sexual activity shown in this report. For example, a small percentage of those who have never had vaginal intercourse may still have had five or more opposite-sex partners in the past year, as shown in [Tables 3 and 4](#). Metropolitan residence is based on official U.S. Census Bureau counts and the Office of Management and Budget’s (OMB) definition of metropolitan statistical areas (MSAs), which uses the respondent’s address at time of interview. Percent of poverty level is based on a comparison of each respondent’s household income to the poverty thresholds for a family of this size. This measure is shown only for respondents aged 20–44 years to exclude potentially misreported or incompletely reported household incomes by teenagers.

The definitions of Hispanic origin and race used in this report take into account the reporting of more than one race, in accordance with 1997 guidelines from OMB (46). However, the 2006–2010 NSFG’s sample does not include sufficient numbers of respondents of multiple-race or single-race groups other than black, white, or Asian to be able to show more detail in some of the tables. For convenience in reporting, the short-term “non-Hispanic black” will be

used instead of the full phrase, “non-Hispanic black or African American, single race.” Similarly, the term “non-Hispanic white” will be used instead of the full phrase, “Non-Hispanic white, single race.” The full terms of these category labels are shown in the tables. In selected tables where sample sizes permit, persons of Hispanic origin have been broken down by whether or not they were born in the United States.

In addition to these demographic variables, [Table 4](#) also includes two additional characteristics defined only for men aged 25–44 years: whether he had ever served in the military or ever been in prison, jail, or a detention center. The questions on prison experience do not ascertain the nature of the offense, whether the respondent was convicted of any offense, or the duration of the incarceration. Despite the limitations of these measures, the reporting of HIV risk-related behaviors may vary based on men’s experience with military service or incarceration. These questions were not asked of women in the NSFG because prison and military experience are relatively rare among women in the general household population. The measures are based on men aged 25–44 years in order to capture more complete reporting of this experience. Military experience is presented simply in dichotomous fashion, while the prison experience variable separates out those with prison experience within the past year, which may correlate better with the “past 12 months” behaviors being described in this report.

## Strengths and limitations of the data

The data presented in this report are primarily from the 2006–2010 NSFG, which has a number of strengths for studying HIV risk-related behaviors in the U.S. population:

- The NSFG has a rigorous probability sampling design, so the estimates can be generalized to the national household population.

- The response rates for the NSFG were 78% for women and 75% for men, which are considered high in household survey research, and suggest that the data for most statistics can be generalized to the population with confidence.
- Questions in the NSFG have undergone testing and review in an effort to ensure validity and make them understandable to persons participating in the survey. A pretest was conducted prior to the 2002 NSFG that included a number of randomized experiments to test ways to improve data collection (47). In addition, most of the ACASI questions used in this report were also asked in a comparable fashion in the 2002 NSFG (48).
- Sensitive questions associated with sexual behavior, reproductive health, or illicit drug use were collected using ACASI methods, which have been found to yield more complete reporting of sensitive behaviors, and also avoid the large amounts of missing data often found in self-administered, paper-and-pencil questionnaires (9,12).
- The questionnaire was administered in both English and Spanish; those who preferred to answer the interview in Spanish were interviewed by bilingual interviewers. The translation of the questionnaire into Spanish was done with particular attention to making it understandable and culturally appropriate for major Hispanic groups including Mexican groups, Puerto Rican groups, and for recent immigrants (49).

The data included in this report also have some limitations:

- The HIV risk-related behaviors described in this report provide a useful snapshot of the prevalence of these behaviors in the general household population, but these individual-level variables can provide only an approximation of actual HIV risk in this population. These variables do not fully account for other factors that may increase or mitigate an individual’s risk for

acquiring HIV. Among these factors is the HIV sero-prevalence in the individual’s sexual partner or drug use networks, which may increase or decrease the likelihood of encountering an HIV-positive partner. In addition, the measure of condom use at last sex in [Table 7](#) of this report is a useful measure of possible risk reduction, but it does not fully capture the frequency of sex, particular vaginal or anal sex, without a condom in the past year.

- As a household-based sample survey, the NSFG excludes from the sampling frame those who are currently homeless, currently incarcerated or otherwise institutionalized, and those living on military bases in the United States. (The NSFG sample does include respondents with past experience with military service or incarceration who currently live in the household population, and respondents on active-duty with the military, but not living on military bases.) To the extent that groups excluded from the NSFG sample may have different patterns of HIV risk-related behaviors, the survey results cannot be generalized to those populations.
- As in any survey, nonsampling error could affect the results. The NSFG makes use of extensive quality control procedures to try to minimize the effects of such errors (10,11).
- The results could be affected by underreporting of sensitive behaviors, although using ACASI has been found to yield more complete reporting of these measures than other types of questionnaires (12).
- The NSFG provides national estimates, but is not designed to provide state or local-area estimates of the behaviors described in this report. While regional differences in HIV prevalence clearly exist, the geographic measure included in this report (metropolitan residence) does not provide enough information to make inferences about regional differences in HIV risk-related behaviors.

- The age range of the NSFG is 15–44 years. Therefore, NSFG data cannot be used to estimate the HIV risk-related behavior of those under age 15 or over age 44 years, among whom these public health concerns are also relevant.

## Statistical analysis

All estimates in this report are based on sampling weights designed to produce unbiased estimates for the approximately 124 million men and women aged 15–44 years in the United States. The statistical package SAS, Version 9.2, was used to produce all estimates of percentages and numbers in this report ([www.sas.com](http://www.sas.com)). SAS SURVEYFREQ procedures were used to estimate the sampling errors of the statistics because these procedures take into account the use of weighted data and the complex design of the sample in calculating estimates of standard errors and significance tests. Each table in this report includes standard errors as a measure of the precision of each point estimate (percentage) presented.

Significance of differences among subgroups was determined by standard two-tailed *t*-tests using point estimates and their standard errors. For selected comparisons, Wald chi-square tests of overall association were also performed within SAS PROC SURVEYFREQ, and symbols denoting these test results are included in selected tables. No adjustments were made for multiple comparisons. Terms such as “greater than” and “less than” indicate that a statistically significant difference was found. Terms such as “similar” or “no difference” indicate that the statistics being compared were not significantly different. Lack of comment regarding any difference does not mean that significance was tested and ruled out.

In the description of the results below, when the percentage being cited is below 10%, the text will cite the exact percentage to one decimal point. To make reading easier, and to remind the reader that the results are based on samples and subject to sampling error, percentages above 10% will generally be shown rounded to the nearest whole

percent. In this report, percentages are not shown if the denominator is less than 100 cases, or the numerator is less than 5 cases. When a percentage or other statistic is not shown for this reason, the table contains the acronym DSU (data statistically unreliable) to signify that the statistic does not meet standards of reliability or precision. For most statistics presented in this report, the numerators and denominators are much larger.

## Results

The percentages reporting specific HIV risk-related behaviors in the past year among men and women aged 15–44 years are shown in [Table 1](#). As in 2002, women in 2006–2010 were less likely than men to report five or more opposite-sex partners in the past year. The percentages of men and women reporting any exchange of sex for drugs or money in the past year fell significantly from levels seen in 2002. For example, 2.6% of men reported such exchange in the past year in 2002, compared with 1.3% in 2006–2010. While no change was seen since 2002 in the percentages reporting any illicit drug injection in the past year, the percentage of both men and women reporting they had a recent sexual partner who injected illicit drugs decreased to less than 1%, down from 2.3% of men in 2002 and 2.9% of women in 2002. Women in 2006–2010 were more likely to report recent STD treatment than men in 2006–2010 and also more likely than women in 2002, which is to be expected with increasing adoption over time of screening and treatment guidelines for women (50,51).

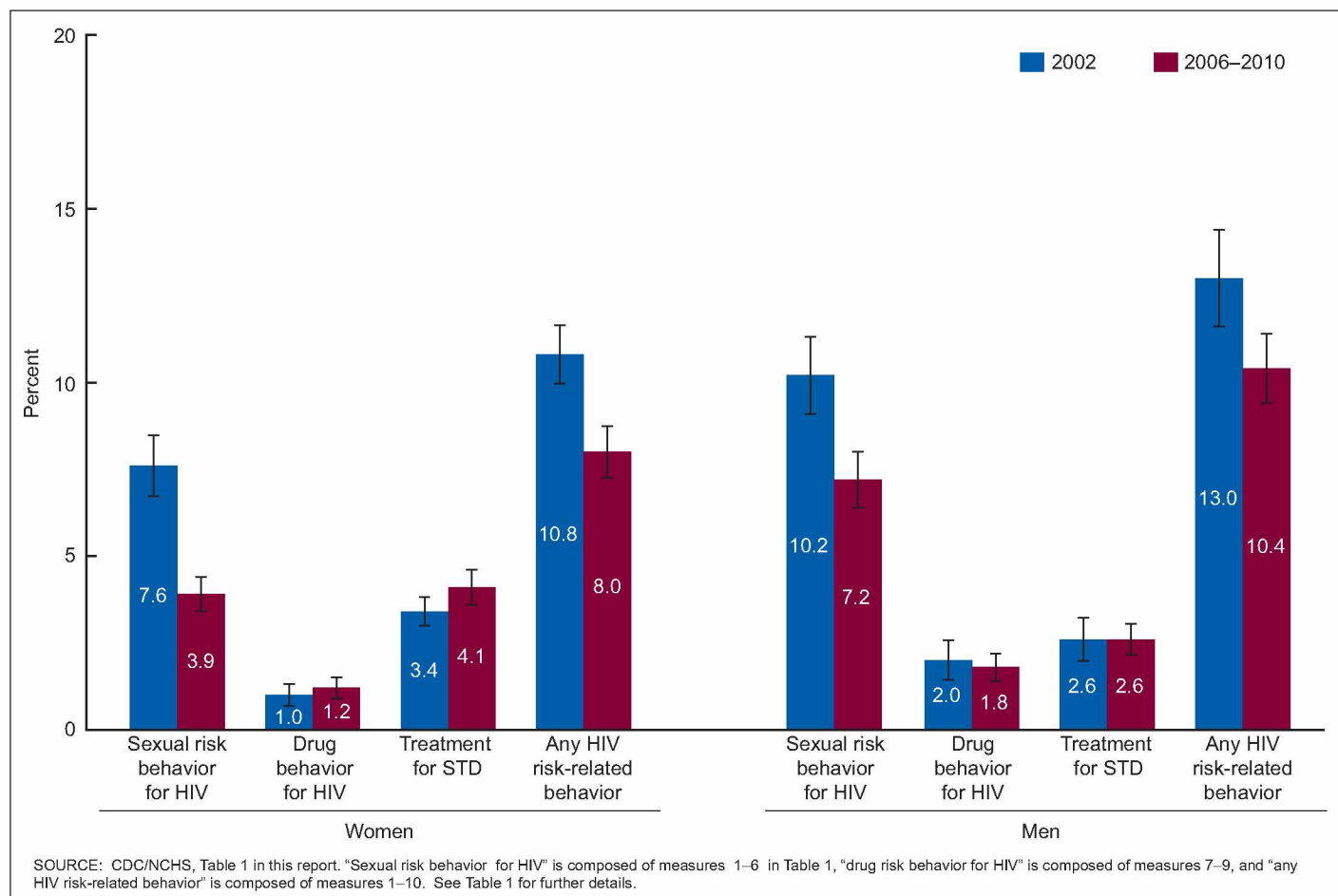
[Table 1](#) and [Figure 1](#) also show the percentages for several summary measures of HIV risk-related behaviors. Looking at the broadest of these summary measures that encompasses recent STD treatment as well as sexual and drug risk behaviors in the past year (measures 1–10), 10% of men and 8.0% of women in 2006–2010 reported at least one of the measures, a significant decline from 13% of men and 11% of women in 2002. These percentages for 2006–2010 represent 6.5 million men

and 4.9 million women in the general U.S. household population. As in 2002, no difference was seen by sex in the percentage reporting any HIV risk-related drug behavior (1.8% of men and 1.2% of women), but a higher percentage of men in 2006–2010 (7.2%) than women (3.9%) reported any of the HIV risk-related sexual behaviors (measures 1–6).

No difference in reporting of five or more opposite-sex partners in the past year was seen by race and Hispanic origin among women aged 15–44 years ([Table 2](#)), but non-Hispanic black men were more likely (9.1%) to report five or more female partners in the past year, compared with 3.8% of Hispanic men and 3.1% of non-Hispanic white men. Non-Hispanic black men were also more likely than the other groups of men shown to have exchanged drugs or money for sex in the past year and to have had a female partner in the past year who injected illicit drugs. Non-Hispanic black men (6.7%) were more likely than Hispanic (2.3%) or non-Hispanic white men (2.0%) to report STD treatment in the past year, and a similar pattern was seen by race and Hispanic origin among women.

With regard to the summary measure showing any HIV risk-related behaviors, non-Hispanic black men and women show higher percentages than the other two groups shown. For men, this race and origin differential appears driven by the higher percentages of non-Hispanic black men who, in the past year, had STD treatment, had five or more female partners, or had exchanged drugs or money for sex. For women, the key variable appears to be the higher percentages of non-Hispanic black women who had STD treatment in the past year; when STD treatment is excluded (in the 1–9 summary measure), there is no significant differential seen in sexual behavior risk among women by race and Hispanic origin.

Variations in selected summary measures of HIV risk-related behavior in the past year are shown for men and women according to sociodemographic characteristics ([Tables 3](#) and [4](#)). Given the relatively high percentages of men and women reporting five or more



**Figure 1. Percentage reporting specified HIV risk-related behaviors in the past year, by sex: United States, 2002 and 2006–2010**

opposite-sex partners or STD treatment in the past year, these variables are shown separately, in addition to the three summary measures of HIV risk-related sexual and drug behaviors.

*Five or more opposite-sex partners in past year*—Among the race and origin groups shown, the highest percentages were seen for non-Hispanic black men (9.1%) and women (2.5%). Overall, a higher percentage of men than women reported five or more opposite-sex partners in the past year. There were several notable sex differences by other sociodemographic characteristics shown in Tables 3 and 4. Looking at marital or cohabiting status, the highest percentage for women was seen among those who were never married but had ever had vaginal intercourse (5.2%). For men, the highest percentage was seen among those formerly married who were not currently cohabiting (12.5%). For women aged 22–44 years, the highest

percentage reporting five or more opposite-sex partners in the past year was among those with less than a high school education (2.8%), and for men aged 22–44, the highest percentage was among those with some college education, but no bachelor's degree (5.1%). Among women, metropolitan residence and poverty level were not significantly associated with having five or more opposite-sex partners in the past year. However, for men, higher percentages with five or more partners in the past year were seen among those living in central cities (4.8%) and those with household incomes less than 150% of poverty (5.1%).

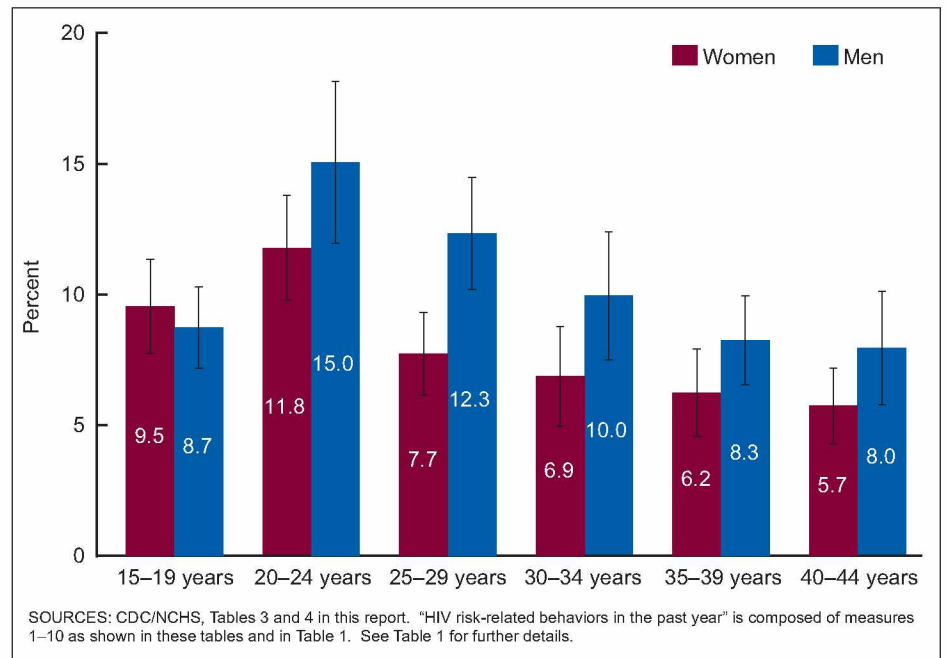
*STD treatment in past year*—Although higher percentages of women than men reported STD treatment in the past year, men and women showed similar patterns by age, education, and race and Hispanic origin. For example, men (4.4%) and women (7.4%) in the 20–24 age group showed the highest

percentages treated for an STD in the past year. With regard to metropolitan residence and poverty level, no significant association was seen for men with STD treatment in the past year, but among women, higher percentages of recent STD treatment were seen among women living in central cities (5.1%) and those at less than 150% of poverty (5.7%).

*Summary measures of HIV risk-related sexual and drug behaviors*—The final columns in Tables 3 and 4 show two summary variables: any HIV risk-related sexual behavior (measures 1–6) and any HIV risk-related behavior (measures 1–10). Although the percentages for these summary measures are naturally higher than those reporting individual measures, the patterns in both of these summary measures with respect to the background characteristics shown are generally the same as those described above for five or more opposite-sex partners or STD treatment

in the past year. This is to be expected because these two measures were the most commonly reported components included in these summary measures (1–6 and 1–10). Using the broadest measure (1–10), a similar pattern by age is seen for men and women, with the highest percentages seen for men and women aged 20–24 years (Figure 2).

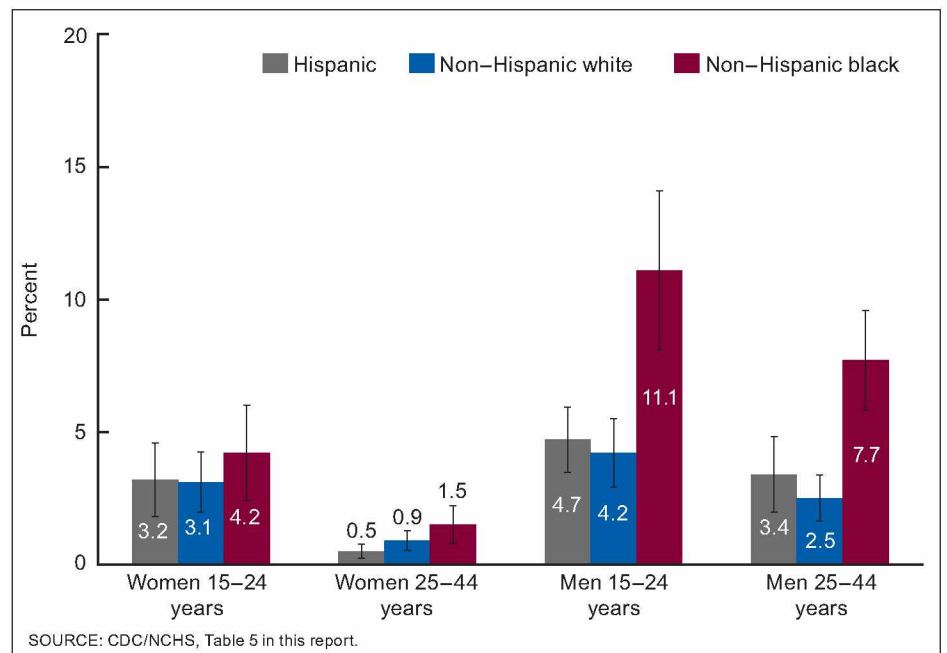
Given the differences by age and race and Hispanic origin in the two summary measures for HIV risk-related sexual behavior (1–6) and overall risk (1–10), and in the individual measures for five or more opposite-sex partners in the past year (measure 2), and STD treatment in the past year (measure 10), further detail on these measures is shown for men and women, aged 15–24 and 25–44 years (Table 5, Figures 3 and 4). Men aged 15–24 had higher percentages than men aged 25–44 for all the measures presented in Table 5. In addition, non-Hispanic black men at all ages had higher percentages than Hispanic or non-Hispanic white men for all four measures shown. For example, 16% of non-Hispanic black men aged 15–24 reported at least one of the six HIV risk-related sexual behaviors, compared with 8.7% of Hispanic men and 6.5% of non-Hispanic white men 15–24 (Table 5). Among women aged 15–24, no statistically significant difference was seen by race and origin in the reporting of five or more opposite-sex partners in the past year (Figure 3). Regardless of age, non-Hispanic black women were more likely than non-Hispanic white or Hispanic women to have had STD treatment in the past year, but the difference was more substantial among those aged 15–24 years; 11% of non-Hispanic black women aged 15–24 had STD treatment in the past year, compared with 3.8% of Hispanic women and 4.6% of non-Hispanic white women in this age group (Figure 4). Driven by these patterns in recent STD treatment by race among women, only the summary measure that includes STD treatment (measures 1–10) showed a significant association with race and Hispanic origin among women aged 15–24 years.



**Figure 2. Percentage reporting one or more HIV risk-related behaviors in the past year among men and women aged 15–44 years, by age: United States, 2006–2010**

*Prison and military experience among men aged 25–44 years*—For men aged 25–44 years, two additional variables are shown related to prison and military experience (Table 4). Having any experience in a prison, jail, or juvenile detention center, but particularly being in one of these types of facilities within the last 12 months, is

associated with every HIV risk-related measure shown. For example, looking at the broadest summary measure (any reporting of measures 1–10), 27% of men aged 25–44 years who have had prison experience in the past year reported at least one of these behaviors, compared with 13% of those with prison experience longer ago, and 7.0% of

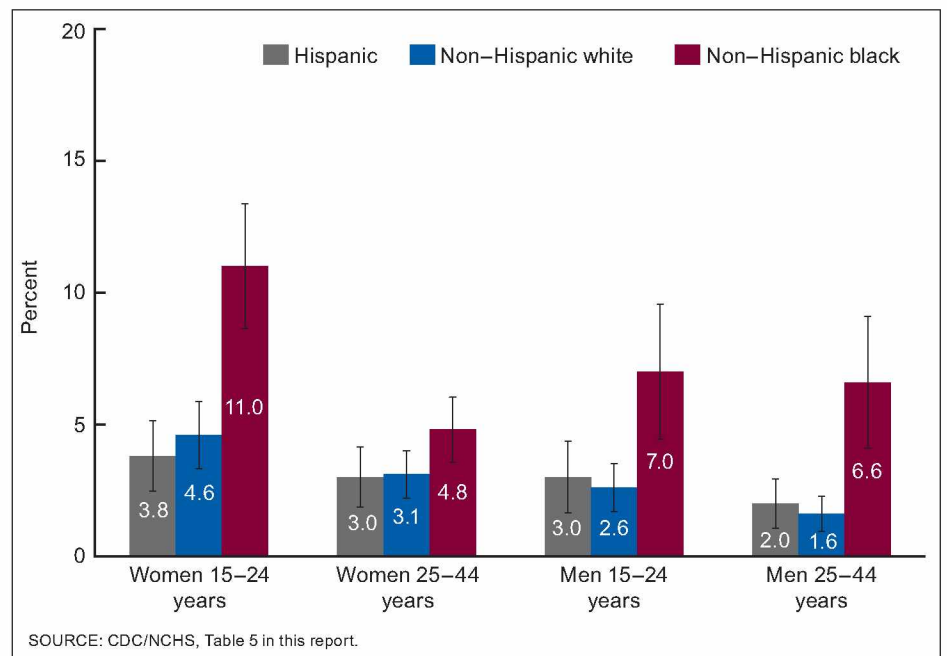


**Figure 3. Percentage with five or more opposite-sex partners in the past year, by sex, age, and race and Hispanic origin: United States, 2006–2010**



those with no prison experience. With regard to military experience, a lower percentage of men aged 25–44 years who ever served in the military (6.8%) reported any of the HIV risk-related behaviors than men with no military experience (10%). No difference was seen for HIV risk-related drug behavior by military experience, but men who have served in the military had a lower percentage reporting any sexual behavior risk (4.8%) than did men with no military service (6.9%).

Multiple data sources have documented the variation in both marital status and prison experience among men by race and Hispanic origin. In particular, non-Hispanic black men are significantly less likely than non-Hispanic white and Hispanic men to marry (52.53) and more likely than non-Hispanic white men to have prison experience (54). Given the associations of these factors with the HIV risk-related behaviors described in this report, the percentages reporting these risk-related behaviors are shown separately for non-Hispanic white and non-Hispanic black men aged 25–44 years, by marital status and prison experience (Table 6). Among both non-Hispanic white and non-Hispanic black men in this age group, those formerly married or never married were more likely than currently married or cohabiting men to report at least one of the HIV risk-related measures (1–10) described in this report. This was driven by the sexual behavior measures included (1–6) rather than the drug related behaviors where no significant variation was seen by marital or cohabiting status. Similar percentages of formerly married non-Hispanic white and black men (10–11%) reported five or more female partners in the past year, but a higher percentage of never married non-Hispanic black men (15%) than non-Hispanic white men (5%) reported five or more partners in the past year. Sex in exchange for money or drugs was reported more often by non-Hispanic black men than non-Hispanic white men; for example, 6.6% of never married non-Hispanic black men reported this behavior in the past year,



**Figure 4. Percentage treated for a sexually transmitted disease in the past year, by sex, age, and race and origin: United States, 2006–2010**

compared with 1.4% of never married non-Hispanic white men.

Among men with prison experience in the past year, 23% of non-Hispanic white men and 38% of non-Hispanic black men reported at least one of the HIV risk-related measures (1–10) described in this report. Non-Hispanic black men with recent prison experience were more likely than non-Hispanic white men with recent prison experience to report five or more female partners in the past year (19%, compared with 5.3%), exchange of sex for drugs or money in the past year (13%, compared with 1.3%), and STD treatment in the past year (16%, compared with 4.3%). No statistically significant difference was seen in HIV risk-related drug behavior between non-Hispanic white and black men with recent prison experience.

The final table in this report (Table 7) focuses on a specific HIV-preventive measure, male condom use at last sexual encounter, among different HIV risk-related subgroups. Condom use at last sex is often used as a reasonable proxy for general use of this preventive measure (see “Methods” section). Among men with at least one sexual partner (male or female) in the past year, a higher percentage (35%) in

2006–2010 reported using condoms at last sex than in 2002 (30%). Among women with at least one male partner in the past year, the percentage using condoms at last sex did not change significantly between 2002 and 2006–2010.

In 2006–2010, a higher percentage of non-Hispanic black men (48%) reported using condoms at last sex than did Hispanic men (38%) and non-Hispanic white men (32%). Similarly, non-Hispanic black women were more likely (39%) to report condom use at last sex than Hispanic women (27%) and non-Hispanic white women (23%). While the temporal ordering of these events is not known, non-Hispanic black women treated for an STD in the past year were more likely (45%) to report condom use at their last sex than were non-Hispanic white women treated for an STD in the past year (21%). Sample sizes precluded comparison of condom use at last sex by race and Hispanic origin among men treated for an STD in the past year.

Looking at men who reported any HIV risk-related sexual behavior measures (1–6) in the past year, 70% of non-Hispanic black men and 61% of Hispanic men used a condom at their last sex, compared with 44% of

non-Hispanic white men in this same risk subgroup. A similar pattern, albeit with lower percentages, was seen for women who reported any sexual risk behaviors (1–6) in the past year: Fifty percent of non-Hispanic black women used condoms at their last vaginal intercourse, compared with 37% of Hispanic women and 34% of non-Hispanic white women in this risk subgroup.

## Conclusion

This report provides basic statistics on the prevalence and correlates of selected HIV risk-related behaviors among persons aged 15–44 years in household populations of the United States. The data collected in the 2006–2010 NSFG indicate that an estimated 9.2 percent of persons aged 15–44 (approximately 11.4 million people) in the United States household population engaged in at least one of these behaviors that may increase risk for acquiring HIV.

Further analyses of the NSFG data, as well as comparisons with other household surveys, are needed to fully understand and describe trends over time, as the data included in this report are subject to the limitations described previously in this report. However, the trends seen with illicit drug use in the 2002 and 2006–2010 NSFG appear to mirror the decreases in illicit drug use reported based on the National Survey on Drug Use and Health (NSDUH), another large national, household-based survey. Specifically, an analysis comparing 2006–2007 NSDUH with 2007–2008 NSDUH showed statistically significant decreases in reported illicit drug use in the past month, illicit drug use other than marijuana in the past month, and cocaine use in the past year (29). Looking at trends in the reporting of five or more opposite-sex partners in the past year, the combined 2000–2002 and 2006–2010 General Social Survey (GSS) data show a similar decrease to what is seen with 2002 and 2006–2010 NSFG data (55).

Additional work is ongoing to evaluate and improve measurement techniques, to collect data needed to

evaluate prevention programs, and to identify those population groups most at risk (56,57). For the first time in U.S. history, a national strategy has been developed to fight the domestic HIV epidemic (58). As part of that strategy, state and local health departments as well as federal agencies are expected to monitor progress toward the strategy's goals. In combination with local surveys and surveys of high-risk populations, nationally representative, population-based surveys like the NSFG can help to determine the size and characteristics of populations most at risk and monitor the overall effectiveness of HIV prevention strategies.

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**Table 1. Percentage reporting specified HIV risk-related behaviors in the past 12 months among men and women aged 15–44 years: United States, 2002 and 2006–2010**

HIV risk-related behavior in past 12 months	Total		Male		Female	
	2002	2006–2010	2002	2006–2010	2002	2006–2010
Numbers in thousands . . . . .	122,708	123,883	61,147	62,128	61,561	61,755
	Percent (SE)	Percent (SE)	Percent (SE)	Percent (SE)	Percent (SE)	Percent (SE)
1. Male-to-male sex . . . . .	...	...	2.7 (0.33)	2.1 (0.23)	...	...
2. Five or more opposite-sex sex partners . . . . .	3.5 (0.25)	2.8 (0.17)	4.6 (0.39)	3.9 (0.28)	2.4 (0.25)	*1.8 (0.17)
3. Sex in exchange for money or drugs . . . . .	2.3 (0.18)	1.0 (0.10)	2.6 (0.25)	#1.3 (0.13)	2.0 (0.21)	*#0.7 (0.11)
4. Women with male partners who had sex with other males. . . . .	...	...	...	...	2.3 (0.22)	#1.4 (0.15)
5. Sex partner who injects illicit drugs . . . . .	2.6 (0.19)	0.7 (0.06)	2.3 (0.30)	#0.7 (0.10)	2.9 (0.24)	#0.8 (0.10)
6. HIV-positive sex partner . . . . .	0.5 (0.09)	0.1 (0.02)	0.5 (0.16)	0.1 (0.04)	0.5 (0.09)	0.1 (0.02)
7. Illicit drug injection . . . . .	0.4 (0.07)	0.3 (0.04)	0.5 (0.12)	0.3 (0.07)	0.3 (0.09)	0.2 (0.06)
8. Crack cocaine use . . . . .	1.3 (0.16)	0.8 (0.10)	1.8 (0.27)	#0.8 (0.12)	0.8 (0.15)	0.7 (0.13)
9. Crystal methamphetamine use . . . . .	n/a	0.9 (0.14)	n/a	1.1 (0.18)	n/a	0.8 (0.13)
10. Treatment for a sexually transmitted disease (STD). . . . .	3.0 (0.22)	3.3 (0.18)	2.6 (0.32)	2.6 (0.23)	3.4 (0.21)	*#4.1 (0.26)
<i>Summary measures for HIV risk-related behaviors in past 12 months:</i>						
Any HIV risk-related <u>sexual</u> behavior (1–6) . . . . .	8.9 (0.42)	5.6 (0.26)	10.2 (0.57)	#7.2 (0.41)	7.6 (0.45)	*#3.9 (0.25)
Any HIV risk-related <u>drug</u> behavior (7–9) <sup>1</sup> . . . . .	1.5 (0.17)	1.5 (0.15)	2.0 (0.29)	1.8 (0.20)	1.0 (0.16)	*1.2 (0.16)
Any HIV risk-related <u>sexual or drug</u> behavior (1–9) <sup>1</sup> . . . . .	9.9 (0.46)	6.5 (0.29)	11.6 (0.64)	8.4 (0.46)	8.3 (0.47)	*#4.6 (0.28)
Any of the HIV risk-related behaviors listed above (1–10) <sup>1</sup> . . . . .	11.9 (0.48)	9.2 (0.33)	13.0 (0.71)	10.4 (0.51)	10.8 (0.43)	*#8.0 (0.38)

SE Standard error.

... Category not applicable.

\* Male and female difference in 2006–2010 is statistically significant,  $p < 0.05$ .# 2002 versus 2006–2010 difference within sex group is statistically significant,  $p < 0.05$ .

n/a Not asked.

<sup>1</sup>Crystal methamphetamine use was not asked about in 2002, so for 2002, this measure is based only on number 7 (illicit drug injection) and number 8 (crack cocaine use). Significance of change between 2002 and 2006–2010 was therefore not assessed.

NOTES: Sex with opposite-sex partners includes vaginal, oral, or anal sex. Male-to-male sex refers to oral or anal sex between male partners. Respondents can report as many of these behaviors as might apply. Percentages may add to more than the summary measures shown.

SOURCES: CDC/NCHS, National Survey of Family Growth, 2002 and 2006–2010, conducted by NCHS. Figures for 2002 were published in Table 1 of Advance Data Number 377, reference 8.

**Table 2. Percentage reporting specified HIV risk-related behaviors in the past 12 months among men and women aged 15–44 years, by race and Hispanic origin: United States, 2006–2010**

HIV risk-related behavior in past 12 months	Hispanic or Latino	Non-Hispanic white, single race	Non-Hispanic black, single race
Men 15–44 years			
Numbers in thousands . . . . .	11,847	37,283	7,341
		Percent (standard error)	
1. Male-to-male sex . . . . .	1.9 (0.35)	2.0 (0.29)	2.1 (0.44)
2. Five or more opposite-sex sex partners . . . . .	3.8 (0.54)	3.1 (0.37)	*9.1 (0.80)
3. Sex in exchange for money or drugs . . . . .	1.9 (0.38)	0.8 (0.12)	*3.4 (0.53)
4. Women with male partners who had sex with other males . . . . .	...	...	...
5. Sex partner who injects illicit drugs . . . . .	0.7 (0.17)	0.6 (0.13)	*1.7 (0.46)
6. HIV-positive sex partner . . . . .	DSU	0.1 (0.06)	0.2 (0.14)
7. Illicit drug injection . . . . .	DSU	0.4 (0.10)	0.4 (0.20)
8. Crack cocaine use . . . . .	1.2 (0.35)	0.7 (0.12)	1.4 (0.36)
9. Crystal methamphetamine use . . . . .	1.9 (0.43)	0.9 (0.24)	*0.5 (0.19)
10. Treatment for a sexually transmitted disease (STD) . . . . .	2.3 (0.41)	2.0 (0.27)	*6.7 (0.97)
<i>Summary measures for HIV risk-related behaviors in past 12 months:</i>			
Any HIV risk-related <u>sexual</u> behavior (1–6) . . . . .	7.5 (0.72)	6.0 (0.51)	*13.9 (0.91)
Any HIV risk-related <u>drug</u> behavior (7–9) . . . . .	2.8 (0.48)	1.6 (0.25)	1.6 (0.37)
Any HIV risk-related <u>sexual or drug</u> behavior (1–9) . . . . .	9.9 (0.84)	7.0 (0.56)	*14.6 (0.98)
Any of the HIV risk-related behaviors listed above (1–10) . . . . .	11.8 (0.89)	8.5 (0.61)	*19.2 (1.11)
Women 15–44 years			
Numbers in thousands . . . . .	10,474	37,384	8,451
		Percent (standard error)	
1. Male-to-male sex . . . . .	...	...	...
2. Five or more opposite-sex sex partners . . . . .	1.4 (0.26)	1.6 (0.23)	2.5 (0.41)
3. Sex in exchange for money or drugs . . . . .	0.6 (0.17)	0.7 (0.16)	1.3 (0.27)
4. Women with male partners who had sex with other males . . . . .	1.7 (0.33)	1.3 (0.22)	1.3 (0.29)
5. Sex partner who injects illicit drugs . . . . .	0.8 (0.23)	0.8 (0.15)	0.5 (0.18)
6. HIV-positive sex partner . . . . .	0.2 (0.09)	DSU	DSU
7. Illicit drug injection . . . . .	DSU	0.2 (0.04)	DSU
8. Crack cocaine use . . . . .	0.2 (0.08)	0.7 (0.17)	*0.4 (0.13)
9. Crystal methamphetamine use . . . . .	1.0 (0.32)	0.7 (0.16)	*0.1 (0.08)
10. Treatment for a sexually transmitted disease (STD) . . . . .	3.3 (0.48)	3.6 (0.38)	*7.0 (0.63)
<i>Summary measures for HIV risk-related behaviors in past 12 months:</i>			
Any HIV risk-related <u>sexual</u> behavior (1–6) . . . . .	4.0 (0.43)	3.5 (0.34)	5.0 (0.54)
Any HIV risk-related <u>drug</u> behavior (7–9) . . . . .	1.0 (0.32)	1.3 (0.21)	*0.5 (0.14)
Any HIV risk-related <u>sexual or drug</u> behavior (1–9) . . . . .	5.0 (0.49)	4.2 (0.36)	5.3 (0.56)
Any of the HIV risk-related behaviors listed above (1–10) . . . . .	7.5 (0.59)	7.3 (0.54)	*10.8 (0.75)

\* Indicates that the differences in the percentages among the categories of race or ethnicity are significant at the .05 level using a weighted Wald Chi-Square test.

... Category not applicable.

DSU Data statistically unreliable due to numerators smaller than five cases.

NOTE: Sex with opposite-sex partners includes vaginal, oral, or anal sex. "Male-to-male sex" refers to oral or anal sex between male partners.

SOURCE: CDC/NCHS, National Survey of Family Growth, 2006–2010, conducted by NCHS.

**Table 3. Percentage reporting specified HIV risk-related behaviors in the past 12 months among women aged 15–44 years, by selected characteristics: United States, 2006–2010**

Characteristic	Five or more opposite-sex partners (2) <sup>1</sup>			Treatment for a sexually transmitted disease (STD) (10) <sup>1</sup>		Any HIV risk-related drug behavior (7–9) <sup>1</sup>		Any HIV risk-related sexual behaviors (1–6) <sup>1</sup>		Any of the HIV risk-related behaviors (1–10) <sup>1</sup>	
	Numbers in thousands	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All women 15–44 years <sup>2</sup>	61,755	1.8	0.17	4.1	0.26	1.2	0.16	3.9	0.25	8.0	0.38
Age											
15–24 years	20,842	3.3	*0.42	5.9	*0.49	1.3	*0.28	5.5	*0.51	10.7	*0.65
15–19 years	10,478	3.5	0.58	4.3	0.54	1.1	0.29	5.8	0.76	9.5	0.91
20–24 years	10,365	3.2	0.62	7.4	0.88	1.5	0.44	5.2	0.69	11.8	1.02
25–44 years	40,912	0.9	0.13	3.2	0.31	1.1	0.19	3.1	0.25	6.6	0.43
25–29 years	10,535	1.6	0.27	4.0	0.60	0.9	0.31	3.7	0.48	7.7	0.81
30–34 years	9,188	1.3	0.44	3.7	0.81	0.9	0.22	3.4	0.67	6.9	0.98
35–39 years	10,538	0.6	0.21	2.9	0.58	1.2	0.46	2.7	0.45	6.2	0.85
40–44 years	10,652	0.3	0.10	2.1	0.45	1.5	0.45	2.5	0.50	5.7	0.74
Marital or cohabiting status											
Currently married	25,605	0.3	*0.14	2.3	*0.37	0.4	*0.11	1.8	*0.30	4.3	*0.51
Currently cohabiting	6,910	0.6	0.23	4.7	0.68	2.7	0.77	3.3	0.58	9.8	1.00
Formerly married, not cohabiting	5,659	2.1	0.44	5.1	0.89	3.8	0.99	6.2	1.03	12.5	1.39
Never married, not cohabiting	23,580	3.6	0.41	5.5	0.42	1.0	0.21	5.7	0.49	10.4	0.56
Ever had vaginal intercourse	15,334	5.2	0.62	8.0	0.60	1.4	0.32	8.5	0.74	15.2	0.80
Never had vaginal intercourse <sup>3</sup>	8,247	0.5	0.25	1.0	0.31	0.3	0.14	0.6	0.27	1.5	0.38
Education <sup>4</sup>											
No high school diploma or GED	14,809	2.8	*0.40	5.6	*0.49	1.6	*0.30	5.6	*0.55	10.7	*0.69
High school diploma or GED	14,704	2.0	0.38	4.2	0.52	1.7	0.41	4.8	0.58	9.2	0.77
Some college, no bachelor's degree	17,123	1.3	0.24	3.7	0.46	1.4	0.32	3.2	0.38	7.3	0.60
Bachelor's degree or higher	15,119	0.9	0.23	2.8	0.53	DSU	DSU	2.1	0.32	5.0	0.67
Metropolitan residence											
Metropolitan, central city	20,024	1.9	0.27	5.1	*0.51	1.1	0.20	4.6	0.42	9.5	*0.70
Metropolitan, noncentral city	29,497	1.6	0.25	3.6	0.32	1.2	0.23	3.5	0.40	7.2	0.50
Nonmetropolitan	12,234	1.9	0.35	3.7	0.65	1.5	0.50	3.7	0.51	7.5	0.99
Percent of poverty level <sup>5</sup>											
0–149%	16,695	2.0	0.31	5.7	*0.56	1.8	0.38	4.7	*0.45	10.4	*0.73
150%–299%	14,992	1.5	0.30	3.9	0.52	1.1	0.29	3.7	0.49	7.9	0.72
300% or more	19,590	0.9	0.26	2.7	0.41	0.8	0.24	2.3	0.37	5.3	0.56
Hispanic origin and race											
Hispanic or Latina	10,474	1.4	*0.26	3.3	*0.48	1.0	*0.32	4.0	*0.43	7.5	*0.59
U.S.-born	5,369	2.3	0.49	3.8	0.68	1.7	0.56	4.6	0.69	8.9	0.97
Not U.S.-born	5,104	0.5	0.23	2.7	0.59	0.4	0.20	3.3	0.55	6.1	0.72
Non-Hispanic	51,281	1.8	0.20	4.2	0.30	1.2	0.19	3.9	0.28	8.1	0.43
White, single race	37,384	1.6	0.23	3.6	0.38	1.3	0.21	3.5	0.34	7.3	0.54
Black, single race	8,451	2.5	0.41	7.0	0.63	0.5	0.14	5.0	0.54	10.8	0.75
Asian or Pacific Islander, single race	2,456	0.9	0.56	2.1	1.22	DSU	DSU	3.3	0.92	5.5	1.53

\* Indicates that the differences in the percentages between the categories of that variable are significant at the .05 level using a weighted Wald Chi-Square test.

DSU Data statistically unreliable due to numerators smaller than five cases.

<sup>1</sup>The numbers in parentheses correspond to the numbering shown in Table 1. "Sex partners" include those with whom respondent had vaginal, oral, or anal sex. Measure 1 included in "1–6" and "1–10" is not applicable for women because it indicates male-to-male sex.

<sup>2</sup>Total includes women of other or multiple-race groups, not shown separately. Also includes women with missing information on selected variables shown.

<sup>3</sup>Those who never had vaginal intercourse may have had oral or anal sex with an opposite-sex partner.

<sup>4</sup>Limited to women aged 22–44 years at time of interview. GED is General Educational Development diploma.

<sup>5</sup>Limited to women aged 20–44 years at time of interview.

SOURCE: CDC/NCHS, National Survey of Family Growth, 2006–2010, conducted by NCHS.

**Table 4. Percentage reporting specified HIV risk-related behaviors in the past 12 months among men aged 15–44 years, by selected characteristics: United States, 2006–2010**

Characteristic	Five or more opposite-sex partners (2) <sup>1</sup>			Treatment for a sexually transmitted disease (STD) (10) <sup>1</sup>		Any HIV risk-related drug behavior (7–9) <sup>1</sup>		Any HIV risk-related sexual behaviors (1–6) <sup>1</sup>		Any of the HIV risk-related behaviors (1–10) <sup>1</sup>	
	Numbers in thousands	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
All men 15–44 years <sup>2</sup>	62,128	3.9	0.28	2.6	0.23	1.8	0.20	7.2	0.41	10.4	0.51
Age											
15–24 years	21,210	5.2	*0.50	3.2	*0.36	1.7	*0.25	8.3	*0.72	11.9*	0.86
15–19 years	10,817	3.6	0.52	2.0	0.31	1.4	0.33	6.2	0.65	8.7	0.79
20–24 years	10,394	6.8	0.97	4.4	0.69	2.0	0.48	10.5	1.34	15.0	1.58
25–44 years	40,917	3.2	0.34	2.2	0.28	1.8	0.27	6.7	0.47	9.6	0.59
25–29 years	10,758	4.7	0.68	3.2	0.62	2.4	0.62	8.6	0.80	12.3	1.09
30–34 years	9,228	3.9	0.77	2.3	0.49	2.0	0.56	6.5	0.93	10.0	1.25
35–39 years	10,405	2.3	0.40	1.9	0.48	1.7	0.40	5.8	0.77	8.3	0.87
40–44 years	10,526	1.9	0.61	1.6	0.58	1.1	0.27	5.9	0.89	8.0	1.11
Marital or cohabiting status											
Currently married	23,357	0.7	*0.18	1.3	*0.29	0.8	*0.22	1.5	*0.28	3.2	*0.43
Currently cohabiting	7,554	3.1	0.73	4.4	1.01	3.1	0.84	4.9	0.86	11.0	1.49
Formerly married, not cohabiting	3,250	12.5	2.41	3.2	0.89	4.4	1.21	17.2	2.65	22.0	2.88
Never married, not cohabiting	27,967	5.8	0.44	3.0	0.35	1.9	0.22	11.5	0.68	14.9	0.77
Ever had sexual intercourse	18,850	8.4	0.63	4.2	0.50	2.5	0.33	13.9	0.78	18.4	0.82
Never had sexual intercourse <sup>3</sup>	9,117	0.4	0.27	0.6	0.18	0.7	0.33	6.5	1.13	7.4	1.17
Education <sup>4</sup>											
No high school diploma or GED	17,997	3.7	*0.42	3.3	*0.52	3.1	*0.51	6.8	0.60	11.8	*0.87
High school diploma or GED	15,002	4.3	0.54	2.1	0.33	1.6	0.30	7.6	0.68	10.5	0.83
Some college, no bachelor's degree	16,343	5.1	0.77	3.0	0.41	1.4	0.31	8.1	0.96	10.8	1.05
Bachelor's degree or higher	12,785	2.1	0.46	1.4	0.34	0.6	0.18	6.4	0.87	7.8	0.99
Metropolitan residence											
Metropolitan, central city	20,460	4.8	*0.45	3.0	0.32	2.0	0.33	9.4	*0.59	12.9	*0.76
Metropolitan, noncentral city	29,272	3.6	0.46	2.2	0.34	1.4	0.22	6.7	0.62	9.3	0.72
Nonmetropolitan	12,395	3.0	0.64	2.6	0.61	2.4	0.61	5.1	0.85	8.9	1.20
Percent of poverty level <sup>5</sup>											
0–149%	12,498	5.1	*0.60	4.0	0.70	3.0	*0.61	9.7	*0.97	15.3	*1.30
150%–299%	14,841	3.2	0.48	2.3	0.49	2.4	0.47	5.8	0.66	9.3	0.84
300% or more	23,972	3.8	0.53	2.2	0.31	0.9	0.16	7.3	0.68	9.3	0.76
Hispanic origin and race											
Hispanic or Latino	11,847	3.8	*0.54	2.3	*0.41	2.8	0.48	7.5	*0.72	11.8	*0.89
U.S.-born	5,741	4.9	0.74	2.5	0.56	3.5	0.79	9.0	0.97	13.7	1.24
Not U.S.-born	6,100	2.8	0.64	2.2	0.58	2.0	0.70	6.2	0.98	10.1	1.28
Non-Hispanic	50,280	3.9	0.32	2.6	0.28	1.5	0.21	7.2	0.46	10.1	0.57
White, single race	37,283	3.1	0.37	2.0	0.27	1.6	0.25	6.0	0.51	8.5	0.61
Black, single race	7,341	9.1	0.80	6.7	0.97	1.6	0.37	13.9	0.91	19.2	1.11
Asian or Pacific Islander, single race	2,406	DSU	DSU	DSU	DSU	0.8	0.40	3.8	1.37	4.9	1.39
Experience with prison, jail, or detention center <sup>6</sup>											
Never	28,669	2.0	*0.32	1.8	*0.32	0.5	*0.12	5.3	*0.50	7.0	*0.59
Ever, but not in past 12 months	9,582	5.5	0.82	2.3	0.50	3.1	0.54	8.7	1.02	12.9	1.26
Within past 12 months	2,453	8.7	1.46	6.7	1.76	12.5	2.85	15.5	1.87	27.0	3.06
Ever served in military <sup>6</sup>											
Yes	4,253	3.0	0.79	1.6	0.60	1.4	0.47	4.8	*0.92	6.8	*1.12
No	36,656	3.2	0.37	2.3	0.30	1.9	0.29	6.9	0.50	10.0	0.64

\* Indicates that the differences in the percentages between the categories of that variable are significant at the .05 level using a weighted Wald Chi-Square test.

DSU Data statistically unreliable due to numerators smaller than five cases.

<sup>1</sup>This number in parentheses correspond to the numbering shown in Table 1. Measure 4 included in "1–6" and "1–10" is not applicable for men because it indicates women who had male partners in the past year who also had sex with men.

<sup>2</sup>Total includes men of other or multiple-race groups, not shown separately. Also includes men with missing information on selected variables shown.

<sup>3</sup>Those who never had vaginal intercourse may have had oral or anal sex with an opposite-sex or same-sex partner.

<sup>4</sup>Limited to men aged 22–44 years at time of interview. GED is General Educational Development diploma.

<sup>5</sup>Limited to men aged 20–44 years at time of interview.

<sup>6</sup>Limited to men aged 25–44 years at time of interview.

SOURCE: CDC/NCHS, National Survey of Family Growth, 2006–2010, conducted by NCHS.



**Table 5. Percentage reporting specified HIV risk-related behaviors in the past 12 months among men and women aged 15–44 years, by age and race and Hispanic origin: United States, 2006–2010**

Characteristic	Numbers in thousands	Five or more opposite-sex partners (2) <sup>1</sup>		Treatment for a sexually transmitted disease (STD) (10) <sup>1</sup>		Any HIV risk-related sexual behaviors (1–6) <sup>1</sup>		Any of the HIV risk-related behaviors (1–10) <sup>1</sup>	
		Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
<b>Men</b>									
All men 15–44 years <sup>2</sup> . . . . .	62,128	3.9	0.28	2.6	0.23	7.2	0.41	10.4	0.51
15–24 years . . . . .	21,210	5.2	*0.50	3.2	*0.36	8.3	*0.72	11.9	*0.86
Hispanic or Latino . . . . .	3,831	4.7	0.63	3.0	0.69	8.7	0.93	13.9	1.45
Non-Hispanic white, single race . . . . .	12,703	4.2	0.66	2.6	0.46	6.5	0.86	9.3	1.02
Non-Hispanic black, single race . . . . .	2,923	11.1	1.53	7.0	1.31	16.0	1.77	20.9	1.86
25–44 years . . . . .	40,917	3.2	*0.34	2.2	*0.28	6.7	*0.47	9.6	*0.59
Hispanic or Latino . . . . .	8,016	3.4	0.73	2.0	0.48	7.0	0.94	10.9	1.19
Non-Hispanic white, single race . . . . .	24,580	2.5	0.44	1.6	0.34	5.8	0.60	8.0	0.71
Non-Hispanic black, single race . . . . .	4,418	7.7	0.96	6.6	1.28	12.6	1.09	18.1	1.58
<b>Women</b>									
All women 15–44 years <sup>2</sup> . . . . .	61,755	1.8	0.17	4.1	0.26	3.9	0.25	8.0	0.38
15–24 years . . . . .	20,842	3.3	0.42	5.9	*0.49	5.5	0.51	10.7	*0.65
Hispanic or Latina . . . . .	3,637	3.2	0.71	3.8	0.68	6.2	0.89	9.8	1.02
Non-Hispanic white, single race . . . . .	12,207	3.1	0.58	4.6	0.65	5.1	0.70	9.4	0.95
Non-Hispanic black, single race . . . . .	3,059	4.2	0.92	11.0	1.21	5.9	0.94	14.4	1.37
25–44 years . . . . .	40,912	0.9	*0.13	3.2	*0.31	3.1	0.25	6.6	0.43
Hispanic or Latina . . . . .	6,836	0.5	0.13	3.0	0.58	2.9	0.49	6.4	0.72
Non-Hispanic white, single race . . . . .	25,177	0.9	0.19	3.1	0.46	2.7	0.35	6.3	0.59
Non-Hispanic black, single race . . . . .	5,392	1.5	0.36	4.8	0.63	4.5	0.70	8.8	0.85

\* Indicates that the differences in the percentages between the race and origin categories within that age group are significant at the .05 level using a weighted Wald Chi-Square test.

<sup>1</sup>The numbers in parentheses correspond to the numbering shown in Table 1. "Sex partners" include those with whom respondent had vaginal, oral, or anal sex. Measure 1 included in "1–6" and "1–10" is not applicable for women because it indicates male-to-male sex. Measure 4 included in "1–6" and "1–10" is not applicable for men because it indicates women who had male partners in the past year who also had sex with men.

<sup>2</sup>Total includes persons of other or multiple-race groups, not shown separately.

SOURCE: CDC/NCHS, National Survey of Family Growth, 2006–2010, conducted by NCHS.

**Table 6. Percentage of men aged 25–44 years reporting specified HIV risk-related behaviors in the past 12 months, by marital status, prison experience, and race and Hispanic origin: United States, 2006–2010**

Characteristic	Five or more female sex partners (2) <sup>1</sup>			Sex in exchange for money or drugs (3) <sup>1</sup>		Treatment for a sexually transmitted disease (STD) (10) <sup>1</sup>		Any HIV risk-related drug behavior (7–9) <sup>1</sup>		Any HIV risk-related sexual behaviors (1–6) <sup>1</sup>		Any of the HIV risk-related behaviors (1–10) <sup>1</sup>	
	Numbers in thousands	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
<b>Men 25–44 years<sup>2</sup></b>	40,917	3.2	0.34	1.3	0.18	2.2	0.28	1.8	0.27	6.7	0.47	9.6	0.59
Marital or cohabiting status													
Currently married	22,119	0.6	0.16	0.5	0.19	1.2	0.26	0.8	0.22	1.5	0.28	3.0	0.42
Currently cohabiting	5,746	2.9	0.86	1.0	0.35	3.9	1.00	3.2	0.95	4.9	0.96	10.4	1.53
Formerly married, not cohabiting	3,154	12.4	2.40	3.4	0.99	3.3	0.91	4.4	1.24	17.1	2.65	21.9	2.89
Never married, not cohabiting	9,898	6.4	0.82	2.6	0.32	3.4	0.70	2.5	0.42	16.2	1.14	20.2	1.24
Experience with prison, jail, or detention center													
Never	28,668	2.0	0.32	0.9	0.16	1.8	0.32	0.5	0.12	5.3	0.50	7.0	0.59
Ever, but not in past 12 months	9,582	5.5	0.82	1.9	0.42	2.3	0.50	3.1	0.54	8.7	1.02	12.9	1.26
Within past 12 months	2,453	8.7	1.46	4.2	1.37	6.7	1.77	12.5	2.85	15.5	1.87	27.0	3.06
<b>Non-Hispanic white men 25–44 years<sup>2</sup></b>	24,580	2.5	0.44	0.7	0.14	1.6	0.34	1.5	0.32	5.8	0.60	8.0	0.71
Marital or cohabiting status													
Currently married	14,113	0.2	0.12	0.3	0.14	0.5	0.24	0.7	0.28	0.7	0.24	1.7	0.42
Currently cohabiting	2,848	3.0	1.34	0.4	0.23	4.5	1.67	2.5	1.35	5.6	1.62	10.7	2.28
Formerly married, not cohabiting	2,019	10.3	3.00	2.4	1.14	3.0	1.28	4.7	1.48	16.1	3.60	20.2	3.91
Never married, not cohabiting	5,601	5.2	1.25	1.4	0.34	2.6	0.91	2.1	0.53	15.0	1.74	18.4	1.83
Experience with prison, jail, or detention center													
Never	17,806	1.6	0.40	0.5	0.14	1.4	0.39	0.4	0.13	4.7	0.67	6.1	0.75
Ever, but not in past 12 months	5,639	4.9	1.23	1.4	0.45	1.8	0.64	2.5	0.65	7.9	1.43	11.3	1.67
Within past 12 months	1,063	5.3	2.04	1.3	0.79	4.3	2.93	15.0	4.21	12.1	3.17	23.3	3.93
<b>Non-Hispanic black men 25–44 years<sup>2</sup></b>	4,418	7.7	0.96	4.0	0.74	6.6	1.28	2.1	0.55	12.6	1.09	18.1	1.58
Marital or cohabiting status													
Currently married	1,861	2.7	1.21	1.6	1.02	5.9	2.22	1.2	1.00	5.0	1.45	9.9	2.40
Currently cohabiting	706	3.8	1.53	3.5	1.80	8.6	3.84	2.4	1.26	6.0	2.15	14.7	3.83
Formerly married, not cohabiting	378	10.6	2.85	7.0	3.15	4.6	2.02	2.8	1.31	15.2	3.54	20.0	3.98
Never married, not cohabiting	1,474	15.2	2.08	6.6	1.33	7.0	1.53	2.9	0.79	24.8	2.56	29.7	2.82
Experience with prison, jail, or detention center													
Never	2,564	4.1	0.81	2.0	0.54	5.5	1.57	0.1	0.06	8.1	1.21	12.6	2.01
Ever, but not in past 12 months	1,284	10.3	2.44	4.7	1.39	5.0	1.88	3.4	1.04	14.9	2.67	21.0	3.13
Within past 12 months	514	19.1	4.54	12.6	4.02	15.6	4.48	9.0	3.76	29.2	4.86	38.2	4.54

\* Indicates that the differences in the percentages between the categories of that variable are significant at the .05 level using a weighted Wald Chi-Square test.

<sup>1</sup>This number in parentheses correspond to the numbering shown in Table 1.

<sup>2</sup>Total includes men of other or multiple race groups, not shown separately. Also includes men with missing information on prison experience.

SOURCE: CDC/NCHS, National Survey of Family Growth, 2006–2010, conducted by NCHS.

**Table 7. Number of men and women aged 15–44 years who had at least one sexual partner in the past 12 months and percentage who used a condom at their last sexual encounter, by selected characteristics: United States, 2002 and 2006–2010**

Characteristic	Men			Women		
	Numbers in thousands	Percent using condom at last sex	Standard error	Numbers in thousands	Percent using condom at last sex	Standard error
<b>2002</b>						
Persons with at least one male or female partner in the last 12 months:						
Total <sup>1</sup> . . . . .	50,510	30.3	0.99	49,396	24.9	0.72
Five or more opposite-sex partners in the past 12 months (2) . . . . .	2,801	58.5	4.01	1,401	35.7	4.31
Treatment for a sexually transmitted disease (STD) in the past 12 months (10) . . . . .	1,391	52.5	6.48	1,923	32.9	3.08
One or more HIV risk-related <i>sexual</i> behavior in the past 12 months (1–6) . . . . .	6,079	50.0	2.68	4,462	34.0	2.88
One or more HIV risk-related behavior in the past 12 months (1–10) . . . . .	7,457	*45.5	2.35	6,180	*32.5	2.16
<b>2006–2010</b>						
Persons with at least one male or female partner in the last 12 months:						
Total <sup>1</sup> . . . . .	50,889	35.1	0.93	50,336	26.9	0.89
Five or more opposite-sex partners in the past 12 months (2) . . . . .	2,371	51.9	3.73	1,071	46.6	4.74
Treatment for a sexually transmitted disease (STD) in the past 12 months (10) . . . . .	1,454	44.6	4.63	2,358	30.2	3.28
One or more HIV risk-related <i>sexual</i> behavior in the past 12 months (1–6) . . . . .	4,411	52.3	2.49	2,344	39.9	3.32
One or more HIV risk-related behavior in the past 12 months (1–10) . . . . .	6,074	48.2	2.21	4,636	33.4	2.24
Hispanic or Latino <sup>1</sup> . . . . .	9,711	37.5	1.84	8,470	27.3	1.78
Five or more opposite-sex partners in the past 12 months (2) . . . . .	439	50.5	9.33	148	DSU	DSU
Treatment for a sexually transmitted disease (STD) in the past 12 months (10) . . . . .	256	DSU	DSU	314	37.8	6.85
One or more HIV risk-related <i>sexual</i> behavior in the past 12 months (1–6) . . . . .	869	61.1	5.78	407	36.6	5.96
One or more HIV risk-related behavior in the past 12 months (1–10) . . . . .	1,315	57.1	4.71	723	34.7	4.27
Non-Hispanic white, single race <sup>1</sup> . . . . .	30,700	32.1	1.16	30,850	23.0	1.00
Five or more opposite-sex partners in the past 12 months (2) . . . . .	1,139	44.6	5.44	603	44.5	6.95
Treatment for a sexually transmitted disease (STD) in the past 12 months (10) . . . . .	659	DSU	DSU	1,252	20.6	3.94
One or more HIV risk-related <i>sexual</i> behavior in the past 12 months (1–6) . . . . .	2,216	43.5	3.56	1,291	34.1	4.58
One or more HIV risk-related behavior in the past 12 months (1–10) . . . . .	2,990	39.1	3.16	2,555	27.7	3.02
Non-Hispanic black, single race <sup>1</sup> . . . . .	6,204	47.6	1.77	6,759	39.4	1.92
Five or more opposite-sex partners in the past 12 months (2) . . . . .	651	73.3	4.61	205	DSU	DSU
Treatment for a sexually transmitted disease (STD) in the past 12 months (10) . . . . .	467	DSU	DSU	566	45.3	4.90
One or more HIV risk-related <i>sexual</i> behavior in the past 12 months (1–6) . . . . .	991	70.4	3.89	413	50.3	5.64
One or more HIV risk-related behavior in the past 12 months (1–10) . . . . .	1,334	64.2	3.52	864	46.6	4.02

\* Difference in condom use by race and origin within this risk group is statistically significant, chi-square  $p < 0.05$ .

DSU Data statistically unreliable due to denominators smaller than 100 cases.

<sup>1</sup>Total includes persons of other race and origin groups, not shown separately, or persons with missing information on one or more of the HIV risk-related behavior items.

NOTES: For women, this table reflects condom use at last vaginal intercourse with a male partner, and for males, it reflects condom use at last sex of any kind (oral, anal, or vaginal) with partners of either sex. The numbers in parentheses correspond to the numbering shown in Table 1. Sex partners include those with whom respondent had vaginal, oral, or anal sex. Measure 1 included in "1–6" and "1–10" is not applicable for women because it indicates male-to-male sex. Measure 4 included in "1–6" and "1–10" is not applicable for men because it indicates women who had male partners in the past year who also had sex with men.

SOURCES: CDC/NCHS, National Survey of Family Growth, 2002 and 2006–2010, conducted by NCHS. Figures for 2002 were published in Table 7 of Advance Data Number 377, reference 8.

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