CBHSQ DATA REVIEW

Arrestee Substance Use: Comparison of Estimates from the National Survey on Drug Use and Health and the Arrestee Drug Abuse Monitoring Program

Authors

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The National Survey on Drug Use and Health (NSDUH) and the Arrestee Drug Abuse Monitoring (ADAM) Program provide information on alcohol and drug use by individuals who have recently been arrested. The studies differ in their target populations (civilian, noninstitutionalized individuals vs. arrestees in 39 sites recently booked into jails) and data collection methods. This study uses 2003 ADAM and 2002–2008 NSDUH data for adult males living in the 39 ADAM sites who reported a past year arrest and 2002–2008 Uniform Crime Reporting (UCR) data to examine how well NSDUH covers the arrestee population and to compare estimates of drug and alcohol use and substance abuse or dependence. In general, ADAM estimates of rates of self-reported drug use were higher. The magnitude of these differences cannot be accounted for by undercoverage in NSDUH. Other possible reasons for these differences and their implications for interpreting NSDUH and ADAM data are discussed.

Introduction

Many of the individuals who come into contact with law enforcement and the criminal justice system use illegal drugs. Drug charges made up the largest category of arrest charges in the United States in 2009. Of the estimated total of 13,687,241 arrests in 2009, nearly 1.7 million arrests were for drug-related charges, 82 percent of which were for drug possession charges.[1] Furthermore, of the nearly 500,000 individuals admitted to state prisons in 2008, 29 percent were sentenced for drug-related offenses.[2] High rates of drug use and treatment need have been reported among persons arrested for nondrug-related offenses as well.[3] To address the treatment needs of arrestees and to develop appropriate programs and policies for dealing with drug use in criminal justice populations, it is crucial that policymakers have accurate information on substance use rates and patterns and treatment needs among the arrestee population.

There are two primary sources of such data: the Arrestee Drug Abuse Monitoring (ADAM) Program and the National Survey on Drug Use and Health (NSDUH). The ADAM Program was established by the National Institute of Justice (NIJ) and fully implemented in

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2000 in 35 communities around the United States. ADAM consisted of interviews with and drug tests of arrestees in local jails within 48 hours of their being booked and was expanded to 39 communities in 2003.[4,5] The 39 ADAM sites included a total of 41 counties because two sites included two counties each. The survey captured information from respondents about substance use, including self-reported use and urine test results; receipt of substance use treatment; and drug market participation, including information about how illicit drugs were acquired and whether drugs were obtained in cash transactions or through other exchanges. The ADAM data can also be used to examine links between drug use and criminal activity and to provide information on demographic and geographic differences in drug use and drug markets among the ADAM sites. ADAM data collection ended after 2003; however, a similar program, ADAM II, samples arrestees and conducts interviews and urinalysis drug screens in booking facilities in 10 communities nationwide.[6]

The data collected through the ADAM and ADAM II Programs focus specifically on arrestees, a segment of the population at high risk for drug use and abuse. The data from ADAM and ADAM II sites were collected during nonrandomly selected 1- to 4-week data collection periods and are not generalizable to the sites or to the nation as a whole.[6,7] Thus, the calculation of site-specific or national estimates for substance use among arrestees is not straightforward for the ADAM data. Some studies have used indirect estimation methods to determine drug use prevalence among arrestees in the United States.[8] Brecht, Anglin, and Lu (2003)[9] used a logistic regression synthetic estimation approach to estimate national prevalence rates of drug use from a calibration sample. Specifically, they used ADAM data from 2000 to project national prevalence rates of drug use among arrestees, as well as arrestee prevalence rates for California and Los Angeles County. Based on results of urinalysis tests, they estimated that 65 percent of the U.S. arrestee population had recently used one or more illicit drugs. Similarly, Bhati and Roman (2010)[10] used data from ADAM and NSDUH (described below) to estimate the likelihood that different arrestee profiles have drug

abuse or dependence and to develop national prevalence estimates based on these profiles. They used NSDUH data to reweight ADAM data to generate a synthetic dataset that would emulate a nationally representative sample of arrestees. Additionally, they used data from Drug Abuse Treatment Outcome Studies (DATOS) to estimate the crime-reducing benefits of drug treatment. In another effort, Rhodes and colleagues (2007)[11] used the ADAM data to estimate county-specific arrest rates for chronic drug users for 38 counties as an initial effort toward estimating the prevalence of chronic drug use. They modeled the arrest process within county and used the results to estimate the average arrest rate for chronic drug users.

NSDUH has been conducted by the federal government since 1971 and has been repeated annually since 1990. NSDUH is the primary source of statistical information on alcohol and illicit drug use by the U.S. civilian, noninstitutionalized population aged 12 or older. Data are collected by administering questionnaires to a representative sample of the population through face-to-face interviews at their places of residence. The survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services, and is planned and managed by SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ; formerly the Office of Applied Studies). In addition to asking questions about alcohol and illicit drug use, the survey also asks about arrests in the past 12 months and whether the respondent is on probation or parole.

Because NSDUH is a survey of the general household population, some researchers have suggested that it may not capture information from the entire population of arrestees as well as a study with a design based on sampling arrestees such as the ADAM study.[12,13,14] The current study attempts to evaluate the coverage and quality of drug use estimates of arrestees in the NSDUH data based on comparisons with ADAM and the Uniform Crime Reporting (UCR) data. The Federal Bureau of Investigation's UCR data provides annual estimates of arrests at the county level.[15]

Methods

Data Sources

The analyses reported here compare results of substance use in self-reports by adult males[16] from the 2003 ADAM data collected within 48 hours of arrest and by adult males who reported at least one arrest in the previous year from the NSDUH data collected in the 39 ADAM sites from 2002 to 2008. These analyses used the 2003 ADAM data rather than incorporating the more recent ADAM II data because there were only 10 sites in ADAM II, too few for reliable estimation based on the NSDUH sample.[17] ADAM data include urinalysis results of drug tests conducted following completion of the interviews. The results reported here do not use the drug test results because comparable data were not available from NSDUH.

The 39 ADAM sites do not constitute a nationally representative sample. The sites were selected purposefully following an application process.[4,18] The standard catchment area for each site was generally the county,[19] although two sites included two counties. Data were collected through in-person interviews and from urine samples done between one and four times during the year; however, data were collected during all four quarters in only 3 of the 39 sites (see Table 1 in Zhang, 2004).[20] Additionally, weeks of data collection were scheduled for convenience by the staff at those sites rather than chosen randomly, which allows for the potential for bias due to reasons such as variations over time in criminal behavior or sites selecting weeks that were expected to be less busy and, thus, more convenient to them. In some sites with multiple booking facilities, a sample of facilities was selected for inclusion in the ADAM project. Within each facility and selected week(s), probability-based sampling of population stocks (i.e., those in the jail at the beginning of each data collection period) and population flows (i.e., those admitted to the jail during each data collection period) was used for the male arrestees.

The sampling designs accommodated both the stock of inmates, defined here as those booked prior to the arrival of interviewers (typically, at 4:00 p.m.; most interviews were conducted between 4:00 p.m. and midnight), and flow, defined as those booked while the interviewers were in the facilities.[19] All interviews were conducted within 48 hours of arrest. Weights were generated using the inverse of the selection probabilities associated with the selection of a facility within the site and individuals within a facility. The weights did not account for the selection of the week of data collection within the year given that the weeks were not randomly selected. The sum of the weights for each facility represented the total number of adult males booked during the specific week(s) in the site. In 2003, of the adult males randomly selected for interview, 57 percent agreed to the interview, 12 percent declined, and 31 percent were not available to be interviewed because of prior release, court appearance, or other reasons. Potential bias due to release was addressed in the construction of the sample weights based on post-sampling stratification to address the probability of being interviewed (U.S. Department of Justice, National Institute of Justice, 2004, p. v).[19] The methodology guide for ADAM (Hunt & Rhodes, 2001, pp. 11–19)[4] indicates that the weights are based on the probability of being sampled, which is dependent on the size of the facility and, hence, number of bookings, as well as the probability of being available for interview (particularly, not released), which is based on the seriousness of the offense charge. The unit of analysis for the ADAM data is arrest; an individual could appear in the sample more than once if he were booked and sampled more than once. Finally, it should be noted that the population of interest for ADAM is arrests in a jurisdiction, and the individuals arrested did not have to be residents of the jurisdiction.

The NSDUH data used in this analysis are restricted to the sample of adult males aged 18 years or older in the 39 ADAM catchment areas (i.e., 41 counties) who reported that they had been arrested and booked at least once in the past year for breaking the law, not counting minor traffic violations. NSDUH data from 2002 to 2008 were combined for this analysis in order to yield a large enough sample for reliable estimates, resulting in a total of approximately 1,800 NSDUH adult male past year arrestees in these 39 sites. In the full national NSDUH sample from 2002

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to 2008, there were approximately 10,800 adult males who reported having been arrested at least once in the past year. The NSDUH data were collected by administering questionnaires to a representative sample of the population through face-to-face interviews at the respondent's place of residence. All of the substance abuse-related and arrest questions were administered with audio computer-assisted self-interviewing (ACASI). ACASI is designed to provide the respondent with a highly private and confidential mode for responding to questions in order to increase the level of honest reporting of sensitive behaviors. Less sensitive items were administered by interviewers using computer-assisted personal interviewing (CAPI).

For this study, ADAM subjects were classified as NSDUH eligible or NSDUH ineligible based on their response to an ADAM interview question on where they had lived most of the time during the 30 days prior to arrest. Those who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or a shelter were considered to be eligible for inclusion in NSDUH and therefore were treated as NSDUH eligible for the purposes of these comparative analyses. Arrestees who reported living in a hospital, treatment facility, extended care facility, jail, prison, correctional boot camp, or had no fixed residence or were homeless in the 30 days prior to arrest were considered to be ineligible for NSDUH because they would not have had the opportunity to be sampled for inclusion in NSDUH. Of the 22,903 adult male ADAM cases in 2003, 20,457 were classified as NSDUH eligible and 1,953 were classified as NSDUH ineligible. ADAM respondents with unknown NSDUH eligibility (*n* = 493) were excluded from the NSDUH-eligible and the NSDUH-ineligible estimates but were included in the overall ADAM estimates provided in Appendix A.

Measures

Past Month Illicit Drug Use

For this study, past month use of specific illicit drugs is based on self-reports of use of marijuana, crack cocaine, cocaine (crack or powder), heroin, and

methamphetamine for the ADAM and NSDUH data collections.

Past Month Alcohol Use

Binge alcohol use is defined as drinking five or more drinks on the same day on at least 1 day in the 30 days prior to arrest for the ADAM data collection and is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the 30 days prior to the interview for the NSDUH data collection. *Heavy* alcohol use in ADAM is defined as having five or more drinks on the same day on at least 5 days in the past 30 days. In NSDUH, heavy alcohol use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days.

Past Year Substance Dependence or Abuse

Dependence or abuse includes such symptoms as withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference in major obligations at work, school, or home during the past year. Past year dependence or abuse of alcohol and past year dependence or abuse of illicit drugs in ADAM are based on a brief, six-item screener that was derived from the Substance Use Disorders Diagnostic Schedule-IV (SUDDS-IV), a structured diagnostic interview that provides information to diagnose alcohol and other drug abuse or dependencies according to 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) criteria.[21,22,23] Past year dependence or abuse of alcohol and past year dependence or abuse of illicit drugs in the NSDUH data are derived from a different set of questions that are also based on DSM-IV definitions. This measure has been included in this study in an attempt to distinguish between chronic and occasional use. The assumption is that individuals meeting criteria for dependence or abuse are clearly more than casual users.

Estimation Procedures

The ADAM data for adult males were weighted to reflect the total number of adult male arrests in the 39 ADAM sites during up to four 1- to 3-week data collection periods in 2003.[19] The number and length

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of the data collection periods varied from facility to facility. Based on the weights provided in the public use file, the weighted estimate of adult male arrests in the 39 ADAM sites during the data collection periods in 2003 was 180,443. As discussed previously, this total is the estimated total number of adult male arrests booked in the jurisdictions during data collection and not the annual total of arrests in the sites. The weighted total from the survey generates a figure that is about 8 percent of the annual UCR arrests for those 39 sites. The ADAM site-specific weighted totals were examined to see whether their proportions of the total site weights were similar to the respective proportions in the UCR arrests. This was done to see if each site was contributing proportionally to any overall estimate made from the 39 sites. Substantial differences were found. For example, even though according to the UCR Los Angeles County represents approximately 14 percent of the arrests in the 39 sites, it accounted for only 0.5 percent of the arrests in the ADAM data. Conversely, even though Cook County, Illinois, and Manhattan account for approximately 7 percent and 3 percent, respectively, of the arrests in the 39 sites based on the UCR, they account for 16 percent and 6 percent, respectively, of the arrests in the ADAM data (see Table 1 in Zhang, 2004).[20] Therefore, for this study, the ADAM weighted arrest data were adjusted to reflect the same distributions as the 2003 UCR data at the county level so that the county-level proportions of the total number of arrests in the ADAM data matched the county-level proportions of the total number of UCR arrests for the 39 ADAM sites.[24] Survey procedures in SAS® 9.1.3 were used to estimate the weighted frequencies, means, and corresponding standard errors of all ADAM measures.[25]

The NSDUH data were analyzed using SUDAAN® software,[26] which applies a Taylor series linearization method to account for the complex design features of NSDUH. Person-level weights were constructed to represent the population of eligible persons within NSDUH-eligible dwelling units. These weights were adjusted to account for the combining of multiple survey years' data. Because the ADAM estimates are of arrests and not of arrestees (i.e., at the arrest level

instead of person level), and because the NSDUH persons with more than one prior year arrest tend to have different substance use patterns than those arrested once during the past year, the NSDUH weights were also adjusted by the number of past year arrests per respondent (up to 12 arrests) in order to approximate arrests instead of arrestees. As shown in Table 1, estimates of the past month prevalence of use of cocaine (both crack and powder), as well as estimates of past year alcohol and illicit drug abuse or dependence, were higher among male arrestees with two or more arrests than among respondents with only one arrest. Therefore, the NSDUH weighted estimates are approximately representative of annual averages of the total number of arrests within a 12-month period.

For the 39 ADAM sites, the 2002–2008 NSDUH data contained approximately 1,800 adult males who reported at least one arrest in the past year (approximately 1,300 who reported one arrest and 500 who reported two or more arrests), which yielded an average annual weighted total number of adult male arrests of 1,324,175 during the data collection period. For the full national 2002–2008 NSDUH data, there were 10,806 adult males with past year arrests, which yielded a total estimate of 6,956,718 adult male arrests per year.

Because the ADAM data are collected during nonrandomly selected 1- to 4-week periods during the year, an annual estimate of total number of arrests in these 39 sites cannot be calculated. Another comparison data source is the Federal Bureau of Investigation's UCR program, which provides annual estimates of arrests at the county level.[15] County-level UCR data were obtained from the National Archive of Criminal Justice Data.[27,28,29,30,31,32,33,34] Data were missing for the Florida counties, but UCR estimates for those counties were obtained from the Florida Department of Law Enforcement (FDLE) Web site.[35] The national total number of adult arrests for 2002 to 2008 was generated by summing the county-level data from the UCR and adding the annual total numbers of adult arrests in Florida. These procedures yielded an estimate of 11,862,193 adult arrests nationally. The total number of adult male arrests was estimated by

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Table 1. Substance Use and Dependence or Abuse among Male Arrestees Aged 18 or Older, by Number of Arrests in the Past Year: NSDUH Estimates, 2002 to 2008

Substance Use and Treatment Measures	NSDUH 39 ADAM-Site Sample	
	One Arrest Percent (SE)	Two or More Arrests Percent (SE)
Past Month Drug Use		
Marijuana	24.1 (1.71)	33.0 (4.76)
Crack (Rock) Cocaine	2.1 (0.71)[a]	10.0 (3.58)
Cocaine (Powder or Rock)	6.1 (1.07)[a]	17.7 (4.29)
Heroin	1.5 (0.62)	6.1 (2.82)
Methamphetamine	1.5 (0.45)	*
Past Month Alcohol Use		
Binge Alcohol Use	55.3 (2.32)	48.4 (5.65)
Heavy Alcohol Use	26.2 (2.10)	25.1 (4.33)
Past Year Dependence or Abuse		
Any Illicit Drug	18.3 (1.61)[a]	36.0 (5.15)
Alcohol	38.4 (2.26)[a]	51.8 (5.83)

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

* Low precision. Estimates from the NSDUH data are considered of insufficient precision if any of the following three criteria applies: (1) a sample size of less than 100 (the denominator of the mean or prevalence rate, not the numerator), (2) a log-scale relative standard error of more than 0.175, or (3) an effective sample size (the sample size divided by the design effect) of less than 68. For more information, see Appendix B in Office of Applied Studies. (2010). *Results from the 2009 National Survey on Drug Use and Health: Volume II. Technical appendices and selected prevalence tables* (NSDUH Series H-38B, HHS Publication No. SMA 10-4856Appendices). Rockville, MD: Substance Abuse and Mental Health Services Administration.

NOTE: NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008.

a Difference between NSDUH One Arrest and Two or More Arrests estimates is significant at the 0.05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008.

multiplying the average number of adult arrests by the average proportion of adult arrests that were of males in 1999 and 2008, using data from the *2008 Crime in the United States*.[33] Adult males constituted 79 percent of adult arrests in 1999 and 76 percent in 2008, providing an average over the period of 77.7 percent. Multiplying this percentage by the estimated total number of adult arrests provided an estimated annual number of adult male arrests of 9,103,243. Similar procedures were followed to produce an estimate for the 41 ADAM counties. Adult arrests averaged 2,344,888 over this period and adult male arrests averaged 1,821,509.

Significance testing was conducted using SUDAAN with an alpha level of 0.05. Unless explicitly stated that a difference is not statistically significant, all statements that describe differences are significant at the 0.05 level.

Results

Coverage of Arrestee Population

One key goal of this study is to examine how much of the arrestee population is covered by NSDUH.

As indicated previously, the NSDUH 39-site sample provides an annual estimate (using pooled 2002–2008 data) of 1,324,175 adult male arrests. The estimate derived from the 2002–2008 UCR data, supplemented by information from the FDLE Web site for Florida counties, was 1,821,509.

Thus, the NSDUH estimate is somewhat less than three fourths (72.6 percent) of the UCR total. This difference may be due to several factors that are addressed further in the Discussion section. As noted previously, 20,457 of the 22,903 ADAM cases were NSDUH eligible, indicating that roughly 9 percent of arrestees in these 39 sites are not eligible for NSDUH. Because the NSDUH annual estimate was 27.4 percent lower than the UCR estimate, this 9 percent noneligibility estimate (assuming the eligibility rate is similar in the non-ADAM areas) accounts for less than half of the difference. Table 2 provides national and ADAM-site-level estimates of annual adult male arrests from the UCR and NSDUH; as noted earlier, annual estimates of arrests cannot be generated from the ADAM data.[36]

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Table 2. Estimated Annual Number of Arrests of Adult Males (in thousands)

Data Source	United States	39 ADAM Sites
2002–2008 NSDUH	6,957	1,324
2002–2008 UCR Average[1]	9,103	1,822
2002–2008 UCR NSDUH Eligible[2]	8,102	1,622

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; UCR = Uniform Crime Reporting.

[1] UCR data for adult arrests for counties were obtained from Uniform Crime Reporting Program Data [United States]: County-Level Detailed Arrest and Offense Data, 2002–2008 (see End Notes 27–34). The UCR file did not include data for the Florida ADAM sites (Miami-Dade, Hillsborough, and Pinellas counties); UCR data on adult arrests in these counties were retrieved from the Florida Department of Law Enforcement Web site; see Florida Department of Law Enforcement. (2011, June). UCR Arrest Data. Retrieved from http://www.fdle.state.fl.us/Content/FSAC/Menu/Data---Statistics-(1)/UCR-Arrest-Data.aspx.

[2] UCR totals were subset by the estimated 11 percent of UCR arrests that would have been ineligible for NSDUH; that is, the arrestees were not part of the civilian, noninstitutionalized population at the time of their arrest.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, Federal Bureau of Investigation, 2006, 2007, 2008, 2009, and 2011.

Comparisons of Demographic Characteristics

The demographic characteristics of the NSDUH 39-site and ADAM NSDUH-eligible samples (weighted as described above) are presented in Table 3.[37] The age, race/ethnicity, marital status, and education distributions of the two populations were generally similar, although there were some statistically significant differences. The oldest (50 or older) age group was 11.1 percent of NSDUH arrestees compared with 5.6 percent of the ADAM respondents; 4.0 percent of the NSDUH arrestees were classified as "other race" compared with 7.6 percent of the ADAM respondents; 16.5 percent of NSDUH arrestees reported being married compared with 22.9 percent of ADAM respondents; and NSDUH arrestees were more likely to have less than a high school education (40 percent vs. 30.5 percent) or to have obtained a college degree (7.7 percent vs. 4.3 percent) and less likely to be high school graduates (34.6 percent vs. 40.8 percent) than ADAM respondents.

Comparisons of Drug and Alcohol Use

Figure 1 presents NSDUH and ADAM estimates of past month use of specific types of drugs as well as alcohol use. The ADAM estimates of past month drug use prior to arrest were approximately 1.5 to 3.5 times as high as the NSDUH estimates of past month use prior to the interview. Self-reported marijuana use during the past month among adult male arrestees was higher in ADAM (42.4 percent) than in NSDUH (28.8 percent). Similarly, the ADAM estimates of self-reported powder or rock cocaine use and crack use (20.1 percent and 12.9 percent, respectively) were higher than NSDUH estimates (12.2 percent and 6.3 percent, respectively). The ADAM estimate of past month methamphetamine use (11.5 percent) was higher than the estimate in NSDUH (3.1 percent). Self-reported heroin use did not differ significantly between the two surveys. Estimates of past month binge alcohol use were higher among NSDUH arrestees, and estimates of past month heavy alcohol use were similar among the NSDUH and ADAM samples.

Comparisons of Substance Use and Dependence

Arrestees in ADAM were more likely to meet criteria for past year dependence on or abuse of an illicit drug: 47.7 percent of ADAM respondents compared with 27.7 percent of arrestees in NSDUH (Figure 2). Conversely, the estimate of past year dependence or abuse of alcohol was higher among NSDUH arrestees than among ADAM arrestees (45.5 percent vs. 33.8 percent, respectively).

Discussion and Conclusions

The estimated number of arrests for the 39 ADAM sites from the NSDUH adult male arrestee data was about 1.3 million compared with the 1.8 million estimate of total number of adult male arrests in the 39 sites produced from the UCR. After removing the approximately 9 percent of ADAM arrestees who were determined to be NSDUH ineligible, the UCR estimate of NSDUH-eligible arrests was 1.6 million, which is approximately 23 percent higher than the NSDUH estimate. This difference between the UCR and NSDUH estimates of number of arrestees persists at the national level for all adult male arrests (assuming

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Table 3. Demographic Characteristics of Male Arrestees Aged 18 or Older: NSDUH Estimates, 2002 to 2008; and ADAM Estimates, 2003

Demographic Characteristic	NSDUH 39 ADAM-Site Sample Percent (SE)	ADAM NSDUH-Eligible Sample Percent (SE)
Age	100.0 (0.00)	100.0 (0.00)
18 to 25	37.9 (2.66)	40.4 (0.78)
26 to 34	23.9 (2.45)	25.2 (0.62)
35 to 49	27.1 (3.94)	28.8 (0.71)
50 or Older	11.1 (2.40)[a]	5.6 (0.37)
Race/Ethnicity	100.0 (0.00)	100.0 (0.00)
Not Hispanic or Latino	63.1 (3.53)	69.0 (0.76)
White	27.3 (2.10)	26.2 (0.68)
Black or African American	31.8 (2.88)	35.3 (0.73)
Other Race	4.0 (0.70)[a]	7.6 (0.31)
Hispanic or Latino	36.9 (3.53)	31.0 (0.76)
Marital Status	100.0 (0.00)	100.0 (0.00)
Married	16.5 (1.93)[a]	22.9 (0.72)
Widowed	1.1 (0.45)	0.6 (0.07)
Divorced or Separated	20.0 (4.05)	15.1 (0.58)
Never Been Married	62.4 (3.58)	61.5 (0.79)
Education	100.0 (0.00)	100.0 (0.00)
Less than High School	40.0 (3.46)[a]	30.5 (0.68)
High School Graduate	34.6 (2.98)[a]	40.8 (0.78)
Vocational or Trade School	Not asked	5.7 (0.43)
Some College	17.7 (1.73)	18.7 (0.61)
College Graduate	7.7 (1.60)[a]	4.3 (0.29)

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

NOTE: NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. ADAM NSDUH-Eligible Sample refers to ADAM respondents who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. NSDUH estimates are based on weights adjusted such that NSDUH estimates approximate arrests and not persons.
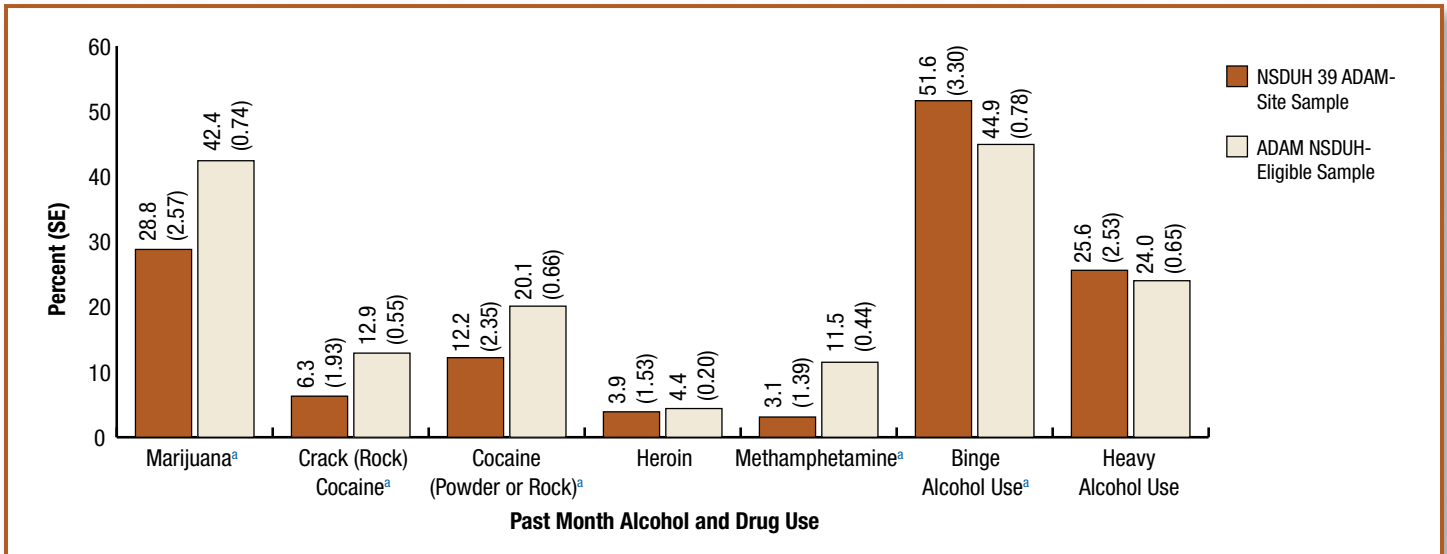
[a] Difference between NSDUH and ADAM estimates is significant at the 0.05 level.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, National Institute of Justice, ADAM, 2003.

an equal eligibility rate across the nation). In 2003, there were an estimated total of about 9 million adult male arrests based on the UCR compared with an annual estimate of 7 million adult male arrests based on pooled data from the 2002–2008 NSDUH national data. About 1 million male arrests (using the estimated 9 percent exclusion rate from ADAM) are deliberate exclusions and are accounted for by the NSDUH eligibility rules—persons have to be a resident of a household during the majority of the quarter in which they are being interviewed, and NSDUH does not include persons living in institutions (e.g., prison, treatment facility, hospital) or those without a fixed residence (e.g., homeless, not in shelters).[38] The remaining difference of approximately 1 million

male arrests could be due to several possible factors. These include undercoverage (arrestees excluded from the sample frame because they were not identified as residents by household screening respondents or because they were incarcerated), nonresponse bias (arrestees selected in the sample but who fail to complete the interview), response bias (arrestees who participate in NSDUH but intentionally or unintentionally fail to report that they have been arrested), and sampling error.

In addition, the UCR data are not without problems, as several critical assessments have questioned the reliability of UCR data. Problems with missing data are one of the major critiques of the UCR, although the nature and extent of missingness is not well documented.[39] Because reporting is not mandatory,

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Figure 1. Past Month Alcohol and Drug Use among Male Arrestees Aged 18 or Older: NSDUH Estimates, 2002 to 2008; and ADAM Estimates, 2003
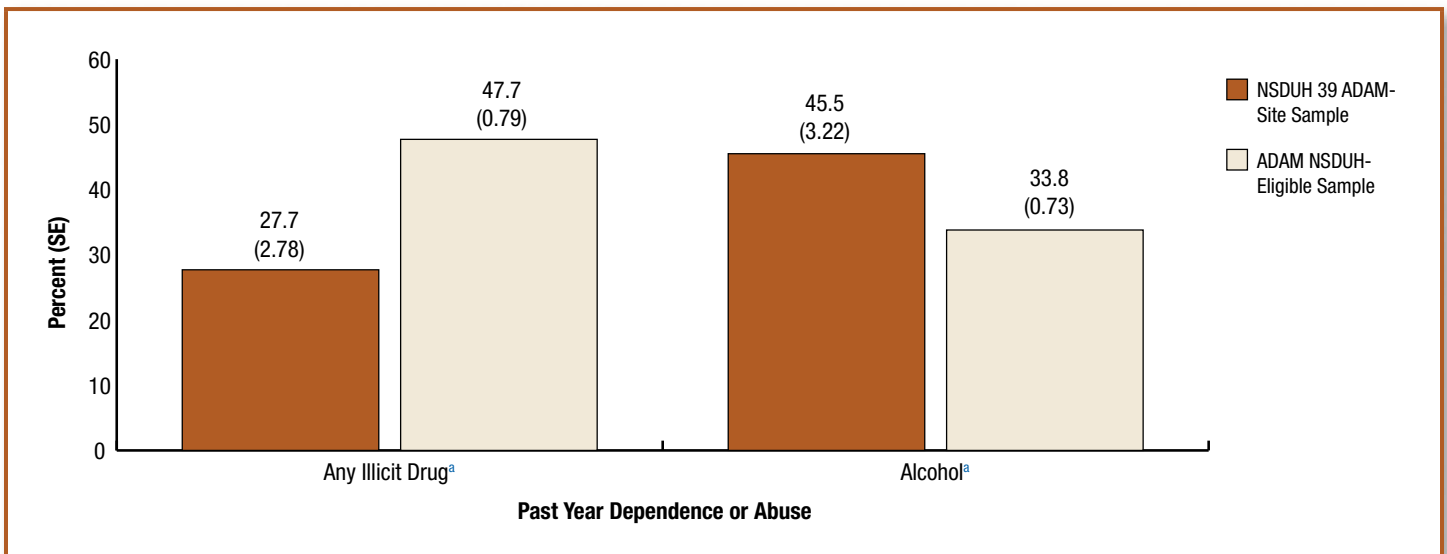

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

NOTE: NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. ADAM NSDUH-Eligible Sample refers to ADAM respondents who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. NSDUH estimates are based on weights adjusted such that NSDUH estimates approximate arrests and not persons.

[a] Difference between NSDUH and ADAM estimates is significant at the 0.05 level.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, National Institute of Justice, ADAM, 2003.

Figure 2. Past Year Dependence or Abuse among Male Arrestees Aged 18 or Older: NSDUH Estimates, 2002 to 2008; and ADAM Estimates, 2003

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

NOTE: NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. ADAM NSDUH-Eligible Sample refers to ADAM respondents who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. NSDUH estimates are based on weights adjusted such that NSDUH estimates approximate arrests and not persons.

[a] Difference between NSDUH and ADAM estimates is significant at the 0.05 level.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, National Institute of Justice, ADAM, 2003.

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some state and local law enforcement agencies do not provide UCR data. In addition, some law enforcement agencies have falsified reports, including systematically underreporting or downgrading crimes so that crime rates for their cities appeared to be lower than they actually are.[40] As Loftin and McDowall[39] noted, the UCR "reflects the organizational interests of [law enforcement] agencies that may use the data to further those interests." Although the FBI imputes data when it is missing, it only does so at the national level, not the county level.[41] Thus, county-level crime rates used in this study may be particularly affected by the noise due to missing data.

In general, estimates of past month illicit drug use among male arrestees at ADAM sites were 1.5 to 3 times as high using the ADAM data as the NSDUH data. Estimates of past year drug dependence or abuse from ADAM were also higher than estimates from NSDUH. In contrast, NSDUH-based estimates of past month binge alcohol use, as well as past year alcohol dependence or abuse, were higher than the ADAM-based estimates. These results appear to indicate that the data obtained from the NSDUH arrestee population produce an underestimate of arrestee drug use. One explanation that has been posited to explain the unexpected lower NSDUH estimates of illicit drug use among arrestees is the undercoverage of "hard-core" users (who are presumed to have higher arrest rates). However, this study suggests that undercoverage of arrestees is not severe in NSDUH. Nearly half of the estimated undercoverage of arrestees is due to exclusions from the NSDUH frame by definition, and these exclusions appear to have a small effect on the substance use estimates (Table A.2). Several other factors in addition to undercoverage may explain the differences in prevalence estimates.

Differences in drug use and dependence and abuse estimates for the two samples may be due to methodological differences between the surveys, including questionnaire items, unit of data collection, and differences in the timing of the interviews relative to a respondent's arrest.

An issue noted by researchers is that the probability of being sampled for ADAM depends on how long an arrestee remains in jail.[42] The methodology guide for ADAM indicates that the procedures put in place for ADAM beginning in 2001 collect data on all arrests in the site facilities and that the "sample frame includes all persons booked" (Hunt & Rhodes, 2001, p. 3).[4] These procedural changes, coupled with the use of post-sampling stratification and model-based estimation procedures, were intended to reduce the potential for bias due to length of stay in estimates from the ADAM data. Another possibility is that among arrestees, drug usage rates are higher in the 30 days prior to an arrest compared with the past 30 days while living among the general population, and therefore the comparison of a random 30-day period against the 30 days prior to an arrest may not be appropriate.

Differences in substance use and dependence and abuse could also be explained, at least in part, by differences in the time of administration of the two surveys relative to the arrestee's contact with the criminal justice system. NSDUH arrestees are interviewed when they are back in the community—part of the general household population—and more time has passed since their arrest. They may be under court-ordered supervision as a result of their arrest that may mandate treatment as a condition of supervision. Because ADAM respondents, however, were interviewed within 48 hours of being arrested and booked, their current arrest could not yet have resulted in voluntary or mandatory substance use treatment or drug testing. Although there is no direct measure to test this hypothesis, the treatment receipt and substance use of NSDUH arrestees by probation/parole status was examined to determine whether those on probation or parole were more likely to report having received treatment (data not shown). The results among the national NSDUH arrestees showed that 21.5 percent of those on probation or parole reported treatment in the past year, compared with only 8.4 percent of those who were not on probation or parole. Although it is not possible to determine whether the treatment preceded or followed the arrest, or whether the treatment was solicited voluntarily or mandated by the criminal justice system, the results do confirm

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that those under court-ordered supervision (i.e., on probation or parole) were more likely to have received substance use treatment than those who were not under court-ordered supervision.

The specific questions used by NSDUH and ADAM to assess past month use of marijuana, cocaine (including crack), heroin, or methamphetamine were similar, suggesting that differences in question wording cannot explain the differences found in the prevalence rates of drug use between the surveys. The ADAM Program conducted drug tests in addition to collecting self-reports of substance use. Data published elsewhere indicate that estimates of drug use based on drug test results are higher than estimates based on self-reported data with the exception of marijuana, for which results are similar.[6] Thus, the self-reported ADAM estimates presented here may be conservative. However, it is possible that the knowledge that the self-report of drug use by ADAM participants could be verified by a drug test resulted in increased accuracy of the self-reported drug use data in ADAM relative to NSDUH.

This study compared self-reported drug use in ADAM to self-reported drug use in NSDUH. This study did not use data from urine testing in ADAM, because there were not comparable drug test data in NSDUH. Several studies have examined the validity of self-reports of drug use and, in general, have found acceptable validity of self-reported drug use.[43] Bias, however, is well documented and varies by factors such as the population under investigation and the type of drug.[43,44] A study examining the validity of NSDUH self-report data on drug use among persons aged 12 to 25 compared self-report data to urine and hair specimens and found that most youths and young adults reported their recent drug use accurately in self-reports.[45] Still, there could be some reporting error in either direction in the NSDUH data. In addition, this study did not use ADAM drug test data to inflate estimates of past month use, so the reported estimates of past month use in ADAM are lower than they would have been if they had been adjusted based on drug test results. Thus, although results indicate higher levels of drug use in ADAM, those differences still may

underestimate the actual differences between levels of use in NSDUH and ADAM.

The largest difference found between NSDUH and ADAM substance use measures was for past month methamphetamine use, with the ADAM estimate more than three times as high as the NSDUH estimate. One possible explanation for the size of this difference is that for this study NSDUH data was combined for 2002 to 2008, a time period that saw a decrease in the prevalence of methamphetamine use. The inclusion of the data from later years in NSDUH, but only from 2003 in ADAM, may have impacted this comparison.

Regarding differences in dependence and abuse, NSDUH uses the full DSM-IV criteria, whereas ADAM uses a six-item screener based on DSM-IV criteria. The rate for illicit drug disorder was higher in ADAM, whereas the rate for alcohol disorder was higher in NSDUH, suggesting that these measurement differences were not a principal reason for the differences in dependence and abuse estimates.

The NSDUH data provide generalizable national-level estimates for arrestees and a depth of contextual information about their drug use, mental health conditions, health status, and demographics. Despite difficulties in making comparisons with ADAM data due to its lack of generalizability, it appears that in addition to known undercoverage due to the NSDUH eligibility rules (about 9 percent of arrests), there is some additional undercoverage, which is estimated to be about 15 percent. Also, substance use and dependence and abuse rates from NSDUH appear to be lower for reasons beyond differences in coverage. Some of it may be explained by the difference in the reference period (i.e., a random 30-day period in NSDUH vs. the 30 days prior to the arrest in ADAM). Further study might include looking at estimates for particular types of arrests in the UCR and comparing them with the corresponding estimates by reason for arrest in NSDUH to see if the differences are uniformly spread across all reasons for arrest or if they occur only for a subset of arrest categories.

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Appendix A

Table A.1 Demographic Characteristics of Male Arrestees Aged 18 or Older: NSDUH Estimates, 2002 to 2008; and ADAM Estimates, 2003

Demographic Characteristic	National NSDUH Sample Percent (SE)	NSDUH 39 ADAM-Site Sample Percent (SE)	ADAM NSDUH-Eligible Sample Percent (SE)	ADAM NSDUH-Ineligible Sample Percent (SE)	Total ADAM Sample Percent (SE)
Age	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)
18 to 25	38.1 (1.27)	37.9 (2.66)	40.4 (0.78)	23.2 (2.27)	38.7 (0.73)
26 to 34	21.5 (1.10)	23.9 (2.45)	25.2 (0.62)	21.9 (1.85)	25.0 (0.59)
35 to 49	23.0 (1.26)	27.1 (3.94)	28.8 (0.71)	45.5 (2.20)	30.3 (0.67)
50 or Older	17.4 (2.10)	11.1 (2.40)	5.6 (0.37)	9.4 (1.00)	6.0 (0.35)
Race/Ethnicity	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)
Not Hispanic or Latino	81.3 (1.19)	63.1 (3.53)	69.0 (0.76)	80.5 (2.05)	70.1 (0.71)
White	50.3 (1.55)	27.3 (2.10)	26.2 (0.68)	39.8 (2.21)	27.4 (0.65)
Black or African American	26.6 (1.72)	31.8 (2.88)	35.3 (0.73)	29.4 (2.00)	34.6 (0.69)
Other Race	4.5 (0.40)	4.0 (0.70)	7.6 (0.31)	11.3 (1.03)	8.1 (0.30)
Hispanic or Latino	18.7 (1.19)	36.9 (3.53)	31.0 (0.76)	19.5 (2.05)	29.9 (0.71)
Marital Status	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)
Married	23.0 (1.47)	16.5 (1.93)	22.9 (0.72)	12.4 (1.85)	21.9 (0.67)
Widowed	2.0 (0.75)	1.1 (0.45)	0.6 (0.07)	1.2 (0.26)	0.6 (0.07)
Divorced or Separated	17.0 (1.28)	20.0 (4.05)	15.1 (0.58)	24.6 (1.81)	16.1 (0.55)
Never Been Married	58.0 (1.64)	62.4 (3.58)	61.5 (0.79)	61.8 (2.21)	61.4 (0.74)
Education	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)	100.0 (0.00)
Less than High School	41.4 (1.67)	40.0 (3.46)	30.5 (0.68)	34.9 (2.23)	30.9 (0.65)
High School Graduate	35.3 (1.40)	34.6 (2.98)	40.8 (0.78)	41.1 (2.27)	40.8 (0.73)
Vocational or Trade School	Not asked	Not asked	5.7 (0.43)	5.1 (0.62)	5.7 (0.40)
Some College	18.5 (1.19)	17.7 (1.73)	18.7 (0.61)	16.1 (1.30)	18.4 (0.56)
College Graduate	4.8 (0.44)	7.7 (1.60)	4.3 (0.29)	2.8 (0.44)	4.2 (0.27)

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

NOTE: National NSDUH Sample includes all adult males reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. NSDUH estimates are weighted to approximate arrests and not persons. ADAM NSDUH-Eligible Sample refers to ADAM respondents who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. ADAM NSDUH-Ineligible Sample refers to ADAM respondents who did not report living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. The Total ADAM Sample refers to the entire ADAM sample, regardless of NSDUH eligibility. ADAM respondents with unknown NSDUH eligibility data have been excluded from the ADAM NSDUH-Eligible Sample and ADAM NSDUH-Ineligible Sample columns but are included in the Total ADAM Sample column.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, National Institute of Justice, ADAM, 2003.

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Table A.2 Past Month Alcohol and Drug Use and Past Year Dependence and Abuse among Male Arrestees Aged 18 or Older: NSDUH Estimates, 2002 to 2008; and ADAM Estimates, 2003

	National NSDUH Sample Percent (SE)	NSDUH 39 ADAM-Site Sample Percent (SE)	ADAM NSDUH-Eligible Sample Percent (SE)	ADAM NSDUH-Ineligible Sample Percent (SE)	Total ADAM Sample Percent (SE)
Past Month Alcohol and Drug Use					
Marijuana	28.3 (1.07)	28.8 (2.57)	42.4 (0.74)	49.7 (2.28)	43.0 (0.71)
Crack (Rock) Cocaine	3.6 (0.52)	6.3 (1.93)	12.9 (0.55)	29.7 (1.98)	14.4 (0.53)
Cocaine (Powder or Rock)	8.1 (0.67)	12.2 (2.35)	20.1 (0.66)	35.8 (2.24)	21.5 (0.63)
Heroin	1.6 (0.34)	3.9 (1.53)	4.4 (0.20)	7.3 (0.71)	4.7 (0.19)
Methamphetamine	2.6 (0.41)	3.1 (1.39)	11.5 (0.44)	25.5 (2.38)	12.7 (0.46)
Binge Alcohol Use	56.7 (1.60)	51.6 (3.30)	44.9 (0.78)	46.0 (2.22)	44.7 (0.73)
Heavy Alcohol Use	27.6 (1.27)	25.6 (2.53)	24.0 (0.65)	32.3 (2.07)	24.5 (0.62)
Past Year Dependence or Abuse					
Any Illicit Drug	24.1 (1.16)	27.7 (2.78)	47.7 (0.79)	67.2 (1.90)	49.4 (0.75)
Alcohol	42.2 (1.49)	45.5 (3.22)	33.8 (0.73)	48.8 (2.29)	35.1 (0.69)

ADAM = Arrestee Drug Abuse Monitoring; NSDUH = National Survey on Drug Use and Health; SE = standard error.

NOTE: National NSDUH Sample includes all adult males reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. NSDUH 39 ADAM-Site Sample includes adult males in the 39 ADAM sites reporting at least one arrest in the past year interviewed by NSDUH between 2002 and 2008. ADAM NSDUH-Eligible Sample refers to ADAM respondents who reported living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. ADAM NSDUH-Ineligible Sample refers to ADAM respondents who did not report living in a house, mobile home, apartment, residential hotel, rooming house, dormitory, group home, student housing, or shelter most of the time during the 30 days prior to arrest. NSDUH estimates are based on weights adjusted such that NSDUH estimates approximate arrests and not persons.

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2002 to 2008; and U.S. Department of Justice, National Institute of Justice, ADAM, 2003.

End Notes

[1] U.S. Department of Justice, Federal Bureau of Investigation. (2010). Crime in the United States, 2009: Arrests. *Uniform Crime Report*. Retrieved from http://www2.fbi.gov/ucr/cius2009/arrests/index.html

[2] Bonczar, T. (2011). National Corrections Reporting Program: Most serious offense of state prisoners, by offense, admission type, age, sex, race, and Hispanic origin. Retrieved April 11, 2011, from http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=2065

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[5] The 39 sites (identified by their primary cities) for the 2003 Arrestee Drug Abuse Monitoring (ADAM) data collection were Albany, NY; Albuquerque, NM; Anchorage, AK; Atlanta, GA (Fulton and DeKalb counties); Birmingham, AL; Boston, MA; Charlotte, NC: Chicago, IL; Cleveland, OH; Dallas, TX; Denver, CO; Des Moines, IA; Honolulu, HI; Houston, TX; Indianapolis, IN; Las Vegas, NV; Los Angeles, CA; Miami, FL; Minneapolis, MN; New Orleans, LA; New York, NY; Oklahoma City, OK; Omaha, NE; Philadelphia, PA; Phoenix, AZ; Portland, OR; Rio Arriba, NM; Sacramento, CA; Salt Lake City, UT; San Antonio, TX; San Diego, CA; San Jose, CA; Seattle, WA; Spokane, WA; Tampa, FL (Hillsborough and Pinellas counties); Tucson, AZ; Tulsa, OK; Washington, DC; and Woodbury, IA (see End Note 20).

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[16] The 2003 ADAM Program collected data from 3,664 adult females in only 25 of the 39 sites (unweighted). The number of adult female arrestees in the 2002–2008 NSDUH data from the 25 jurisdictions was insufficient to generate estimates of sufficient precision.

[17] The 2003 ADAM data were selected because they were the most recently available for comparison across a sufficient number of counties in the multiyear NSDUH data. Because the 2003 data were somewhat incomplete, estimates were also generated based on the 2002 ADAM data in which there were a total of 35 sites. Estimates of respondent characteristics, past month alcohol and drug use, and past year dependence or abuse were comparable among all 39 ADAM 2003 sites, the 35 ADAM 2002 sites, and another set of estimates from the 2003 data for the 35 2002 ADAM sites. For example, 37.8 percent, 37.9 percent, and 37.7 percent of the respondents in the 39 ADAM 2003 sites, 35 ADAM 2002 sites, and 35 ADAM 2003 sites were 18 to 25 years of age. Past month marijuana use estimates were 45.2 percent, 45.4 percent, and 45.4 percent. Full results are available from the authors.

[18] The ADAM data from 22,903 male arrestees aged 18 or older in the 39 sites were obtained from the Inter-university Consortium for Political and Social Research (ICPSR; see End Note 19).

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[24] The proportion of arrests contributed by each ADAM site to the total ADAM site UCR arrests was calculated based on the 2003 Uniform Crime Reporting (UCR) data since the ADAM data were collected in 2003. Because the NSDUH estimates were generated using 2002–2008 data, the average proportion of arrests by site were also examined over the 2002–2008 period. The difference between the contribution in 2003 and the average contribution between 2002 and 2008 was negligible for all sites. The largest magnitude difference was 0.74 percent, and the average difference between the 2003 estimate and the 2002–2008 averages across the 39 sites was 0.00 percent.

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[31] U.S. Department of Justice, Federal Bureau of Investigation. (2008). Uniform Crime Reporting Program Data [United States]: County-Level Detailed Arrest and Offense Data, 2006 [Computer file]. ICPSR23780-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008-12-12. doi:10.3886/ICPSR23780.v1.

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[35] UCR data for adult arrests for counties were obtained from Uniform Crime Reporting Program Data [United States]: County-Level Detailed Arrest and Offense Data, 2002–2008 (see End Notes 27–34). The UCR file did not include data for the Florida ADAM sites (Miami-Dade, Hillsborough, and Pinellas counties); UCR data on adult arrests in these counties were retrieved from the Florida Department of Law Enforcement Web site; see Florida Department of Law Enforcement. (2011, June). UCR Arrest Data. Retrieved from http://www.fdle.state.fl.us/Content/FSAC/Menu/Data---Statistics-(1)/UCR-Arrest-Data.aspx

[36] Adult male arrests in the United States were calculated as follows: For example, the total arrests in the 2003 county-level adult UCR data were 10,380,894 to which was added 852,207 adult arrests from the Florida Department of Law Enforcement Web site (see End Notes 24 and 35); this calculation yielded a sum of 11,233,101 adult arrests. This step was taken for each year between 2002 and 2008. The average number of adult arrests for this period was then calculated to be 11,718,902. From Table 31 in Crime in the United States, 2008 (see End Note 32), it was calculated that 79.05 percent of all adult arrests in 1999 were of males and 76.32 percent of all adult arrests in 2008 were of males. Taking the average over this period, adult males constituted 77.68 percent of all adult arrests. Multiplying the total number of adult arrests by this average yielded an estimate of 9,103,243 adult male arrests annually between 2002 and 2008.

[37] For comparison purposes, Appendix A provides information on these two and three other samples: (1) all adult males in the 2002–2008 NSDUH data collection who reported at least one arrest in the previous 12 months (NSDUH national); (2) all adult males in the 2003 ADAM data who were coded as NSDUH ineligible (ADAM NSDUH ineligible); and (3) all adult males in the 2003 ADAM data (ADAM total).

[38] NSDUH ineligibility for this study (roughly 9 percent of the ADAM sample) was based on the arrestees' reported residence during the 30 days prior to arrest. Another study estimated that more than 15 percent of the 2002–2003 ADAM arrestees were homeless at some point during the past year; see Myrstol, B. A., & Fitzpatrick, K. M. (2011). Risk factors and the duration of homelessness among drug-using arrestees: Evidence from 30 American counties. *Journal of Drug Issues, 41*(4), 523–560. Based on this estimate, an additional 6 percent of the ADAM sample may have been NSDUH ineligible. In 2011, 10 percent of ADAM arrestees were homeless in the month prior to arrest, and 15 percent were homeless in the past year; see Office of National Drug Control Policy. (2012). *ADAM II: 2011 annual report*. Washington, DC: Author. Retrieved from http://www.whitehouse.gov/sites/default/files/email-files/adam_ii_2011_annual_rpt_web_version_corrected.pdf. In addition, 17 percent of ADAM arrestees in 2011 reported three or more residency changes during the past year; see Office of National Drug Control Policy. (2012). *ADAM II: 2011 annual report*. Washington, DC: Author. Retrieved from http://www.whitehouse.gov/sites/default/files/email-files/adam_ii_2011_annual_rpt_web_version_corrected.pdf. Because homelessness and transiency are factors that make it more likely that an arrestee would not be included in a household survey, these estimates suggest that more than 9 percent of the 2002–2003 ADAM sample may have been ineligible for inclusion in NSDUH.

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The Substance Abuse and Mental Health Services Administration (SAMHSA) is the agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation. SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities.