NATIONAL INSTITUTE ON DRUG ABUSE

DRUG USE *Among* RACIAL/ETHNIC MINORITIES

REVISED

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH

Drug Use Among Racial/Ethnic Minorities

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ACKNOWLEDGMENTS

This publication was produced for the National Institutes of Health, National Institute on Drug Abuse (NIDA), Division of Epidemiology, Services and Prevention Research, by faculty and staff of the Johns Hopkins University, Bloomberg School of Public Health, Department of Mental Hygiene, under an order for services commissioned through Management Assistance Corporation of Rockville, Maryland. Leslie Cooper, Ph.D., M.P.H., R.N., National Institute on Drug Abuse, provided scientific oversight, critical review, and substantive comments for this publication.

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National Institute on Drug Abuse
NIH Publication No. 03-3888
Printed 1995
Revised September 1998
Revised September 2003

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Chapter 1. INTRODUCTION

The purpose of this report is to provide policymakers, program leaders and staff, health administrators, scientists, and others with information that may help them understand the nature and extent of illegal drug use, associated behaviors, and problems that now affect our Nation's racial/ethnic minority populations and the current non-Hispanic White majority population. Its content has been culled from the best and most recent reports on these topics.

Data sources for this report include the U.S. Census and large- and small-scale epidemiological studies that have been collecting and analyzing data on the incidence, prevalence, morbidity, mortality, and other adverse health consequences of illegal drug use in the United States, with a general restriction to investigations with ample coverage of two or more racial/ethnic populations. Study sponsors comprise an array of Federal agencies, including the U.S. Bureau of the Census (the Census Bureau); the National Institute on Drug Abuse (NIDA); the Centers for Disease Control and Prevention (CDC) and its constituent units, such as the National Center for Health Statistics; the Department of Education; the Department of Justice; the National Institute of Justice (NIJ); and the Substance Abuse and Mental Health Services Administration (SAMHSA). NIDA-sponsored research programs of special prominence in this report include the Monitoring the Future (MTF) project and the Native American youth surveys conducted by the Tri-Ethnic Center for Prevention Research in Fort Collins, Colorado. Information on youth's attitudes toward drugs also is included, based on surveys conducted by the Partnership for a Drug-Free America via its Partnership Attitude Tracking Survey (PATS).

The context for this report includes major demographic changes now affecting the United States. These changes started during the 20th century and will persist through the current century. For example, by 2030, racial/ethnic minorities are expected to constitute one-half of the K–12 student population of the United States. In a complementary demographic shift, the non-Hispanic White share of the total U.S. population is expected to decline from 75 percent in the early 1990s to 60 percent in 2030, 50 percent between 2050 and 2060, and 40 percent by 2100. By that year, non-Hispanic Whites will have become a racial/ethnic *minority* population of the United States (U.S. Bureau of the Census 2000a). This demographic transformation of the U.S. population and the composition of its minority populations warrant the attention of our policymakers and program planners, who must help our Nation understand and cope with the changing social and demographic context of our daily lives at home, in the workplace, and in our communities.

An historical perspective provides further context for this report. After the Second World War, medical, nonmedical, and extramedical domestic use of legitimate pharmaceutical products increased. These products, available over the counter or by prescription, included over-the-counter benzedrine inhalers and amphetamine-containing diet pills, as well as over-the-counter and prescription sedative (calming) and hypnotic (sleep-enhancing) medicines containing barbiturates and newer synthetic drugs. There was no assertion of a strong association linking use of these drugs to racial/ethnic minorities. Sustained problems associated with extramedical use of these drugs and concerns about potentially burgeoning use of heroin, marijuana, and LSD fostered a renewal of Federal interest.

In the United States, the era of military conflict and war in Vietnam was marked by an increase in marijuana smoking and LSD use, in addition to continued problems with psychostimulants and sedative-hypnotic medicines. New illegal drug use patterns surfaced in the form of recreational use of methylenedioxymethamphetamine (MDMA, "ecstasy") and other hallucinogenic and psychostimulant drugs (e.g., mescaline and crystal

methamphetamine) and cocaine hydrochloride powder (e.g., see National Commission on Marihuana and Drug Abuse 1972, 1973).

During the early 1970s, the complex social context of illegal drug use was recognized in the work of a new National Commission on Marihuana and Drug Abuse, which identified marijuana smoking and other illegal drug use as a "signal of misunderstanding" between the generations and diverse subgroups of our Nation (National Commission on Marihuana and Drug Abuse 1972, 1973). However, despite important scholarly and empirical contributions to our understanding of illegal drug use in the United States, the results of the commission's work mainly were seen in isolated changes of local and State policies toward marijuana use and in general improvements within the Federal apparatus for nationwide surveillance of illegal drug use and renovation of Federal responsibility for support of drug-related services and scientific research on illegal drug use.

The Federal surveillance apparatus fostered by the National Commission on Marihuana and Drug Abuse proved to be a robust contribution, in part because surveillance responsibilities soon were housed within newly established, science-oriented NIDA, before it became part of the National Institutes of Health (NIH) in 1992. One of the benefits of this work was a much-improved base of evidence on the epidemiology of illegal drug use and drug problems in the general population, starting with a national survey of illegal drug use completed for the commission in the early 1970s. After NIDA was formed in 1974, the first national survey of household residents evolved into a survey series that became the National Household Survey on Drug Abuse (NHSDA). This survey now is the major instrument for epidemiological surveillance of illegal drug use in the United States and is the responsibility of the Office of Applied Studies (OAS) within SAMHSA.

For its part, the former Bureau of Narcotics and Dangerous Drugs and current Drug Enforcement Administration (BNDD/DEA) fostered development of the Drug Abuse Warning Network (DAWN), a form of early sentinel surveillance to detect emerging patterns of illegal drug use that pose hazards to public health and safety. Once developed by BNDD/DEA, DAWN surveillance responsibilities were transferred to NIDA and then to OAS within SAMHSA. In use for about three decades, DAWN collects and reports information on casualties secondary to illegal drug use. Sources for this information are autopsy records of medical examiners and clinical records of hospitals with emergency rooms that have responsibility for management of drug overdoses and other drug-related emergency crises such as bad trips and acute infectious diseases.

Illegal drug use by high-school seniors also was recognized by the national commission as an important topic for surveillance, due in part to a recognition that the future leadership of any country depends heavily on its secondary school graduates. Soon after the first national survey of illegal drug use among secondary students, the University of Michigan inaugurated the MTF series of surveys of 12th-graders in 1975. These surveys were accompanied by a series of annual reports and monograph-length books based on a NIDA-funded repetition of the annual surveys for over 25 years. In recent years, the MTF surveys have expanded to include samples of 8th, 10th, and 12th grade.

After a decade of sustained surveillance via NHSDA, DAWN, and MTF, the Anti-Drug Abuse Act of 1986 and the Anti-Drug Abuse Act of 1988 fostered a deliberate focus on the illegal drug use of racial/ethnic minority populations and patients in drug treatment programs. Epidemiologic data about alcohol and other drug use among youth and adult minorities have slowly been emerging, but more attention is needed to adequately understand the nature and scope of illegal drug use and associated problems for these populations.

From these surveillance systems and specialized studies, we have learned that population subgroups experiencing high rates of illegal drug use and associated problems often are constrained by limited employment opportunities, poverty, illiteracy or low education level, and other unhealthy environmental conditions, such as disadvantaged neighborhoods and lack of social capital (Anthony and Helzer, in press for 2002). For some drugs (but not all), the prevalence of illegal drug use sometimes is higher in urban areas than in suburban or rural areas. Because minorities, particularly African Americans and Hispanics, often are concentrated in central city areas, one might think that they are at greater risk for illegal drug use and, ultimately, more at risk for associated negative social and health consequences. This report examines these and other preconceptions about racial/ethnic minority populations in the United States and includes a careful selection of published evidence on the subject.

DEFINITION OF RACE AND ETHNICITY

Any serious treatment of the topic of illegal drug use and racial/ethnic minorities must address current definitions of race and ethnicity, which are under increasing scrutiny. In addition, measurement procedures for race and ethnicity are changing as these concepts evolve. For example, in the U.S. Census, administrative statistics, and research projects, the head of a household or individual respondents are permitted to identify themselves in designations of race and ethnicity. Congruent with this approach, many scientists assert that race is a mere "social construct" and claim that the boundaries between different races depend more on perceptions within a social psychological context and less on fundamental biological differences. A similar claim is advanced in the argument that genetics research has successfully delegitimized claims that races are categorically distinct human groupings (e.g., see Begley 1995; Condit et al. 2001).

Although prominent in standard vital statistics and disease surveillance operations for almost two centuries, our concepts of race and ethnicity represent a longstanding source of social controversy. Definitions and measurement procedures for these concepts continue to vary considerably by investigation, with no strong consensus to support one concept or approach over another, even in programs directed toward conditions with race-lined genetic susceptibilities such as sickle-cell disease (e.g., see Condit et al. 2001).

In the United States, administrators responsible for national-level vital statistics and disease surveillance systems tend to steer clear of the controversies that arise in discussions of race and ethnicity. They generally have followed the standards outlined in *Statistical Policy Directive No. 15*, issued by the Office of Management and Budget (OMB) (U.S. Department of Commerce 1978). More recent standards have been issued,[1] which are being incorporated as revisions of the national-level vital statistics and disease surveillance systems. However, the data available for this report largely were gathered using protocols based on the prior standards for classification of race and ethnicity.

According to the 1978 directive, the four primary racial categories are American Indian/Alaska Native, Asian/Pacific Islander, African American or Black, and White. The directive identifies Hispanic origin as an ethnicity, which in this context is defined as the nationality group or country of birth of a person or a person's parents or ancestors before arrival in the United States. Persons of Hispanic origin may be of any race.

[1] "Recommendations from the Interagency Committee for the Review of the Racial and Ethnic Standards to the Office of Management and Budget Concerning Changes to the Standards for the Classification of Federal Data on Race and Ethnicity." *Federal Register* (62 FR 36874-36946), July 9, 1997.

The definitions for the four race categories, as specified under *Directive No. 15*, are as follows:

- American Indian/Alaska Native—a person having origins in any of the original peoples of North America who maintains cultural identification through tribal affiliations or community recognition;
- Asian/Pacific Islander—a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands;
- Black or African American—a person having origins in any of the racial groups of Africa; and
- White—a person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

These race categories may be combined with an ethnicity definition that distinguishes Hispanic individuals from those who are non-Hispanic, in accord with *Directive No. 15*:

- Hispanic—a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

Although these classification standards from 1978 have been used in many projects, they have been criticized for their failure to reflect the growing diversity of our Nation's population and their lack of sensitivity to distinctions within the broadly stated groups (e.g., subgroups within the Asian/Pacific Islander and American Indian/Alaska Native groups). During the last decades of the 20th century, immigration to the United States from Mexico, Central and South America, the Caribbean, and Asia reached historic proportions. In addition, as a result of the increase in interracial marriages, the number of persons born of mixed race or ethnicity has grown. *Directive 15* also has been criticized as failing to be scientific. In response to these and other criticisms, OMB initiated a new review of the classification standards for data on race and ethnicity in June 1993.

As part of the review process, OMB established the Interagency Committee for the Review of the Racial and Ethnic Standards in March 1994 to facilitate Federal agency participation in the review process. The committee's 30 members were employees of the agencies that represent the diverse Federal needs for data on race and ethnicity, including statutory requirements for such data. Two major elements of the process were (1) public comment on present definitions and (2) research and testing to assess the possible effects of recommended changes on the quality and usefulness of the resulting data. The goal of the committee's work was to produce definitions resulting in consistent, publicly accepted data on race and ethnicity to meet the needs of the Federal Government and the public, while recognizing the diversity of the population and respecting individual dignity.

This section details the Interagency Committee's recommendations for changes in racial and ethnic categories for use by the U.S. Government. The Census Bureau incorporated many of these changes into the 2000 census.

According to the Interagency Committee's recommendations, the minimum categories for data on race and ethnicity or Federal statistics and program administrative reporting are defined as follows:

- American Indian or Alaska Native—a person having origins in any of the original peoples of North and South America (including Central America) who maintains cultural identification through tribal affiliations or community recognition;

- Asian or Pacific Islander—a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. These areas include, for example, China, India, Japan, Korea, the Philippine Islands, Hawaii, and Samoa;
- Black or African American—a person having origins in any of the Black racial groups of Africa;
- Hispanic—a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race; and
- White—a person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

The recommended changes for data collection also include an emphasis on data quality. The committee recommended that when race and ethnicity data are collected separately, ethnicity data should be collected first. In addition, the minimum designations for ethnicity and race are as follows:

- Ethnicity
  - Hispanic origin
  - Not of Hispanic origin; and
- Race
  - American Indian or Alaska Native
  - Asian or Pacific Islander
  - Black or African American
  - White

In addition, persons are allowed but are not required to report more than one race. A minimum of one additional racial category, designated "more than one race" has been recommended to report the aggregate number of multiple race responses. This classification system allows for the collection of data on special subgroups, such as "Hispanic and one or more races" and "More than one race."

For the full text of the committee's analysis and recommendations, readers should refer to Appendix 2 of the *Federal Register* for July 9, 1997. These recommendations, designed to provide minimum standards for Federal data on race and ethnicity, address options for reporting by respondents, formats of questions, and several aspects of specific categories, including possible additions, revised terminology, and changes in definition. The Census Bureau has provided an overview of its implementation of these recommendations for the 2000 census (U.S. Bureau of the Census 2001a).

The following population statistics and information on drug use among members of each race/ethnicity are summarized from existing reports and provide a context for the data discussed later in this report. A summary of Asian/Pacific Islander information is provided for completeness only; data available on drug use within this segment of the U.S. population remain very limited, although promising new investigations are being conducted by OAS within SAMHSA and by investigators supported by NIH and CDC.

Notwithstanding the importance of summarizing national statistics in terms of broadly defined racial and ethnic subgroups, this report takes for granted that considerable heterogeneity and variation exist within the several racial groups and ethnic categories used in reporting statistics from recent surveys. Throughout this report, we draw the reader's attention to the clear heterogeneity and variation within minority populations of the United States. Statements that might be true, on average, for these aggregated populations may be wholly untrue for individual subgroups within the aggregate. For example, we know considerably more about the illegal drug use of American Indians than that of Alaska Natives. Broadly stated generalizations about the aggregate category for "American Indian/Alaska Native" populations may hold for some tribes of American Indians but not for others, or may hold for American Indians in general but not for Alaska Natives. Distinctions of this type, and the possibilities for variation within aggregate minority populations, are essential to remember, even as we make use of the aggregations to understand health disparities that might exist within and across racial and ethnic populations of the United States.

The report also is informed by a NIDA position statement on health disparities and the relationships between health disparities and the use of tobacco, alcohol, and illegal drugs. A copy of this statement is found in Appendix 1.

American Indians/Alaska Natives

At the turn of the century, 220,000 American Indians/Alaska Natives lived in the United States; the 1990 and 2000 census counts indicate that this population had grown to approximately 2 million, two times the 1970 count (U.S. Bureau of the Census 1991, 2000a). This exceptional increase may be traced to improved health care for all ages, a robust birth rate, reduced infant mortality, and possible greater willingness to report Native American ancestry in each of the most recent decennial census enumerations.

Several social and demographic facts are pertinent. For example, in 1994, the birth rate among American Indians/Alaska Natives was 13 percent higher than that of the country at large (U.S. Bureau of the Census 1996). The median age of the American Indian/Alaska Native population was 24.2 years in 1990, compared with 34.4 years for U.S. Whites (Indian Health Service 1994). Sixty-two percent of American Indians now live away from traditional native communities or reservations, and most groups are small with not much land (Robbins 1994). Indian culture and physical characteristics, though believed by many to be homogeneous, are best described as diverse. By the mid-1900s, there were more than 300 federally recognized tribes (Hirschfelder and Montano 1993). By 1997, there were more than 550 federally recognized tribes (U.S. Bureau of Indian Affairs 1997).

Serious concern exists that American Indian/Alaska Native populations have not been well represented in national statistics and surveillance activities for drug involvement (e.g., too few American Indian/Alaska Native participants in the surveys). In addition, the statistics and surveys generally have not attended to suspected variation in drug involvement within and across tribal groups in this minority population. Responding to these concerns, NIDA has sponsored research at the Tri-Ethnic Center for Prevention Research in Fort Collins, Colorado, and other studies designed to include specific coverage of American Indian or Alaska Native minority group members. These studies have suggested heavy use of alcohol, tobacco, and other drugs as serious public health problems within these populations (Beauvais et al. 1989; Blum et al. 1992; Fleming et al. 1996; Indian Health Service 1994; U.S. Department of Health and Human Services 1998; Stillner et al. 1999). Some research indicates more excessive drinking and illegal drug use among American Indians and Alaska Natives than

among most, if not all, other racial/ethnic minority groups in the United States, even when the younger median age of the American Indian/Alaska Native population group is taken into account (U.S. Office for Substance Abuse Prevention 1990; Bachman et al. 2001).

Excess prevalence of illegal drug use in the American Indian/Alaska Native population also is suggested in evidence from the most recent NHSDA, from calendar year 2000. According to NHSDA 2000, an estimated 14 million Americans age 12 and older were active and current illegal drug users (i.e., with a history of using drugs illegally during the 1-month interval before survey assessment). Estimated as a proportion, this value for "past month" or "current" use is slightly more than 6 percent of the total population age 12 and older. The corresponding survey estimate for active and current illegal drug use among American Indian/Alaska Natives is 12.6 percent (Substance Abuse and Mental Health Services Administration 2001b). In surveys focused solely on young people, prevalence estimates for drug involvement in the month before assessment also show that American Indian/Alaska Native youth use marijuana, cocaine, cigarettes, and alcohol at two or more times the observed values for Hispanic and non-Hispanic Whites and Blacks. In a recent study of young adolescents in North Carolina, cumulative occurrence of alcohol, tobacco, marijuana, and other drug use among American Indians exceeded the occurrence rates observed for non-Hispanic White and African-American groups (Federman et al. 1997). According to the national MTF study, by 12th grade an estimated 40 to 52 percent of American Indian/Alaska Native students smoke tobacco. Corresponding values for African-American students range from 10 to 20 percent (Bachman et al. 2001).

The higher prevalence values observed for American Indian/Alaska Native populations have been described by Robbins (1994) as cutting across many different subgroups of this aggregate category, affecting both sexes, and possibly nourishing cycles of poverty and disease. Regrettably, American Indian/Alaska Native youth have been observed to begin using tobacco cigarettes and alcohol at an earlier age than their White counterparts (Young 1988) and to try marijuana at an earlier age than White youth (U.S. Office for Substance Abuse Prevention 1990).

We already have mentioned the theme of heterogeneity or variation within aggregate racial/ethnic minority populations of the United States. The national statistics reported in this chapter and throughout this report are based mainly on data for American Indians, with few Alaska Natives included in the national surveys. Although several important recent focused studies of Alaska Native populations have been done (e.g., Stillner et al. 1999), it is difficult to compare results from these studies with those from nationally representative sample surveys because of differences in sampling plans, assessment methods, and other details of approach. Indeed, in reports from recent student surveys conducted for CDC, the prevalence of drug involvement among Alaska Native students was not found to be appreciably different from that of other students living in Alaska (Alaska Department of Health and Social Services 1995). For such reasons, it is not now possible to make a comprehensive comparison of illegal drug involvement and associated problems for subgroups within the American Indian/Alaska Native population. It is important to remember that statistical summaries about this population may be true, on average, but may not apply to specific individual tribal groups or other subgroupings within this population. Written with the hope that readers will keep this issue firmly in mind, the remainder of this report highlights comparisons between population-averaged values for the American Indian/Alaska Native population as a whole and corresponding population-averaged values for the other major population groups of the United States.

Asian/Pacific Islanders

Asian/Pacific Islanders comprise more than 60 separate racial/ethnic groups and subgroups. As was true for the American Indian/Alaska Native population, these groups are heterogeneous and considerable variation exists within the aggregate category described by the term "Asian/Pacific Islander" (Sue 1987). This heterogeneity encompasses dramatic variations in drug involvement (e.g., see National Center for Health Statistics 2000; U.S. Department of Health and Human Services 1998), not only within the continental United States, but also across subgroups as diverse as the Chamorro people of Guam and the Commonwealth of the Northern Mariana Islands (CNMI), native Hawaiians, the Samoans of American Samoa, and the Yapese, Chuukese, Kosraeans, and Pohnpeians of the Federated States of Micronesia.

Several illustrations underscore the heterogeneity within the broad Asian/Pacific Islander category used in the U.S. Census and in surveillance operations of the Federal Government. During the late 1980s and early 1990s, on Guam and Saipan in the Mariana Island chain of western Micronesia, serious outbreaks of methamphetamine use occurred in the form of "ice smoking," fueled by major supply lines from the Philippines and Japan, and coincident with early growth of Hawaii's methamphetamine problems (Furr et al. 2000). Despite regular travel between Hawaii, Micronesia, and Samoa, and within Micronesia, ice smoking never has posed major public health or safety problems in the more eastern parts of Micronesia such as Pohnpei, Chuuk, and Kosrae, nor in American Samoa, where methamphetamine trafficking and use has been observed in no more than limited outbreaks.

In addition, for decades, the chewing of betel nut for psychoactive purposes has been a common daily practice in the CNMI, Palau, and other parts of western Micronesia. However, betel nut has become a growing public health concern on Pohnpei and Chuuk in eastern Micronesia only within recent years and has had little salience on the islands of American Samoa or Hawaii. Drinking of intoxicating beverages derived from *Piper methysticum (kava, sakau-en-Pohnpei*) has receded from a former visible prominence in daily life for most residents of Tutuila, the most populous island of American Samoa. Yet it still is prominent within nearby Western Samoa and to some extent within the Manu'a island group of American Samoa and has become a public health concern on Pohnpei (but is not common within the nearby states of Kosrae and Chuuk). Drinking of such beverages may be increasing in the Hawaiian islands, but it is rare within the Commonwealth of the Northern Mariana Islands and Guam (Arria and Anthony 1999).

When the statistics on different groups are aggregated into a single category, it is possible to say that during the 1990s Asian/Pacific Islanders had one of the fastest growth rates among all racial/ethnic groups identified by the Census Bureau. In recent years, Southeast Asian refugees, Filipinos, and Koreans have been the fastest growing Asian groups. To the extent that people of Southeast Asian, Filipino, and Korean heritage retain distinctive patterns of alcohol and other drug use, changes of this type will be accompanied by changes in the alcohol and other drug use patterns of the Asian/Pacific Islander subgroup as a whole (Kim et al. 1995).

Until recently, information on drug use among Asian/Pacific Islanders generally has come to us from isolated surveys conducted by individual researchers, although recent increases in sample size for national surveys now provide greater coverage of drug involvement within this group. For example, based on the most recently published data from NHSDA 2000, it is possible to perceive important variations within the Asian/Pacific Islander population. As stated above, slightly more than 6 percent of Americans age 12 and older are current illegal drug users, and the corresponding value for American Indian/Alaska Natives is 12.6 percent. For

Asian/Pacific Islanders, the value is 2.7 percent. Notwithstanding the overall low value for Asian/Pacific Islanders in general, it is noteworthy that an estimated 6.9 percent of Korean Americans are current illegal drug users, a value that is not appreciably different from the population mean or average value for all persons (6.3 percent). For Chinese Americans, the corresponding estimate is just 1 percent; for Asian Indian Americans, 2.1 percent; for Filipino Americans, about 3 percent; for Vietnamese Americans, 4.3 percent, and for Japanese Americans, 5 percent (Substance Abuse and Mental Health Services Administration 2001b).

The main reason for this increased resolving power of the NHSDA findings for Asian/Pacific Islander subgroups is a recent major increase in the survey's sample size. For the most part, nationally representative sample surveys with 4,000 to 5,000 respondents will have a resolving power that yields reasonably precise estimates for the most populous Asian/Pacific Islander subgroups of the United States, such as Chinese and Vietnamese, but even larger samples are needed to disaggregate the statistics for Korean, Japanese, and other Asian heritage subgroups not listed specifically. In the near future, D.T. Takeuchi and colleagues will have completed a nationally representative sample survey of the larger Asian- and Hispanic-American population subgroups, which will provide national estimates on illegal drug involvement to compare with and augment current estimates from the NHSDA (D.T. Takeuchi, "National Latino and Asian American Study," National Institute of Mental Health [NIMH] grant MH62207, 2000).

The just-described estimates from NHSDA 2000 are generally consistent with a widely held belief that illegal drug use among Asian/Pacific Islanders occurs less frequently than for other segments of the U.S. population, although it is noteworthy that estimates for Korean Americans and Japanese Americans are not too different from the general population estimates. Until recently, it was thought that the underrepresentation of Asian/Pacific Islanders among alcohol and other drug users in general population surveys might have something to due with social stigma and a possibility that Asian/Pacific Islander American drug users are less likely to self-identify or pursue treatment services because such services are culturally inappropriate (Kuramoto 1994). Indeed, when cross-national comparisons of prevalence of problem drinking and alcohol dependence have been made, men in certain Asian countries (e.g., South Korea) have been observed to have extremely high values compared with men in the United States and most other countries (Anthony and Helzer 1995). Nonetheless, especially with illegal drug use, recent epidemiological survey data indicate that prevalence of drug involvement actually is generally lower among young Asian/Pacific Islanders than among White non-Hispanic American residents. This finding holds not only for NHSDA surveys but also for those of school-attending youths (e.g., see Bachman et al. 2001). Of course, because all results from these surveys are based on self-report data, concerns about variation in cultural values and social stigma have not been completely ruled out. These variations, in part, may account for some of the observed low prevalence values for certain Asian/Pacific Islander populations in the United States.

Within this report, it occasionally has been necessary to classify Asian/Pacific Islanders within the residual "Other" category for individuals who do not meet the criteria for Hispanic or non-Hispanic Whites or Blacks. This aggregate "Other" category is needed when specific estimates for Asian/Pacific Islanders are not possible (e.g., because sample size has been too small in all but the most recent surveys of illegal drug use). For many of the heterogeneous subgroups collected together within the "Other" category, this practice of aggregation can change with increasing availability of larger NHSDA sample sizes, with aggregation across years of the NHSDA surveys (e.g., see Delva et al. 1998; Obot et al. 1999; Obot and Anthony 2000), and with completion of studies such as the NIMH-sponsored national survey of Latinos and Asian Americans mentioned above.

African Americans

As is the case with Asian and Pacific Islander populations of the United States, our national statistics tend to convey information about African Americans in a single grouped category, despite what we know of the considerable heterogeneity within African-American communities of the United States. National statistics on illegal drug use now generally fail to reflect this heterogeneity. It is only within smaller specialized and possibly nonrepresentative studies that we can gain a picture of variations that exist across citizens of African heritage who have been U.S. residents for more than 200 years versus recent African-heritage immigrants from communities as diverse as Butajira in Ethiopia, where *khat* use is common (Alem et al. 1999), or Sao Paulo in Brazil, where the inhalant *lanca* is used by young people (Mesquita et al. 1998). There are some recent national surveys in which the investigators have attempted to study heterogeneity in mental health and drug problems across African-American subgroups defined in terms of Hispanic and Caribbean origins (e.g., J.S. Jackson, "National Survey of African American Mental Health," NIMH grant, 1999). Data from these surveys are not yet available for presentation in this year's report.

Summarized in relation to an aggregate category for all members of the subgroup, non-Hispanic African Americans comprise 12.2 percent of the total U.S. population (U.S. Bureau of the Census 2000). The non-Hispanic African-American share of the total U.S. population is expected to increase to 13 percent by 2030 and to remain stable at that level through the 21st century (U.S. Bureau of the Census 2000a).

The recent NHSDA 2000 prevalence estimates for recent illegal drug use are roughly equivalent for non-Hispanic African Americans and Whites: slightly more than 6 percent of these population members qualify as active and current illegal drug users in the month before survey assessment. By comparison, African-American high-school seniors consistently have been found to have lower estimates than White high-school seniors for prevalence of alcohol, tobacco, and other drug use. This finding also is true among African-American youth in lower grades, where less dropping out has occurred.

Without contradiction of these findings, it can be said that illegal drug use and drug trafficking continue to be major problems within African American communities of the U.S. (Johnston et al. 2001a-e; Ensminger, Anthony and McCord 1997). Some studies have given an impression that African Americans who use alcohol and other drugs experience higher rates of drug-related health problems than do users from other ethnic groups (e.g., see Herd 1989). Other studies indicate that the estimated rate of transition from drug use to drug dependence is not generally greater for African Americans, even for those living within inner city neighborhoods (e.g., see Anthony et al. 1994; Ensminger et al. 1997). There is some reason to believe that general impressions about African Americans and drug problems are based on partial evidence, traced back to racial profiling and other administrative practices that lead to overrepresentation of African Americans in criminal justice statistics and in public drug treatment programs where admissions draw heavily on referrals from the courts (e.g., see Blumstein and Beck 1999). Concern also has been expressed that African-American youth might be less willing to participate in surveys and less likely to provide accurate information about their drug-using histories.

For these reasons, it is important to note that the illegal drug-taking experiences of African Americans might be disproportionately underrepresented in some of the data sources used in this report, including surveys such as the MTF study. Lillie-Blanton et al. (1993) and others have expressed concern that findings from these data sources may not accurately reflect the true nature and extent of the drug use problems in this population. Wallace and Muroff (2002) have added important new information on the possibility of race-related conditions

of risk and protection against illegal drug use, with a focus on the experience of African-American children and teenagers.

Hispanics

The report already has mentioned heterogeneity within the broad categories of American Indian/Alaska Natives, Asian/Pacific Islanders, and African Americans. To be sure, the same heterogeneity characterizes the Hispanic American segment of the U.S. population, as well as the non-Hispanic White population. For example, Sokol-Katz and Ulbrich (1992) observed no relationship between family structure and alcohol or drug use among adolescents of Cuban heritage, but found that Mexican and Puerto Rican youth had more drug involvement when they were living in female-headed households. Freeman and colleagues (1999) recently reported differences in drug-taking patterns, AIDS knowledge, and HIV risk behaviors among recently immigrated drug users of Cuban, Mexican, or Puerto Rican heritage. Nielsen (2000) analyzed recent NHSDA 1993 data and found that Mexican-American men and women were somewhat more likely to have drinking problems and to drink more heavily than their counterparts in Cuban, Puerto Rican, and Central or South American Hispanic subgroups of the population. In the most recent NHSDA 2000 estimates, Puerto Ricans were more likely to be current illegal drug users (10.1 percent) than their counterparts in the general population age 12 years and older (Substance Abuse and Mental Health Services Administration 2001a). Interestingly, Cuban Americans were less likely to be illegal drug users (3.7 percent), and intermediate values were observed for Americans of Mexican heritage (5.5 percent) and Central or South American origin (4.1 percent). Therefore, attention to diversity within the Hispanic population is an important but often neglected feature of our national statistical summaries on the drug experiences of racial and ethnic minority groups in the United States. It can be especially useful to analyze the Hispanic data by country of origin, level of acculturation, and immigrant versus U.S.-born status. However, to date, little information of this type has been reported; virtually all tables in this report present statistics on the aggregate Hispanic population.

As noted in the introductory paragraphs of this section, demographic projections give us special reason to pay attention to the Hispanic segments of the U.S. population in the 21st century. Hispanics have become one of the fastest growing segments of the U.S. population. In 1995, Hispanics comprised 10 percent of the total U.S. population. By 2000, that value had grown to 12 percent and it is expected to double (to 24 percent) by 2050. Population projections indicate that by 2100 Hispanics will constitute one-third of the U.S. population (U.S. Bureau of the Census 1996, 2000a).

It also is important to note that Hispanics comprise one of the youngest segments of the U.S. population. The median age of Hispanics is 26.6 years, compared with 35.9 years for the U.S. population overall (U.S. Bureau of the Census 2000b). As is true for other minority populations of the United States, this demographic fact is important for studies of illegal drug use because the estimated risk of becoming a drug user and the estimated risk of becoming drug dependent are at peak values between the ages of 15 and 29 (e.g., see Wagner and Anthony 2002).

Poverty rates for Hispanics tend to be higher than rates among non-Hispanic Whites. Some 20 to 30 percent of Hispanic families fall below the poverty level, versus under 10 percent for non-Hispanic White families (Mayers et al. 1993; U.S. Bureau of the Census 2000c). In addition, no more than about 50 percent of the Hispanic population has completed 4 years or more of high school, versus more than 75 percent of non-Hispanics having achieved this education level. Wide socioeconomic disparities also exist among Hispanic

subgroups, such as Puerto Ricans, Mexican Americans, and Cuban Americans. These disparities must be considered when interpreting data on the health status of Hispanic population members of the United States, but they are rarely taken into account in statistical summaries.

Studies of young people indicate a tendency toward higher prevalence of several forms of drug involvement among Hispanic adolescents than among their counterparts in the non-Hispanic African-American and White segments of the population. Stresses associated with what often are more constrained economic conditions, combined with lower educational attainment, a generally higher degree of drug availability, and the possible impact of racism on self-esteem are believed to make Hispanics particularly vulnerable to alcohol and other drug use and associated problems (Delgado 1995). Recent data on active and current illegal drug use of 12th-graders indicate Hispanic high-school seniors have the highest prevalence estimates for use for cocaine, crack, other cocaine, and heroin (Johnston et al. 2001a-e; Monitoring the Future 2000).

OVERVIEW OF DRUG USE AND DRUG-RELATED PROBLEMS

As indicated by the above statistics, 20th-century epidemics of drug taking in the United States have not spared its racial/ethnic minority populations; moreover, for some subgroups evidence exists of excess risk. Concern about illegal drug use as well as tobacco and alcohol use among members of diverse racial/ethnic groups now accompanies a general concern about health disparities that can be readily observed within the U.S. population (Spiegler et al. 1989; U.S. Department of Health and Human Services 1998; U.S. Department of Health and Human Services 2000).

There can be little question that illegal drug use is linked to these observed health disparities. Alcohol, tobacco, and illegal drug use threatens users with many negative health-related consequences—not only cancers, cardiovascular diseases and stroke, but also fatal and nonfatal overdose, hepatitis, bacterial endocarditis, HIV infection and AIDS, and other diseases associated with high-risk behavior and sexual transmission. Drug use has been linked to increased risk of intentional and unintentional injuries, complications in pregnancy and delivery, and psychiatric disturbances, ranging from acute panic attacks to chronic mood disturbances. In addition, illegal drug use is associated with negative effects on employment, school achievement, socioeconomic status, and family stability, if only because illegal drug use, once detected, can lead to school suspension or expulsion, and to arrest, conviction, and incarceration for drug-related crimes (e.g., see Blumstein and Beck 1999). It is difficult to assess all of the complex and sometimes reciprocal linkages between illegal drug use and these negative health and social experiences, but there is little doubt that illegal drug use contributes to an increased probability of arrest, conviction, and incarceration for members of racial/ethnic minority populations in the United States and to associated health and social disparities. As such, illegal drug use is linked either directly or indirectly to these disparities.

The linkages that connect illegal drug use with observed health and social disparities affecting racial/ethnic minority populations of the United States generate a need for more information about the drug involvement of these populations and other phenomena associated with these behaviors, such as criminal offending, poor educational achievement, and other personal and social circumstances. This report presents a selection of available evidence that may promote a better understanding of illegal drug use across and within racial/ethnic minority populations of the United States. An overview of the NIDA research mission, research priorities, and action plans for health disparities is presented in Appendices 1 and 2.

METHODS

This report presents a selection of current available evidence on illegal drug use and drug-related problems among racial/ethnic groups residing in the United States. The information was obtained from published and unpublished data from an array of governmental and nongovernmental agencies and organizations. In each case, the sponsoring agency or organization collected data using its own methods and procedures. Therefore, data vary with respect to source, collection method, definitions, and reference period. Although a detailed description and comprehensive evaluation for each data source is beyond the scope of this report, summaries of data sources used and a general overview of their designs appear below. More complete and detailed descriptions can be obtained from the sponsoring agencies and organizations.

Total population estimates from most of the studies contributing to this report are generally precise, with relatively small sampling errors. Nonetheless, in some instances, estimates for specific racial/ethnic subgroups may be based on small numbers and are relatively imprecise with associated larger sampling errors. It has not always been possible to gauge the magnitude of these errors or their impact on the evidence presented in this report. Where possible, the tables include footnotes that describe each sample under study and data-collection method to help the reader evaluate the data. The reader should note that columns of numbers might not add up to their totals because of rounding.

The data presented in the report consist primarily of prevalence proportions and corresponding summary statistics from national data sources. Some of the tables contain data tabulated specifically for this report, including data from NHSDA, MTF, the Youth Risk Behavior Survey (YRBS), the National Longitudinal Survey of Youth (NLSY), the Arrestee Drug Abuse Monitoring (ADAM) program, and DAWN. Other tables present information previously published. Standard error estimates are not presented in the tables; however, they have been calculated for a majority of the national data sets. For those tables produced for this report, estimates with large relative standard errors and very low precision generally have been omitted to reduce the possibility that errors of interpretation will occur. The discussions accompanying the tables highlight only data findings and are not exhaustive. There is limited speculative discussion on the potential substantial and methodological explanations for the findings, and interpretation of programmatic or policy implications is left to the reader.

DATA SOURCES

Brief descriptions of each data source used in this report are provided below. For more detailed information on the data sources, readers may contact the sponsoring organizations. A general comment that applies to virtually all of these data sources involves the experience of Americans who represent linguistic minorities and whose preferred language is not English. In some instances, the administrators of these data sources have devised both English and Spanish versions of their data-collection procedures and assessment instruments, but for the most part these procedures are conducted in English. Some observers have noted that the validity of these data may be questionable when the survey respondent or other data source speaks English not at all or only as a second, infrequently used language.

Census of the United States

The U.S. Census Bureau has conducted censuses of the population in the United States every 10 years since 1790, with assessment of mental health and alcoholism issues starting during the interval from 1830 to 1880

(Anthony and Van Etten 1998). In both the 1990 and 2000 census, data were collected on sex, race, age, and marital status from 100 percent of the enumerated population of the country. More detailed information on topics such as income, education, housing, occupation, and industry were collected from a representative sample of the total population. For example, in 1990, across most of the country, one out of six households received a more detailed census form. In places estimated to have a population of under 2,500 residents, 50 percent of households received the more detailed questionnaire.

For more information on the 1990 and 2000 censuses, see *U.S. Bureau of the Census, 1990 Census of the Population, General Population Characteristics, Series 1990, CP-1*, and the corresponding reports on the 2000 census, or write U.S. Bureau of the Census, Population Division, Washington, DC 20233.

National Household Survey on Drug Abuse

NHSDA collects data on the use of tobacco cigarettes, smokeless tobacco, and alcoholic beverages, as well as on marijuana, heroin, and other illegal drug use, based on survey responses from a representative sample of U.S. residents age 12 and older, with exclusion of certain nonhousehold segments of the population (e.g., homeless individuals). NHSDA began in 1971 under the auspices of the National Commission on Marijuana and Drug Abuse. NIDA sponsored the survey from 1974 to September 1992. Since October 1992, the survey has been sponsored by SAMHSA and is the responsibility of OAS, which is within SAMHSA.

Since 1991, NHSDA has covered the U.S. civilian noninstitutionalized population age 12 and older. This includes civilians living on military bases and persons living in noninstitutionalized group quarters, such as college dormitories, rooming houses, and shelters. Hawaii and Alaska were included for the first time in 1991. In 1994 and in several subsequent years, the survey methodology was changed and refined in a manner that may have induced changes in the time series of evidence, with an intention of improving the quality of the evidence. With respect to some of the changes, it has been possible to construct the survey with both the old and the new methods and generate two sets of estimates for comparison. For this reason, there sometimes are two sets of estimates based on the 1994 data. The first set, called the 1994-A estimates, was based on the same questionnaire and editing method as had been used in 1993. The second set, called the 1994-B estimates, was based on a new questionnaire and editing methods. For the most part, the OAS staff has been attentive to these changes and refinements and developed adjustment procedures to compensate for artifactual variation associated with change in methods. A description of the adjustment method associated with the 1994 methodological refinements can be found in *NHSDA Advance Report Number 18*, Appendix A, available from SAMHSA (Substance Abuse and Mental Health Administration 1996).

In general, NHSDA over the years has employed a multistage probability sample design, with participation of 90 to 95 percent of households designated for that stage of sampling, and with participation of 70 to 80 percent of respondents designated for sampling within households. Over the past 15 years, the NHSDA sample size has grown from under 10,000 respondents per year before 1990 to more than 70,000 respondents per year since 2000. For example, almost 170,000 household addresses were screened in 2002 for eligibility and then sampled; the reported response rate for screened households is 92.8 percent. A total of 71,764 designated respondents were sampled and were interviewed within screened households, yielding a 73.9-percent individual level response rate.

For many years, young people (e.g., ages 12–17 years), African Americans, and Hispanics have been oversampled to improve the precision of NHSDA estimates for these population subgroups. In recent years, the sampling plan was redesigned to yield survey-based estimates for a selection of States and the District of Columbia, with synthetic estimates for other states. Features of oversampling, multistage sampling, clustering within sampled segments, multiple respondents within households, and survey nonresponse are taken into account via appropriate estimation procedures for proportions, means, and their variances.

For most of its history, NHSDA has relied on a self-report answer sheet methodology to elicit information from individual respondents. In brief, according to the standard NHSDA protocol, an interviewer on the survey field staff followed standardized procedures to sample and recruit each designated respondent in accord with directions approved by an Institutional Review Board for protection of human subjects. The interviewer then secured a private location within or close by the household and completed the interview either as a face-to-face interview or as a questionnaire assessment. In many instances, the face-to-face interview involved the interviewers reading the standardized interview questions and the respondent marking the answers on an individualized precoded answer sheet before filing the completed answer sheet in a sealed envelope. This procedure provided an additional level of protection because the interviewer read the questions but did not know the respondent's answers. In other instances, a questionnaire approach was used, with the interviewer not even reading the questions and having no "interviewing" role per se; the respondent read the questions privately and then marked the answer sheet and sealed the sheet in the envelope. Sometimes, due to illiteracy or vision problems, the interviewer conducted the interview in a standard face-to-face manner, not only reading the questions aloud and listening for an answer, but also marking the answer on behalf of the respondent.

Methodological experiments in the mid-1990s suggested that increased completeness and accuracy of reporting might be gained by changing the method to that of an audio computer-assisted personal interview (ACASI). Starting in 1999, virtually all NHSDA interviews have been completed with the ACASI method, by which the field staff member first samples, recruits, and secures informed consent from each designated respondent. Thereafter, the task has been to set up the laptop computer for a private ACASI assessment session, during which the interviewer is nearby but unable to hear or see the question-answer sequence of the ACASI interview. Of course, the respondent still has options and may request the traditional face-to-face interview (e.g., when there are vision problems or computer illiteracy). Nevertheless, in most instances, the interviewer's role during the interview assessment has been suppressed and the respondent interacts solely with the computer during the assessment interval.

For more information on NHSDA, see any of their recent reports, which include abbreviated descriptions of the methods, or refer to the more detailed appendix materials and methodological reports. Many of these materials are available on the SAMHSA Web site at www.samhsa.gov/oas. Alternately, readers may request hardcopy reports by writing to the Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Room 16-105, 5600 Fishers Lane, Rockville, MD 20857.

Partnership Attitude Tracking Survey

PATS originally was designed to measure the extent to which the Partnership for a Drug-Free America's media campaign might be successful in changing attitudes toward illegal drug use. Its current purpose is to monitor, on an ongoing basis, the behavior and attitudes of young people and adults toward drugs. PATS is one of the Nation's largest surveys on attitudes toward illegal drugs and the only national level research tool for measuring

the attitudes of students in grades 4–6. In the 1996 PATS studies, 12,292 interviews were conducted. Since then, each year the PATS sample has included 2,000 to 3,000 children in grades 4–6; 6,000 to 8,000 teenagers in grades 7–12; and 700 to 900 adults.

PATS consists of a series of studies conducted from 1988 to the present. In the earliest installments, interview methods were used to secure information from respondents sampled from schools or homes. In more recent years, all of the assessments have been via self-administered anonymous questionnaires, completed with due attention to confidentiality requirements.

When PATS samples students in schools, it does so in three parts: a national sample of approximately 100 schools, a supplemental sample of about 25 schools in heavily African-American areas, and a supplemental sample of about 25 schools in heavily Hispanic areas. The PATS in-home surveys of adults focus on a randomly selected parent living within a sampled household, with a child or children under age 19.

For more information on PATS and its methods, visit its Web site at www.drugfreeamerica.org, email to webmail@drugfree.org, or write to Partnership for a Drug Free America, Suite 1601, 405 Lexington Avenue, New York, NY 10174.

Monitoring the Future Study

This large-scale epidemiological survey of illegal student drug use was initiated in 1975 and has been conducted annually through a NIDA grant awarded to the University of Michigan's Institute for Social Research. The MTF survey is based on a nationally representative probability sample of public- and private-school students in the contiguous United States. The survey originally included only high-school seniors, but 8th- and 10th-grade samples were added in the 1990–1991 school year to survey students who might drop out before graduating. The measures and procedures employed have been standardized and applied consistently to the data collection since 1975. The survey design also includes a longitudinal study of a subsample of each graduating class. This element of the research design allows monitoring of the maturational factors associated with drug abuse. The followup data for high-school graduates is divided into two groups: those who went to college and those who did not go to college after graduating from high school. The adult portion of the annual report provides many tables that allow comparisons to be made between these two groups.

This survey is ongoing. The latest data available when this report was prepared are from the 1999–2000 school year surveys. Each year, for the national survey of 8th-graders, 150 to 160 schools are sampled, and 17,000 to 19,000 students are surveyed. For the 10th-graders, 120 to 160 high schools are sampled, and approximately 13,000 to 16,000 students are surveyed. For the 12th-graders, 130 to 140 schools are sampled and 12,000 to 15,000 students are surveyed. The data in routine MTF reports are not available on a State or sub-State level, and the confidentiality of individual schools and students is protected. A report on the data is released 6 to 8 months after the end of a school year and initially is disseminated by NIDA press release, with subsequent release in annual report format. The annual report includes long-term trend data. In general, MTF data on the 8th-, 10th-, and 12th-graders are published in one volume with an overview report and a comprehensive main report; data on the young adults and college students are published in a second volume. Methodological reports and book-length monographs augment the annual statistical report from the NIDA-supported MTF research group.

For more information on the MTF study, see *National Survey Results on Drug Use from the Monitoring the Future Study, 1975–2001*, as well as annual reports, press releases, and occasional books, which can be located via www.monitoringthefuture.org or by writing to NIDA, Division of Epidemiology, Services and Prevention Research, 6001 Executive Boulevard, Suite 525, MSC 9589, Bethesda, MD 20892.

National Longitudinal Survey of Youth

NLSY is an ongoing longitudinal study sponsored by the Bureau of Labor Statistics. Annual interviews have been conducted with a national sample of approximately 12,000 men and women who were 14–21 years of age in January 1979. Yearly interviews have been conducted with more than 90 percent of the original respondents since 1979. The 1988, 1992, 1994, and 1998 surveys include information about drug use obtained in the 1984 interview along with complete pregnancy records for women, including information about prenatal care, alcohol and tobacco use during pregnancy, and the length and weight of each child at birth. An additional 5,500 children of the female participants have been evaluated for cognitive, socioemotional, and physiologic aspects of their development. NIDA and the Bureau of Labor Statistics developed an interagency agreement to add sets of questions about illegal drug use for the 1988, 1992, 1994, and 1998 rounds of NLSY. These questions assess characteristics such as the recency and frequency of marijuana and cocaine use. Also included are questions about the use of marijuana and cocaine during pregnancy for those who gave birth since 1987.

For more information on NLSY, visit www.bls.gov/nls or write to the Center for Human Resource Research, Ohio State University, 921 Chatham Lane, Suite 200, Columbus, OH 43221.

Dropout Statistics

The Department of Education's National Center for Education Statistics (NCES) collects and reports annually on statistics and other data related to education in the United States and other countries, including school dropout rates. In most years, NCES dropout data have included event rates and status rates. The event rate measures the proportion of students who drop out of school in a single year without completing high school. The status rate measures the proportion of the population that has not completed high school and is not enrolled at one point in time regardless of when they dropped out.

For more information on dropout statistics, see *Dropout Rates in the United States 1995*, National Center for Educational Statistics 97-473, visit www.necs.ed.gov, or write to the National Center for Educational Statistics, U.S. Department of Education, Office of Educational Research and Improvement, 555 New Jersey Avenue, NW, Washington, DC 20208.

American Indian/Alaska Native Statistics

There is no single comprehensive Federal effort to collect data on drug use within the American Indian/Alaska Native populations of the United States. Consequently, data on American Indian/Alaska Native populations were obtained for this report from publications by Beauvais and colleagues (1985a-b, 1989; see also Beauvais 2001) and from recent data issued by the MTF study and NHSDA. Beauvais' research team has collected data on drug use rates among American Indian youth since 1975. In addition to monitoring levels of use, they have conducted studies examining the etiology of drug and alcohol use in this population (e.g., see Beauvais et al. 1989). The data for this project are gathered through anonymous self-report surveys administered in school classes. The survey includes questions about lifetime history of using 11 drugs. Currently active use, depth of

involvement, and patterns of use are assessed for the more frequently used drugs. Other topic areas involve correlates of drug use, including variables such as demographics, attitudes toward drugs, peer and family influence, general deviance, cultural identification, school adjustment, personal adjustment, and attitudes toward the future.

Due to the difficulty involved in obtaining permission to conduct the survey on individual reservations, researchers are not able to guarantee that the sample is nationally representative of the total American Indian/Alaska Native population. To compensate for this problem, 2 years of data often are combined to borrow information across the survey years and to increase the representativeness and precision of the sample. The project team is confident that this procedure of borrowing information across survey years promotes consistency of the drug use rates across tribes and over time.

For more information on Native American data, visit www.colostate.edu/depts/TEC or write to the Tri-Ethnic Center for Prevention Research, C-78 Clark Building, Psychology Department, Colorado State University, Fort Collins, CO 80523.

Youth Risk Behavior Survey

YRBS is a component of the Youth Risk Behavior Surveillance System (YRBSS), maintained by CDC. YRBSS comprises three complementary components: (1) national school-based surveys, (2) State and local school-based surveys, and (3) a national household-based survey. Each of these components has provided useful information about various subpopulations of adolescents in the United States.

The school-based survey first was conducted in 1990, and the household-based survey was initiated in 1992. The school-based survey is conducted biennially in odd-numbered years among national probability samples of students in grades 9–12 from public and private schools. Schools with a large proportion of Black and Hispanic students are oversampled to provide stable estimates for these subgroups. For this report, the most recently available data are from the 1999 YRBS.

For more information on YRBSS, write to Centers for Disease Control and Prevention, 4770 Buford Highway, NE, Atlanta, GA, or visit www.cdc.gov/nccdphp/dash/yrbs and the CDC Web site.

Drug Abuse Warning Network

Starting with a pilot study and then expanding to more participating sites, DAWN was originated as a surveillance system by DEA, which operated the network from 1973 through 1979. Thereafter, NIDA assumed responsibility for DAWN operations from 1980 through 1991. Since 1992, SAMHSA has operated DAWN, which now functions as a surveillance system for drug-related events in hospital emergency room (ER) and medical examiner facilities. DAWN collects information on the occurrence of drug-related casualties that have resulted in a medical crisis or death. Since its inception, DAWN's major objectives have included monitoring illegal drug use patterns and trends (especially newly emerging patterns), identifying specific drugs associated with adverse drug-related events, and assessing drug-related consequences and other health hazards of illegal drug use.

Hospital ERs eligible for DAWN participation are in non-Federal, short-stay general hospitals and must be open 24 hours a day. Since 1988, the DAWN ER data have been collected from a representative sample of these hospitals, including 21 oversampled metropolitan area hospitals. Data from this sample are used to generate national estimates of the total number of ER drug use episodes and drug mentions in all such hospitals.

Within each participating facility, a designated DAWN reporter is responsible for identifying drug abuse episodes by reviewing official records, transcribing, and submitting data on each case. Data collected by DAWN include the drug(s) involved in the ER episode; sex, age, and race/ethnicity of patients; reasons for the ER visit; single or multiple drug use; and the route of administration.

For more information on DAWN, see *Drug Abuse Warning Network Annual Medical Examiner Data: 1999* or write to the Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Room 16C-06, 5600 Fishers Lane, Rockville, MD 20857. Information is also available at www.samhsa.gov/oas/dawn.htm.

AIDS Surveillance Data

CDC maintains AIDS surveillance data by using information collected by health departments in each state, territory, and the District of Columbia. Although surveillance activities range from passive to active, most areas employ multifaceted active surveillance programs, which include the following four major reporting sources of AIDS information: (1) hospitals and hospital-based physicians, (2) physicians in nonhospital practice, (3) public and private clinics, (4) and medical record systems (e.g., death certificates, tumor registries, hospital discharge abstracts, and communicable disease reports). Using a standard confidential case report form, the health departments collect information without personal identifiers; this information then is coded and computerized either at CDC or at health departments, which transmit the information electronically to CDC.

AIDS surveillance data are used to detect epidemiologic trends to identify unusual cases requiring followup and for quarterly publication in CDC's *HIV/AIDS Surveillance Report*. Studies to determine the completeness of reporting of AIDS cases that meet the national surveillance definition suggest reporting at greater than or equal to 90 percent. The number of deaths among AIDS cases reported to CDC's AIDS Surveillance System differs from the number of HIV infection deaths based on the National Vital Statistics System. The major reasons for these differences are (1) not all persons diagnosed with AIDS are reported to the AIDS Surveillance System, (2) not all deaths of persons with AIDS are due to AIDS, and (3) not all deaths due to HIV infection are reported as such on the death certificate.

For more information on AIDS surveillance, write to CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003 or to Chief, Surveillance Branch, Division of HIV/AIDS, National Center for HIV, AIDS, STD, and TB, Centers for Disease Control and Prevention, Atlanta, GA 30333. Information is also available at www.cdc.gov/hiv/dhap.htm.

Arrestee Drug Abuse Monitoring Program

As a refinement of a surveillance system formerly known as the Drug Use Forecasting program, ADAM measures recent drug use among booked arrestees at multiple sites in major metropolitan areas across the United States. Originally, there were 20 to 25 ADAM sites within the United States; today, 35 cities are represented in the

ADAM domestic surveillance network and there are participating international sites as well. Pending availability of funds through NIJ, plans are in place to expand ADAM to more than 70 sites.

ADAM's primary purpose has been to monitor illegal drug use among booked arrestees in major U.S. cities. It provides information about the effectiveness of local drug policies and practices and offers a solid basis for resource allocation decisions. By collecting urine samples and interviewing arrestees on a quarterly basis, ADAM has become a consistent tool for tracking drug use trends among this difficult-to-study population of users.

Arrestee participation is voluntary and anonymous. The ADAM sampling strategy is site specific, and participants are not necessarily statistically representative of all arrestees. All female arrestees are eligible to be included in the ADAM sample. However, the large numbers of male arrestees require that a selection be made. Males arrested for vagrancy, loitering, and traffic violations may be excluded and generally have been. Other arrestees are chosen by type of charge using the following priority: (1) nondrug felony charges, (2) nondrug misdemeanor charges, (3) drug felony charges, and (4) warrants for any charge. To prevent oversampling arrestees with a high propensity for drug use, only 20 percent of males arrested and charged with drug offenses are interviewed. In consequence, it is likely that ADAM data underestimate the proportion of arrestees who have used drugs less recently, because urinalysis reveals the presence of most drugs only within 48 to 72 hours of their use.

On average, 80 to 90 percent of designated arrestees have agreed to participate in the ADAM assessments, with 80 percent providing a urine sample. The total sample of booked arrestees in the ADAM program from 1987 through 1999 included 337,450 adults, of which 247,655 were males and 89,795 were females. In some sites, there is a supplementary ADAM program for juvenile arrestees.

The ADAM sample should not be regarded as a random sample of booked arrestees; it was determined early in the ADAM program's development that selecting random samples would not be feasible in the environment in which the program would have to operate. In most sites, 225 males are now interviewed each quarter. For female arrestees, the goal is to interview at least 100.

For more information on the ADAM program, write to the U.S. Department of Justice, National Institute of Justice, 633 Indiana Avenue, N.W., Washington, DC 20531. Information also is available at www.adam-nij.net.

ORGANIZATION OF THIS REPORT

The remaining chapters of this report present detailed data on drug use among U.S. racial/ethnic groups, based on the above data sources and ancillary studies. Chapter 2 presents basic population statistics from the Census Bureau and projections for racial/ethnic minorities in the United States. This information is useful for determining the relative size of the major racial/ethnic populations within the United States and for comparing demographic factors such as family income.

Chapter 3 provides an overview of drug use patterns for the total U.S. population and for the four racial population groups and two ethnic categories defined in the first sections of this chapter. Data for Chapter 3 were obtained from NHSDA, which has become the most comprehensive source of population-level illegal drug use prevalence data available in the United States. Chapter 3 also includes estimates for (1) prevalence proportions based on recently active illegal drug use in the United States (i.e., illegal drug use in the month before the survey assessment) and (2) the cumulative occurrence of illegal drug use. Estimates of cumulative occurrence are

derived by estimating the cumulative number of illegal drug users who report either a recent or a past history of illegal drug use, where cumulative number is the total number of individuals whose lifetime history includes at least one occasion of illegal drug use.

One useful way to think about cumulative occurrence of illegal drug use starts by conceptualizing the prevalence proportion for recently active or current illegal drug use (i.e., use in the month before the survey assessment). This prevalence proportion often is called "1-month prevalence" or "past-month prevalence" of illegal drug use because it is an index of the fraction of the population who have used illegal drugs at least one time in the month before assessment. We then can extend the time frame to encompass the year before the survey assessment, deriving a "1-year prevalence" or "past-year prevalence" of illegal drug use. Notice that these time intervals are fixed at 1 month and 1 year. For "1-month prevalence" the interval stretches back 1 month before the date of assessment. For "1-year prevalence" the interval stretches back to 1 year before the date of assessment.

Extending this concept, we can think about a time interval that stretches back to the birth of the respondent, but here we no longer have a fixed span of time (i.e., 1 month, or 1 year). Instead, we have the number of years that have spanned the gap from an individual's birth to the time of assessment. This is the nature of the "cumulative occurrence" estimate. It covers the time span from the individual's birth to the date of the survey assessment. Individuals who report having used drugs illegally are counted in the numerator of a ratio for the cumulative occurrence of illegal drug use; all individuals are counted in the denominator of the ratio. Because the span for assessment covers the complete interval from birth to the time of assessment, the "cumulative occurrence" estimate sometimes is called the "lifetime prevalence" estimate.

One of the complications of all of these estimates is that they do not reflect the experience of illegal drug users who have died as a result of their illegal drug use, in association with their illegal drug use, or unconnected to their illegal drug use. All of these estimates from cross-sectional survey data are based on individuals who have survived to the date of assessment. These estimates must be interpreted with this limitation in mind, no matter how they are constructed and what they are called.

In some instances, corresponding estimates are presented for tobacco and alcoholic beverages for comparative purposes. When appropriate, estimates are presented for a prevalence proportion that is based on the number of individuals who have engaged in illegal drug use during the year before assessment (sometimes called "past-year prevalence"). Proportions of this type may be interpreted as a fraction (or percentage) of the total study population under study, or as a fraction (or percentage) of a specific population subgroup of interest (e.g., African Americans age 12 and older). Throughout this report, the concept of illegal drug use encompasses the use of Schedule I drugs such as marijuana and heroin, regarded by the Federal Government as having no acceptable medical use in the United States, plus Schedule II drugs such as cocaine, regarded as having acceptable medical uses but with essentially similar levels of risk to public health or safety, as well as other controlled drugs such as barbiturates and the amphetamines. The latter have been thought to pose somewhat lower levels of risk to public health or safety as compared to heroin or cocaine.

Illegal drug use also encompasses extramedical use of prescribed drugs, such as methylphenidate (Ritalin®), when consumed for recreational purposes or for nonmedical or extramedical reasons that go beyond the boundaries of medically prescribed use (e.g., for suicide attempts), as well as the use of inhalant drugs such as glue or ether when the intent is to get high or for other related extramedical purposes. Anthony and colleagues (1994) provide a detailed description of the concept of "extramedical drug use" as a complement to the concept of

"illegal drug use," with attention to the recreational use of inhalants and other chemicals that do not necessarily represent illegal uses of the chemicals but that may pose risks for public health and safety. The notion of "extramedical" drug use is needed because sometimes a patient has taken a medicine that a doctor has prescribed and become dependent by taking more than the doctor had intended (e.g., to secure effective pain relief). Strictly speaking, this patient behavior fails to qualify as "nonmedical drug use" because the patient is administering the drug for reasons that the doctor intended. However, it is "extramedical" use in the sense that the patient has exceeded the prescribed dosage regimen in an misguided attempt to secure effective pain relief when the prescribed dosage level is not working as it should (Anthony et al. 1994). The term "nonmedical" might imply that this patient sought an effect such as "getting high," which would be beyond the boundaries of the prescribed indication, whereas the term "extramedical" simply implies that the patient might be administering the medicine to secure a medically legitimate result or indication (i.e., effective pain relief), even if the patient ends up taking more than the doctor prescribed to achieve this result. That is, the notion of "nonmedical drug use" groups patients who are seeking the pain relief intended by a doctor with those who use the prescribed medicines to get high. The notion of "extramedical use" provides an additional element of elaboration and encompasses the patient who might be taking more than was prescribed—not to get high, but to achieve the physician's desired result of effective pain relief.

Chapter 4 of this report examines illegal drug use, attitudes about drugs, and drug-related behaviors among minority youth; it also includes data on the overall prevalence of drug use among youth. These data originate from several sources including the Census Bureau, MTF study, NLSY, NHSDA, and PATS.

Chapter 5 presents data on risk behaviors such as dropping out of school, driving under the influence of alcohol or drugs, and engaging in high-risk sexual behaviors. Data sources for this chapter were the Department of Education, NHSDA, and YRBS.

Chapter 6 examines the adverse health consequences of drug use. Data sources for this chapter were DAWN and CDC's AIDS Surveillance System. This chapter presents prevalence estimates on drug-related medical emergencies, drug-related deaths, and information on the medical consequences of drug use.

Chapter 7 addresses drug use and crime. Data on the drug use history of booked arrestees and the percent of arrestees who committed their offense under the influence of drugs are presented in this chapter. Data were obtained from the ADAM program.

Chapter 8 summarizes this report and presents future programmatic and research needs pertinent to illegal drug use and associated problems. A discussion of limitations to the understanding of illegal drug use of minority populations is offered, along with a summary of issues that merit consideration when conducting research and interpreting results on illegal and extramedical drug use of racial/ethnic minority populations.

Chapter 2. POPULATION STATISTICS FOR RACIAL/ETHNIC MINORITIES IN THE UNITED STATES

This chapter presents census data on the general population residing in the United States and projections for the population growth rate of racial/ethnic minorities. Also presented in this chapter are data on the percentage of the population living below the poverty threshold. The distribution of racial/ethnic groups in the United States is changing. As noted in Chapter 1, rigorously derived population projections show that major demographic changes will continue through the 21st century (U.S. Bureau of the Census 2000a). The non-Hispanic White share of the population is projected to decline steadily, as Asian/Pacific Islander and Hispanic populations increase in number and proportional representation; the non-Hispanic African-American share will remain relatively stable over this period. Coincident with general growth in the size of the U.S. population, it is estimated that the African-American population will roughly double—from about 30 million in 2000 to 60 to 70 million in 2080. By comparison, the Hispanic population will more than triple—growing from about 30 million in 2000 to almost 100 million in 2050; the Asian/Pacific Islander population will also more than triple—increasing from about 10 to 11 million in 2000 to more than 30 million in 2050 (U.S. Bureau of the Census 2000a).

Racial and ethnic minority groups in the United States do not share identical circumstances of daily life and residential location. Residential location is of special importance in studies of the nature and extent of illegal drug use because sometimes considerable urban-rural differences exist in the distribution and dynamics of drug involvement within the United States, as well as variations in drugs of choice (e.g., see James et al 2002; Johnston et al. 1993). Some drugs, such as sustained-release oxycodone (OxyContin®) have become major problems in rural areas, whereas most metropolitan areas have been less affected by this drug (National Institute on Drug Abuse 2001a). In addition, within U.S. cities, there sometimes are extreme versions of social and cultural conditions and processes conducive to drug trafficking, availability of drugs, and drug taking, such as limited opportunities for lucrative employment in otherwise impoverished neighborhoods (e.g., see Levitt and Venkatesh 2000), neighborhood disadvantage, disorganization, and constraints on collective efficacy and social capital (Newcomb 1995; Sampson et al. 1997).

Of course, drug distribution and drug use have not been limited to urban areas; rural areas have been affected as well. For example, prevalence of tobacco smoking is greatest in rural America (Substance Abuse and Mental Health Services Administration 1999b, 2000c-d, 2001b). Marijuana cultivation became commonplace in rural America, starting before 1950 with legal wartime cultivation of hemp for rope. Marijuana's position as an illegal rural cash crop increased in the last quarter of the 20th century, and it now is grown and distributed widely in rural areas throughout most of the continental United States and Hawaii (Joy et al. 1999). In theory, cocaine also can be grown in some of the more mountainous parts of the United States. However, climate, altitude, and other circumstances have constrained domestic cultivation of cocaine (Montagne 1991). Hence, cocaine supply, distribution, and use have become more prominent among the social problems facing urban rather than rural residents of the United States.

Census Bureau data indicate that minorities were overrepresented in central cities and metropolitan areas. For example, about one-half of the U.S. population lives in large standard metropolitan statistical areas with a population of 1 million people or more. Non-Hispanic Whites now account for about 70 percent of the total U.S. population (71.4 percent), but only one-fifth (21.7 percent) of Whites live in central cities. In contrast, African Americans account for about 12 percent of the total U.S. population, more than one-half (55 percent) of whom live in central cities (McKinnon and Humes 2000).

POPULATION STATISTICS

Based on estimates from the Census Bureau (1990), Table 1 presents percentage distributions for the resident population of the United States by race/ethnicity for 1990 and projections for selected years from 2000 to 2100. These data indicate that the Asian/Pacific Islander segment of the U.S. population will experience the greatest proportional change between 2000 and 2100, followed by persons of Hispanic origin. If these projections hold, non-Hispanic Whites will no longer be a majority population within the United States sometime between 2050 and 2060.

Table 2 displays 1993, 1995, 1997, 1999, and 2000 weighted average poverty thresholds estimated from the 1980 and 1990 censuses, by size of family unit. Families or individuals with incomes below their appropriate thresholds are classified as below the poverty level. These thresholds are updated annually to reflect changes in the Consumer Price Index for all suburban consumers. The table shows that in 2000, the average poverty threshold for a family of four was $17,601, an increase of about 19 percent from 1993 (U.S. Bureau of the Census 2001b, 2000c).

Table 3 presents the 2000 income thresholds below which people are classified as living in poverty, by family size and number of related children under age 18. In 2000, the poverty threshold for a single person under age 65 was $8,958 per year, and the poverty threshold for a family of four with two children under age 18 was $17,463 per year.

Table 4 presents the percentage and number of people in the United States living below poverty level by racial/ethnic group, as shown in Census Bureau data from 1990 through 2000. The proportion of individuals classified below the poverty level decreased over this period, from 13.5 percent in 1990 to 11.3 percent in 2000, reflecting a period of economic expansion that ended in 2000–2001. A comparison of poverty level by race/ethnicity indicates that less than 25 percent of African Americans were living in poverty in 2000, compared with relatively stable values of 30 percent to 33 percent between 1973 and 1993. The proportion of Hispanic people living in poverty was relatively stable between 1980 and 1998, with values between 25 percent and 31 percent, but declined to 21.2 percent in 2000. Whites have the lowest proportion of people living in poverty. This proportion increased from 8.4 percent in 1973 to 12.2 percent in 1993, but declined to 9.4 percent by 2000 (U.S. Bureau of the Census 2000c).

Table 4 also presents the proportions of female-headed families with children under age 18 who are living in poverty. In 2000, just under one-half of African-American and Hispanic households with children under age 18 and no husband present lived below the poverty level (the figure for both groups is 41.1 percent). Furthermore, African-American and Hispanic children under age 18 were two to three times more likely than White children to live below the poverty level in 2000 (30.7 percent and 27.3 percent, respectively, compared with 12.4 percent for Whites).

SUMMARY

Census Bureau data draw attention to important demographic, social, and economic features of our Nation's population. Racial/ethnic minorities tend to be overrepresented within the central cities of the United States, where certain drugs (such as cocaine) pose more challenges for public health and safety. Demographic projections indicate that the distribution of racial/ethnic minorities in the U.S. population is changing significantly. Recent and projected growth of the Asian/Pacific Islander and the non-Hispanic White segments of the U.S. population deserve special note.

On average, racial/ethnic minorities tend to be at greater economic disadvantage than are non-Hispanic Whites. About 10 percent of Whites were living in poverty in 2000, whereas the corresponding value is about 25 percent for both non-Hispanic African-American and Hispanic people. In addition, almost one-half of non-Hispanic African-American and Hispanic households with children under age 18 and no husband present lived below the poverty level; non-Hispanic African-American and Hispanic children under age 18 were some two to three times more likely than non-Hispanic White children to live below the poverty level.

Table 1. Estimated Percentage Distribution of U.S. Population, by Race/Ethnicity and Hispanic Origin: 1990–2100[a]

Year	Total Population (thousands)	Non-Hispanic				Hispanic
		African-American	Asian American/ Pacific Islander	American Indian[b]	White	
1990	249,402	11.8	2.8	0.7	75.6	9.0
2000	275,306	12.2	3.9	0.7	71.4	11.8
2005	287,715	12.3	4.3	0.8	69.3	13.3
2010	299,861	12.5	4.8	0.8	67.3	14.6
2015	312,268	12.7	5.3	0.8	65.5	15.8
2020	324,926	12.8	5.7	0.8	63.8	17.0
2030	351,070	13.0	6.7	0.8	60.1	19.4
2040	377,349	13.1	7.8	0.8	56.3	21.9
2050	403,686	13.2	8.9	0.8	52.8	24.3
2060	432,010	13.3	9.8	0.8	49.6	26.6
2070	463,639	13.2	10.6	0.8	46.8	28.6
2080	497,829	13.1	11.3	0.8	44.4	30.4
2090	533,605	13.1	12.0	0.8	42.2	32.0
2100	570,954	13.0	12.6	0.7	40.3	33.3

[a]All population figures for 2000 and after are based on the 1990 census.
[b]Includes Eskimos and Aleuts.

SOURCE: Population Projections Program, Population Division, U.S. Bureau of the Census, 2002a.

Table 2. Weighted Average Poverty Thresholds, by Size of Family: Selected Years

Family Size	Weighted Average Poverty Thresholds (in dollars)				
	1993	1995	1997	1999	2000
One person	7,363	7,763	8,178	8,500	8,787
Under 65 years	7,518	7,710	8,350	8,667	8,958
65 years and over	6,930	7,108	7,698	7,991	8,259
Two persons	9,414	9,661	10,468	10,869	11,234
Householder under 65 years	9,728	9,976	10,806	11,214	11,591
Householder 65 years and over	8,740	8,976	9,709	10,080	10,414
Three persons	11,522	11,821	12,803	13,290	13,737
Four persons	14,763	15,141	16,404	17,028	17,601
Five persons	17,449	17,900	19,387	20,115	20,804
Six persons	19,718	20,235	21,880	22,719	23,491
Seven persons	22,383	22,923	24,825	25,815	26,783
Eight persons	24,836	25,427	27,713	28,788	29,941
Nine persons or more	29,529	30,300	32,705	34,075	35,574

SOURCE: U.S. Bureau of the Census, 2001b, 2002c.

Table 3. Poverty Thresholds, by Size of Family and Number of Related Children Under 18 Years of Age (in dollars): 2000

Size of Family	Weighted Average Poverty Thresholds	Related Children Under 18 Years								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One person (unrelated individual)										
Under 65 years	8,958	8,958								
65 years and over	8,259	8,259								
Two persons										
Householder under 65 years	11,531	11,531	11,869							
Householder 65 years and over	10,414	10,409	11,824							
Three persons	13,737	13,470	13,861	13,874						
Four persons	17,601	17,761	18,052	17,463	17,524					
Five persons	20,804	21,419	21,731	21,065	20,550	20,236				
Six persons	23,491	24,636	24,734	24,224	23,736	23,009	22,579			
Seven persons	26,783	28,347	28,524	27,914	27,489	26,696	25,772	24,758		
Eight persons	29,941	31,704	31,984	31,408	30,904	30,188	29,279	28,334	28,093	
Nine persons or more	35,574	38,138	38,322	37,813	37,385	36,682	35,716	34,841	34,625	33,291

SOURCE: U.S. Bureau of the Census, 2001d.

Table 4. Person and Families Living Below Poverty Level, According to Selected Characteristics, Race, and Hispanic Origin: 1990–2000

Selected Characteristics and Race/Ethnicity	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Percent Below Poverty											
All races	13.5	14.2	14.5	15.1	14.5	13.8	13.7	13.3	12.7	11.8	11.3
White	10.7	11.3	11.6	12.2	11.7	11.2	11.2	11.0	10.5	9.8	9.4
Black	31.9	32.7	33.3	33.1	30.6	29.3	28.4	26.5	26.1	23.6	22.1
Hispanic	28.1	28.7	29.3	30.6	30.7	30.3	29.4	27.1	25.6	22.8	21.2
Related children under 18 years of age in families											
All races	19.9	21.1	21.1	22.0	21.2	20.2	19.8	19.2	18.3	16.3	15.7
White	15.1	16.1	16.0	17.0	16.3	15.5	15.5	15.4	14.4	12.9	12.4
Black	44.2	45.6	46.3	45.9	43.3	41.5	39.5	36.8	36.4	32.7	30.7
Hispanic	37.7	39.8	38.8	39.9	41.1	39.3	39.9	36.4	33.6	29.9	27.3
Families with female householder, no husband present, and children under 18 years of age											
All races	44.5	47.1	45.7	46.1	44.0	41.5	41.9	41.0	38.7	35.7	32.5
White	37.9	39.6	39.1	39.6	38.3	35.6	36.9	37.6	33.8	30.1	27.5
Black	56.1	60.5	57.2	57.7	53.9	53.2	51.0	46.9	47.5	46.1	41.1
Hispanic	58.2	60.1	57.4	60.5	59.2	59.3	59.7	54.2	52.2	46.6	41.4
Number Below Poverty (in thousands)											
All races	33,585	35,708	36,880	39,265	38,059	36,425	36,529	35,574	34,476	32,258	31,139
White	22,326	23,747	24,523	26,226	25,379	24,423	24,650	24,396	23,454	21,922	21,291
Black	9,837	10,242	10,613	10,877	10,196	9,872	9,694	9,116	9,091	8,360	7,901
Hispanic	6,006	6,339	6,655	8,126	8,416	8,574	8,697	8,308	8,070	7,439	7,155
Related children under 18 years of age in families											
All races	12,715	13,658	13,876	14,961	14,610	13,999	13,764	13,422	12,845	11,510	11,086
White	7,696	8,316	8,333	9,123	8,826	8,474	8,488	8,441	7,935	7,123	6.873
Black	4,412	4,637	4,850	5,030	4,787	4,644	4,411	4,116	4,073	3,644	3,454
Hispanic	2,750	2,977	2,946	3,666	3,966	3,938	4,090	3,865	3,670	3,382	3,173
Families with female householder, no husband present, and children under 18 years of age											
All races	3,426	3,767	3,761	4,034	3,816	3,634	3,755	3,614	3,456	3,116	2,767
White	1,814	1,969	1,980	2,123	2,064	1,980	2,032	2,069	1,926	1,656	1,475
Black	1,513	1,676	1,659	1,780	1,591	1,533	1,593	1,436	1,397	1,333	1,164
Hispanic	536	584	543	706	700	735	760	701	707	630	541

NOTES: The Black and White race groups include persons of both Hispanic and non-Hispanic origin. Conversely, persons of Hispanic origin may be of any race.

SOURCE: U.S. Bureau of the Census, 2000c.

Chapter 3. DRUG USE IN THE GENERAL POPULATION

This chapter provides an overview of drug use patterns for the U.S. population. The overview mainly draws on data from the Substance Abuse and Mental Health Administration's (SAMHSA) National Household Survey on Drug Abuse (NHSDA), which has become the premier source of epidemiological evidence on recent drug use in the United States. Each year, using methods that help promote accuracy of reporting and confidentiality of the results, NHSDA staff draws large population samples and solicits participation of respondents sampled for the survey from among all civilian noninstitutionalized residents age 12 and older. These designated respondents, selected to yield a national representative sample, are asked to answer standardized questions about their use of alcohol, tobacco, and other drugs. The chapter also presents data on attitudes and perceptions toward drug use as surveyed by the Partnership for a Drug-Free America's Partnership Attitude Tracking Survey (PATS), as well as vital statistics abstracted from birth certificates in selected states.

For the most part, survey-based estimates presented in this chapter are for "prevalence" proportions that describe the nature and extent of illegal drug, alcohol, and tobacco use in the United States. One set of estimates is used to describe the cumulative occurrence or "lifetime prevalence" of illegal drug use in the population. These estimates answer the question, "Within the current population or population group being surveyed, what proportion has either a past history of illegal drug use or recently active illegal drug use?"

In contrast, estimates for "1-month prevalence" pertain to the most recent 1-month interval up to and including the date of survey assessment of each individual survey participant. The estimates for "1-month prevalence" answer questions of the following form: "Within the current population or population group being surveyed, what proportion has a recent history of illegal drug use?" and "What proportion of the survey population is a 'current' illegal drug user?" Estimates for "1-year prevalence" shift the focus of this question to the 1-year interval up to and including the date of survey assessment.

In this report's estimates, the use of glue, gases, and inhalant drugs to get high generally has been combined with extramedical or illegal use of internationally and federally controlled drugs. Foremost among the internationally and federally controlled drugs are marijuana and hashish, heroin, LSD, and certain other hallucinogenic drugs, all of which have been assigned to high-level Schedule I controls designated for drugs that have no federally recognized safe use in the practice of medicine; their only legal use is in research approved by national governmental authorities.

Other schedules of the international and Federal regulations encompass a broad array of prescription and over-the-counter (nonprescription) medicines with clearly legitimate medical uses. This group includes cocaine and other anesthetics; morphine, codeine, oxycodone, and other pain-relieving and cough-suppressing medicines; barbiturates and other sleep-promoting or calmative preparations; tranquilizers and other anxiety-relieving medicines or muscle relaxants; and methylphenidate and other psychostimulant medicines used to treat attention deficit disorder with hyperactivity and narcolepsy, or administered as diet aids. Any use of marijuana, LSD, or heroin qualifies as illegal under U.S. law, but cocaine, tranquilizers, sleeping pills, pain relievers, and many psychostimulants have legal medicinal uses.

In most epidemiological studies, the use of these internationally and federally regulated medicines is considered illegal or extramedical when the user intends to get high or to commit suicide, when the motive for intoxication

leads to taking more than the doctor prescribed, and when the medicine is used for intoxicating or withdrawal-relieving effects that are beyond the boundaries of the medical prescription. These forms of extramedical drug use, beyond the boundaries of the medical prescription, generally are grouped with nonresearch use of Schedule I drugs in a category called "illegal drug use" even if the drug user ordinarily would not be prosecuted (e.g., in an incident of unsuccessful suicide attempt by overdose).

Epidemiological information is crucial to our understanding of the nature and scope of alcohol, tobacco, and illegal drug use. Information on illegal drug use generally is derived from population surveys because the use of alcohol, tobacco, and other drugs cannot be probed deeply in the traditional sources of epidemiological data on morbidity and mortality, such as hospital or clinic records, death certificates, and national registries. A large majority of illegal drug users seek care from primary care health providers in any given year. Nonetheless, health professionals largely do not talk with the patient about illegal drug use, with such use remaining undetected or unmentioned and thus never becoming part of official medical records available for epidemiological scrutiny (e.g., see Anthony and Helzer 1991, 1995; Anthony 2000).

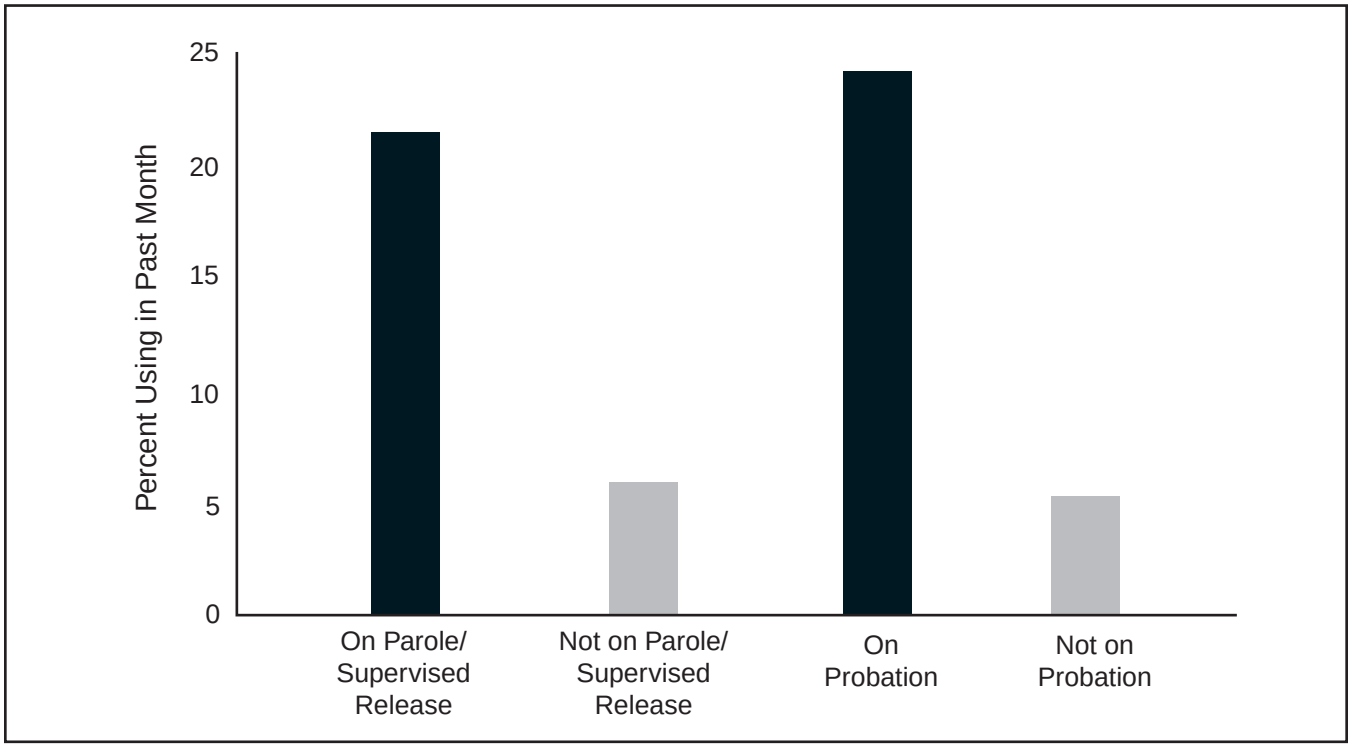
Necessarily, reliance on survey-based estimates provokes legitimate concern about the sources of error in the survey data, just as epidemiologists tend to be concerned about sources of error in medical records and vital statistics. One source of error can be understood in relation to the difficulty of surveying potentially important population subgroups, such as homeless individuals and incarcerated prisoners. Numerically, these subgroups represent small fractions of the total U.S. population. However, research on these subgroups tends to disclose large values for cumulative occurrence and prevalence of alcohol and tobacco use, as well as illegal drug taking (e.g., see Anthony and Helzer 1991).

One way to constrain this source of error is to respecify the population of interest. For example, the NHSDA population generally is described as a national survey of the U.S. "civilian, non-institutionalized population age 12 and older," which excludes subgroups like incarcerated prisoners. This distinction between the total U.S. population and the specified NHSDA population is important to recall in interpreting NHSDA statistics. Figure 1 from the NHSDA 2000 provides evidence that this distinction may be important.

Although the NHSDA population has been defined to exclude incarcerated prisoners and other institutionalized citizens, the adult survey respondents include recently released prisoners who are parolees or on probation or supervised release at the time of assessment. As shown in Figure 1, recently incarcerated individuals now on supervised release, parole, or probation are more likely to be recent illegal drug users (Substance Abuse and Mental Health Administration 2001b). Once the analysis takes into account male-female and age differences between these recently incarcerated individuals and the rest of the corresponding civilian noninstitutionalized population, the recent prisoners are two to three times more likely to have been recent illegal or extramedical drug users (i.e., use in the month prior to survey).

Epidemiological surveillance operations based on sample surveys face another potential source of error, which is displayed in confidence intervals that can be constructed for each survey estimate. These confidence intervals serve to index the precision of each estimate; when properly calculated, the intervals provide general boundary conditions for each prevalence estimate from the surveys. Any single prevalence number from a survey sample is not quite accurate, if only because of random fluctuations when a sample of several thousand individuals is used to represent characteristics of millions of individuals in the total population. However, we can have more certainty about the accuracy of the confidence intervals, in that each interval encompasses a range of estimates.

Figure 1. Estimated Prevalence of Illegal Drug Use for Parolees and Probationers Versus Other Adults: 2000



SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administrations, Office of Applied Studies, 2001b.

In general, all else being equal and up to a point, the width of the confidence interval becomes smaller with increases in effective sample size, and the interval allows us to make a roughly accurate assessment of the magnitude of alcohol, tobacco, and illegal drug use in the population being surveyed at the same time, even when we cannot be entirely confident about the accuracy of the reported prevalence number. To illustrate, in the NHSDA 1999 report, we learn that an estimated 10.2 percent of those ages 20–25 in the U.S. civilian noninstitutionalized population *never* have tried alcohol, tobacco cigarettes, or marijuana (i.e., about 90 percent had used one or more of these drugs). The value of 10.2 percent is the best NHSDA estimate, and it demonstrates that use of these drugs is prevalent among young adults in our Nation. However, we can be almost totally confident that 10.2 percent is not exactly correct. The true value might be 10.21 percent or 10.19 percent or even 9 percent or 11 percent, because even a sample of hundreds of thousands would be too small to yield absolute certainty about a population of millions. The reported NHSDA 95-percent confidence interval for this estimate of 10.2 percent runs from a lower bound of 9.5 percent to an upper bound of 10.9 percent, which provides a boundary of rough accuracy and precision. It is appropriate to summarize the survey result by saying that about 9 to 11 percent of young adults in the survey population have never used any of these three drugs. It would be inappropriate to claim that exactly 10.2 percent of young adult Americans have never used any of these three drugs.

For any given subgroup of the population, the width of the confidence interval will tend to increase as effective sample size decreases, up to a point. For example, the just-described national estimate of 10.2 percent (95-percent

confidence interval = 9.5–10.9 percent) can be compared to State-level estimates, for which the sample size is smaller. To illustrate, the NHSDA 1999 estimate for the State of Kansas, 10.8 percent, is no more than slightly larger than the same year's national estimate of 10.2 percent. Nonetheless, the national estimate draws strength from almost 67,000 NHSDA survey participants, whereas the Kansas estimate is based on statistical projections from a sample of fewer than 2,000 Kansans and has been strengthened via an estimation procedure that borrows information from participants residing in other States. Whereas the Kansas estimate is almost the same value as the U.S. estimate (10.8 percent versus 10.2 percent), the smaller number of Kansas respondents yields a 95-percent confidence interval that is quite wide: 7.4–15.4 percent (Substance Abuse and Mental Health Administration 2001b). Hence, the numerical difference between the national estimate of 10.2 percent and the Kansas estimate of 10.8 percent cannot be taken seriously, even though the Kansas estimate is numerically larger. Epidemiologically and statistically speaking within the limits of these observed data, the national estimate and the Kansas estimate are indistinguishable.

In contrast, the corresponding NHSDA estimate for individuals ages 20–25 residing in the State of Utah is 34.9 percent, with a 95-percent confidence interval from 29.6 percent to 40.7 percent. That is, an estimated 29 to 41 percent of young adult Utahns have *never* tried alcohol, tobacco, or marijuana. There is a large separation between the 95-percent confidence interval derived for these Utahns versus corresponding intervals for young adults in Kansas and the entire Nation. On this basis, we can have some confidence when we say that the cumulative occurrence of drug experience for young adult Utahns in the civilian noninstitutionalized population is substantially lower than cumulative occurrence of drug experience among young adult Kansans or among young adults in corresponding civilian noninstitutionalized populations elsewhere in the United States.

As it happens, when survey-based confidence intervals for epidemiological survey estimates are taken into account and used as a gauge of the population prevalence of illegal drug use in the United States, the width of the confidence intervals generally is so large that the intervals tend to accommodate the survey undercoverage of homeless individuals or incarcerated prisoners. That is, when all drug-using homeless individuals and prisoners are added to the total population prevalence estimates, the resulting sum generally falls within confidence intervals derived for the civilian noninstitutionalized population. This conclusion can be derived via mathematics and simulation studies, but in addition, Anthony and Helzer (1991) have provided an empirical demonstration, drawing on data from epidemiological surveys in which both noninstitutionalized and institutionalized U.S. populations were assessed using the same methods and by the same survey research teams. Prevalence estimates based on civilian noninstitutionalized populations did not change appreciably when they were "corrected" to include prevalence data from institutionalized persons.

A topic for future research includes reassessment of this situation for racial and ethnic minority populations in the United States. Based on the analyses reported by Anthony and Helzer (1991), it is possible to be fairly confident that 95-percent confidence intervals based on surveys of civilian noninstitutionalized U.S. residents do not understate the prevalence of illegal drug use in the United States. Estimates corrected for exclusion of the homeless and institutionalized U.S. populations fall within the bounds of these confidence intervals. However, minority population subgroups, especially young African-American males, are overrepresented among incarcerated prisoners (e.g., see Blumstein and Beck 1999). Hence, it is possible that survey-derived 95-percent confidence intervals for minority subgroups are differentially influenced by exclusion of the homeless and prisoners. This open question for future research deserves careful attention, given the well-known racial/ethnic imbalances of the U.S. incarcerated population relative to the civilian noninstitutionalized population.

Even if the NHSDA population could be redefined to include institutionalized and homeless persons, there would be good reason to regard the survey estimates as understatements about the nature and scope of illegal drug use in the United States, due to the various sources of survey error described above and elsewhere (e.g., Substance Abuse and Mental Health Administration 2001a), the fact that sampled respondents can decline to participate in accord with principles for protection of human subjects, and to reliance on self-report methods. A similar situation has been found in surveys of alcohol use, which tend to understate the actual volume of alcoholic beverages consumed, as independently assessed via sales tax receipts. These sources of error also make it difficult to compare the nature and scope of alcohol, tobacco, and illegal drug use across racial and ethnic minority subgroups because it is not possible to be sure that population coverage and accuracy of self-report are equally distributed across these subgroups. Nevertheless, as described in this chapter, many of the survey-based statistics on nature and scope of alcohol, tobacco, and illegal drug use are illuminating. The statistics often challenge popular beliefs about these topics, and they help identify gaps in our epidemiological evidence that merit attention in future research.

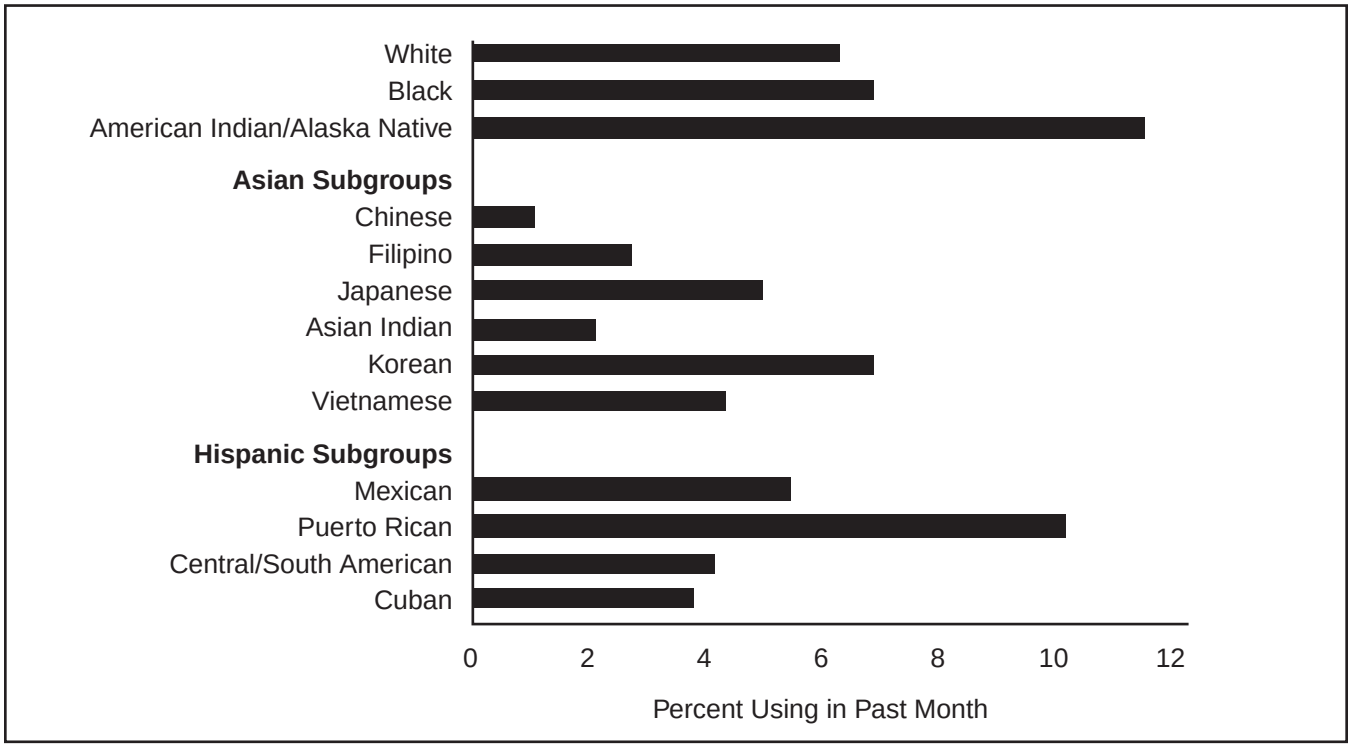
One set of popular beliefs already has been discussed in Chapter 1 and in prior editions of this report. For example, despite considerable heterogeneity and subgroup variation within the main racial/ethnic categories used in official U.S. statistics, a popular belief persists that African Americans and Hispanic Americans are substantially more likely to be involved in illegal drug use than are non-Hispanic Whites, and that Asian Americans are less likely to be illegal drug users. Recently produced epidemiological estimates from NHSDA 1999–2000 survey findings tend to challenge at least some of these beliefs.

For example, based on the NHSDA 1999–2000 data, an estimated 6.4 percent of non-Hispanic Whites have recently engaged in illegal drug use; corresponding estimates for non-Hispanic African Americans and Hispanic Americans are virtually indistinguishable from these values, once precision of the estimates has been taken into account (e.g., via 95-percent confidence intervals). The only Hispanic Americans showing numerically greater 1-month prevalence of illegal drug use are those of Puerto Rican heritage (10.1 percent). Otherwise, observed 1-month prevalence values for Hispanic-American subgroups are no different or tend to be smaller than the corresponding values for non-Hispanic Whites and Black (Figure 2).

Another important observation from Figure 2 is the excess 1-month prevalence estimate, close to 12 percent, observed for American Indian/Alaska Native members of the population, as compared with other subgroups. Whether this excess frequency of recent illegal drug use is due to a greater accuracy of reporting by American Indian/Alaska Native survey respondents is an open question. Further, even if there is comparable accuracy of reporting, we will need more definitive evidence from future replications of the national survey. However, the observed excess might be identifying a difference of public health importance with respect to orientation of public health intervention programs for American Indians and Alaska Natives in the United States—a topic we will return to later in this report.

Figure 2 also demonstrates noteworthy variation within the Asian subgroups of the U.S. population under survey in NHSDA, with data on Pacific Islanders missing because there were too few Pacific Islander respondents for precise estimation. In NHSDA 2000, the estimated prevalence proportion for Native Hawaiian and other Pacific Islander group is 6.2 percent, close to the value for non-Hispanic Whites, whereas the estimate for the Asian subgroup within the Asian/Pacific Islander population is 2.7 percent. Hence, in general, Asian Americans appear to be less likely to report recent illegal drug use than other U.S. population groups. However, this generalization does not hold true for Korean Americans, for whom the 1-month prevalence estimate from

Figure 2. Estimated Prevalence of Recent Illegal Drug Use by Race/Ethnicity: 1999–2000



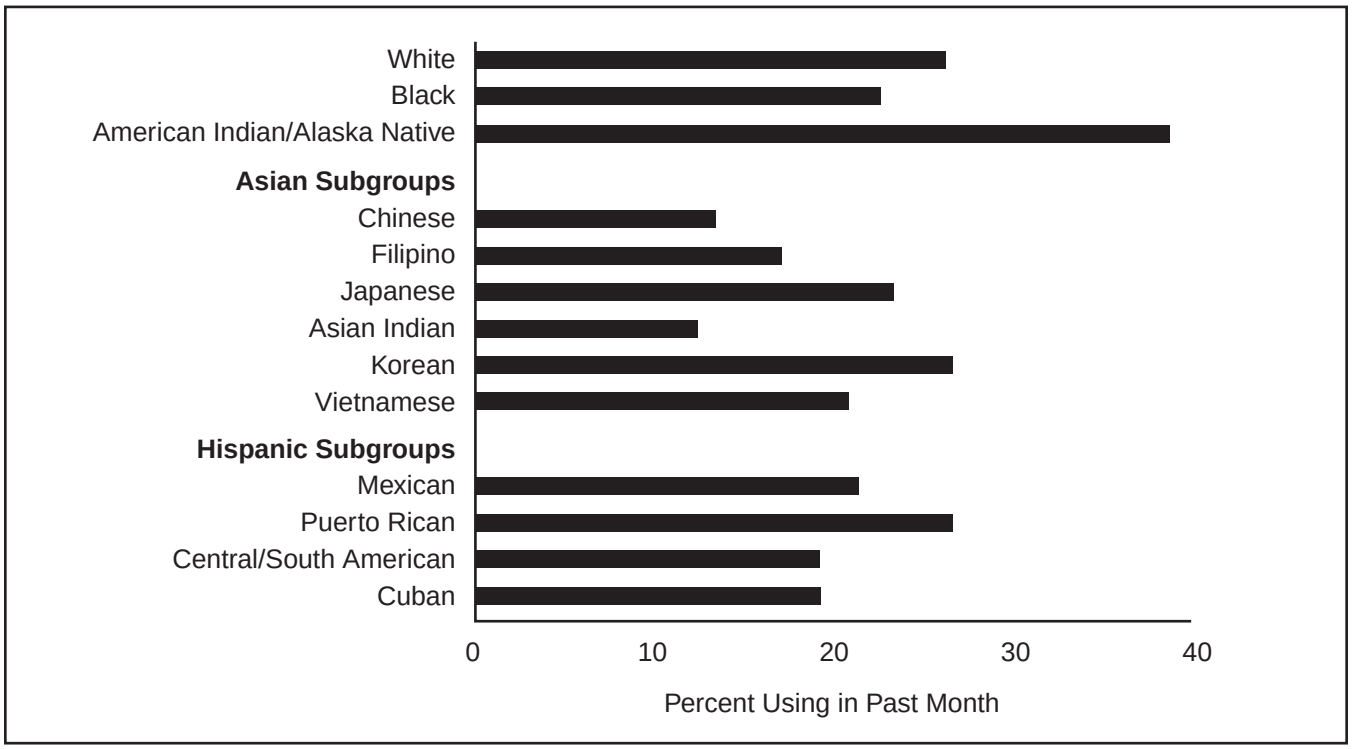
SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administrations, Office of Applied Studies, 2001b.

combined 1999–2000 data (6.9 percent) is not appreciably different from the values observed for non-Hispanic Whites and Blacks (e.g., see Figure 1 and Substance Abuse and Mental Health Administration 2001a).

A remarkably similar profile of subgroup variation can be seen in Figure 3, which presents the most recent NHSDA 1999–2000 prevalence estimates for tobacco cigarette smoking. Here, with respect to recent tobacco smoking, we again see an excess prevalence for the American Indian/Alaska Native subgroup (about 40 percent), whereas the estimates for non-Hispanic Whites and Blacks in the same age range are 25.9 percent and 23.3 percent, respectively. The estimate for Korean-American youth ages 12–20 is 27 percent, the largest value observed among Asian-American subgroups. Grouping all Asian subgroups, the corresponding estimate is 16.5 percent (Substance Abuse and Mental Health Administration 2001a).

Notwithstanding the observed variation within and across these relatively refined subcategories within the official broad categories, the remainder of this chapter generally presents epidemiological statistics for the broad three, four, or five categories used in past official U.S. statistics on racial and ethnic issues (e.g., White, Black, Other). However, while reviewing the estimates for these broad categories, readers should recall that Figures 2 and 3 challenge popular preconceptions and beliefs about the nature and scope of illegal drug use among racial/ethnic minorities in this country and throw new light on subgroup variation within these broad categories. What is true for Hispanic Americans in general may not hold for subgroups within the Hispanic-American

Figure 3. Estimated Prevalence of Recent Tobacco Cigarette Smoking, by Race/Ethnicity: 1999–2000



SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administrations, Office of Applied Studies, 2001b.

population (e.g., those of Puerto Rican or of Cuban heritage), just as what is true for Asian/Pacific Islanders in general may not hold for Korean Americans, Chinese Americans, or the separate summary categories that distinguish Asian Americans from Americans of Pacific Island heritage.

We also note that the NHSDA reports provide no confidence intervals for these estimates across racial/ethnic subgroups. One of the first items on an agenda for future inquiry will be to clarify whether the subgroup variations, depicted in these figures and elsewhere in this report, are large enough for us to be confident that illegal drug use is more prevalent in one subgroup versus another. Based on these recent NHSDA data, we can be fairly confident that non-Hispanic Whites, Blacks, Pacific Islanders, and Korean Americans have roughly equivalent prevalence of recently active illegal and extramedical drug use. However, the other numerical estimates suggest considerable heterogeneity across and within racial/ethnic minority subgroups, with a dramatic excess among American Indians/Alaska Natives. Once confidence intervals are available, it will be possible to make more definitive claims about the observed numerical variation from group to group.

In addition to presenting data by race and ethnicity, this chapter presents data by age and sex. These data provide a framework for comparing drug use across and within race, ethnicity, age, and sex groups. Although race/ethnicity is the focus of this report, it is important to note both age and sex differences occur irrespective of race or ethnicity. For illegal drug use, the peak periods for risk of starting drug use are during adolescence and young

adulthood. Consequently, young people often are targeted in prevention programming because they are an especially high-risk group for initiation of illegal drug use, alcohol use, and smoking tobacco. In addition, male-female differences in risk and prevalence of drug use also have been found in many surveys. In general, boys have tended to initiate drug use earlier than girls and to use slightly greater quantities. For many drugs (but not all), this pattern of male-female differences in drug use is maintained throughout much of adulthood.

PREVALENCE OF DRUG USE

Most of the subsequent statistics in this chapter are based on data from NHSDA 1998, the most recent survey for which public use datasets are available for analysis. In 1998, the NHSDA sample included almost 12,000 non-Hispanic Whites, nearly 6,000 non-Hispanic Blacks, almost 7,000 Hispanic Americans, and slightly more than 1,100 participants in the other main racial/ethnic minority groups. Table 5 presents these values and corresponding population size estimates based on the U.S. Census, which show that NHSDA includes an "oversampling" of racial/ethnic minority groups to ensure a sufficient number of minorities for precise estimation. The tabled values also indicate NHSDA oversampling of young people, which ensures a sufficient number of adolescents for precise estimation. As noted above, it is widely believed that NHSDA estimates of the prevalence of illegal drug use are conservative in that some high-risk subgroups are not included in the NHSDA sample (e.g., prison inmates and the homeless). Because drug use is a sensitive illegal activity and social tolerance for drug use varies considerably over time, it also might be expected that some respondents deny illegal drug use even when they have been users. Overexaggeration also is a potential source of error in reporting, although such errors have been observed mainly in drug surveys of young adolescents (e.g., see Harrison and Hughes 1997; Anthony et al. 2000).

The issue of accuracy in self-reports takes on special importance in research on ethnicity. The concept of ethnicity encompasses socially shared and learned modes of interpersonal interaction and styles of communication, which appear in various forms. Without clarification of these potential sources of error in self-report survey data, it is difficult to be confident about the meaning of observed ethnic variation in prevalence estimates for illegal drug use (e.g., larger estimates for American Indians/Alaska Natives and smaller estimates for African Americans). At the same or similar levels of drug involvement, we might find that members of historically disadvantaged minority groups are more or less likely to acknowledge that they have engaged in illegal drug use (Harrison and Hughes 1997).

NHSDA estimates for lifetime and past-month prevalence of drug use among members of the general population age 12 and older are presented in Table 6. In 1998, for example, an estimated 78 million people age 12 and older had engaged in illegal drug use at some point in their lifetimes. For the recent interval of 1 month up to and including the day of survey assessment, an estimated 13.6 million had been recently active illegal drug users (Table 6). Corresponding estimates from NHSDA 2000 are 86 to 87 million with a history of illegal drug use and 14 million with recently active illegal drug use (Substance Abuse and Mental Health Administration 2001b).

For many years, marijuana has been prominent among illegally used drugs. Marijuana has been called a "gateway" drug because its use often precedes other illegal drug use (e.g., cocaine and heroin), perhaps not because marijuana kindles biological cravings for other drugs but more because marijuana use is part of a more general social fabric (e.g., see Kandel et al. 1987; Joy et al. 1999). In some investigations, long-term marijuana use has been linked to serious health problems, such as emphysema (e.g., Joy et al. 1999).

As depicted in Table 6, in 1998, an estimated 72 million Americans had tried marijuana at least one time, and an estimated 11 million were recently active marijuana users. (Here and elsewhere in this report, "recently active" use means use occurring in the month just before the assessment.) Among all Americans age 12 and older, the corresponding "cumulative occurrence" or lifetime prevalence of marijuana use was 33 percent in 1998 and the corresponding 1-month prevalence estimate was 5 percent (Table 6). That is, one-third already had become marijuana users; one in 20 had started to use marijuana at some point in time and had engaged in marijuana use during the month just before assessment. Corresponding estimates from NHSDA 2000 are not appreciably different: an estimated 76 million, or just over 34 percent with a history of marijuana use and an estimated 10 million, or about 5 percent with recently active marijuana use (Substance Abuse and Mental Health Administration, 2001b).

Table 6 also presents prevalence estimates for illegal use of cocaine, which includes cocaine hydrochloride powder and crack-cocaine. Cocaine is of special health importance because within the first 1 to 2 years of use, an estimated 5 to 6 percent of cocaine users develop the clinical syndrome of cocaine dependence (Wagner and Anthony 2001). An estimated one in six cocaine users had developed cocaine dependence within 10 to 20 years of initial cocaine use (Anthony et al. 1994; Wagner and Anthony 2002).

Among drugs used illegally and surveyed in NHSDA, cocaine is second in prevalence only to marijuana. Based on the NHSDA 1998 data presented in Table 6, an estimated 23 million Americans age 12 and older had tried cocaine at least once (10.6 percent), and an estimated 4.4 million had tried smoking crack-cocaine at least one time (2.0 percent). Re-estimated via NHSDA 2000, these values are 24.9 million for all forms of cocaine use, or an estimated 11.2 percent of the survey population, and 5.3 million for crack-cocaine use specifically, or 2.4 percent (Substance Abuse and Mental Health Administration, 2001b).

During 1998, an estimated 1.75 million (0.8 percent) people age 12 and older had used cocaine recently and an estimated 400,000 to 500,000 (0.3 percent) had used crack-cocaine recently (Table 6). Corresponding estimates based on NHSDA 2000 are 1.2 million (0.5 percent) for cocaine generally and 265,000 (0.1 percent) for crack-cocaine (Substance Abuse and Mental Health Administration 2001b).

In recent years, use of LSD and other hallucinogenic drugs has become almost as common as cocaine use in the United States. For example, in 1998 an estimated 22 million Americans had tried LSD or other hallucinogenic drugs at least one time (9.9 percent), as compared to the 23 million who had used cocaine (10.6 percent) (Table 6). For recently active use as estimated from the 1998 survey, an estimated 1.5 million recently have used hallucinogenic drugs (0.7 percent), compared with 1.75 million, or 0.8 percent, with recent cocaine use (Table 6). Based on NHSDA 2000, an estimated 26 million (11.7 percent) had used hallucinogens at least one time, as compared to the 24.9 million (11.2 percent) who had used cocaine at least one time. However, regarding recently active drug use estimated in the most recent NHSDA statistics from 2000, almost 1 million individuals used hallucinogens in the month up to and including the date of the interview assessment (0.4 percent); comparable hallucinogen values from 1998 were 1.5 million, or 0.7 percent (Table 6 and Substance Abuse and Mental Health Administration 2001b).

Controlled drugs available by prescription or over the counter also may be used for illegal or extramedical reasons. For example, based on NHSDA 1998, an estimated 11 to 12 million Americans (5.3 percent) had tried analgesic (pain-relieving) drugs at least one time to get high or for other extramedical reasons; an estimated 1.7 million (0.8 percent) had engaged in recently active extramedical use of these analgesic medicines (Table 6).

Corresponding NHSDA 2000 values are 19.2 million (8.6 percent) for lifetime history of use and 2.8 million (1.2 percent) for recently active use in the month before survey assessment (Substance Abuse and Mental Health Administration, 2001b).

The use of pain-relieving pharmaceuticals for nonmedical reasons recently has become a more prominent issue in American society, due to concern about diversion and illegal use of sustained-release oxycodone (OxyContin®), especially in rural America but also in several cities, including Boston (e.g., see National Institute on Drug Abuse 2001). Based on the most recently published NHSDA survey reports, there has been a recent increase in extramedical use of OxyContin®, from an estimated 220,000 extramedical users in 1999 to almost 400,000 users in 2000 (Substance Abuse and Mental Health Administration 2001b). We do not yet know whether this oxycodone phenomenon will become more dominant in the national level statistics or will be constrained to more local and isolated outbreaks. This is a topic deserving future epidemiological inquiry.

Psychostimulants, a drug group that includes prescription medicines like methylphenidate (Ritalin), as well as illegally produced methamphetamine (e.g., "ice"), also are prominent among drugs used illegally or extramedically. In 1998, an estimated 9.6 million (4.7 percent) had used these psychostimulants illegally or extramedically (Table 6). The corresponding estimates from NHSDA 2000 are 14.7 million, or 6.6 percent (Substance Abuse and Mental Health Administration 2001b). For recently active use, in 1998 an estimated 633,000 (0.3 percent) engaged in illegal or extramedical use of psychostimulant drugs in the month before survey assessment, compared with an estimated 790,000 (0.4 percent) in 2000 (Table 6; Substance Abuse and Mental Health Administration 2001b).

Tranquilizing or antianxiety medicines also are prominent among prescription medicines used illegally or extramedically. In 1998, an estimated 600,00 to 700,000 individuals (0.3 percent of the survey population) had engaged in recently active illegal or extramedical use of these tranquilizing medicines (Table 6). By comparison, the estimates from NHSDA 2000 are 1 million recently active users in the month before survey assessment, or 0.4 percent of the survey population (Substance Abuse and Mental Health Administration 2001b).

Sleeping preparations and other sedative medicines were somewhat less likely to be represented among recently active illegal and extramedical drug users. In 1998, roughly 200,000 individuals (about 0.1 percent of the survey population) used sedatives illegally or extramedically. Based on NHSDA 2000, the corresponding estimates are 180,000, still about 0.1 percent of the survey population (Substance Abuse and Mental Health Administration 2001b).

Alcohol is by far the most frequently used drug in the United States. In addition to its purchase and consumption being legal for those age 21 and older, alcoholic beverages are readily available and socially acceptable in most parts of the United States. These beverages generally are relatively inexpensive, as compared with the unit dose prices for many other intoxicating drugs. Data from NHSDA 1998 indicate that slightly more than 80 percent of the population age 12 and older have tried alcohol at least one time, and just over one-half of the survey population (51.7 percent) consumed alcohol in the month before the survey (Table 6). Corresponding values from NHSDA 2000 are 81 percent and 47 percent (Substance Abuse and Mental Health Administration 2001b).

Although smoking tobacco is not illegal, this drug is of concern because of its well-established reinforcing functions and negative effects on health. For example, an estimated one in three tobacco smokers has developed a clinical syndrome of tobacco dependence (Anthony et al. 1994). In addition, tobacco smoking is implicated in progression toward later illegal drug use (Kandel and Davies 1991).

According to estimates from NHSDA 1998, slightly more than 150 million Americans in the survey population (69 to 70 percent) had tried tobacco cigarettes at least one time, and more than 60 million (27 to 28 percent) were recently active tobacco smokers in the month before the survey (Table 6). Estimates from the NHSDA 2000 indicate no marked change in these estimates, with 148,000 individuals having a history of tobacco smoking and an estimated 56,000 considered recently active smokers (Substance Abuse and Mental Health Administration 2001b).

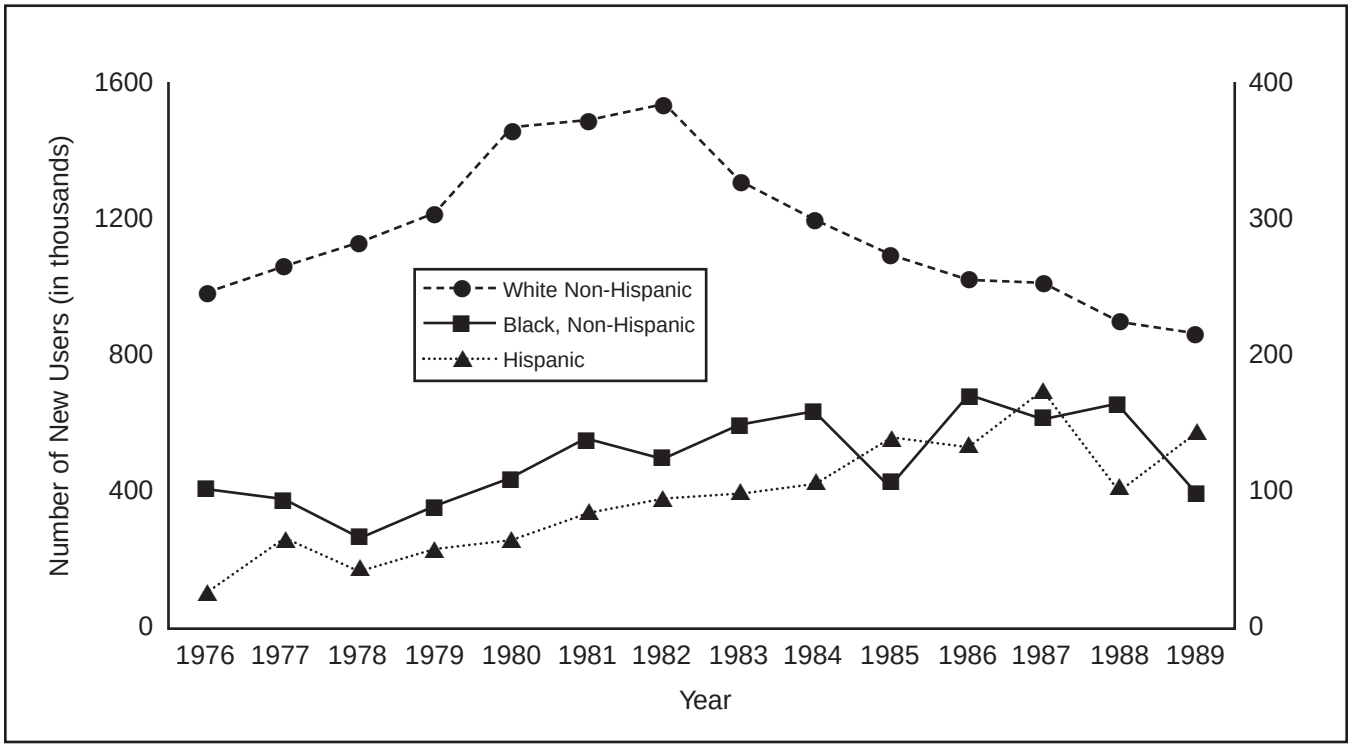
Estimated male-female differences and age-specific prevalence of past-month alcohol, tobacco, and illegal drug are depicted in Table 7. In general, the largest prevalence estimates for recently active use are observed for young adults ages 18–25 and for males. For all drug groups depicted in Table 7, the illegal drug use prevalence estimates for individuals age 35 and older are lower than values observed for younger age groups, due in part to a combination of effects associated with birth cohorts, secular periods, and aging. The variation by age is somewhat less pronounced for alcohol and tobacco, although the lower values observed for adolescents ages 12–17 signify opportunities for preventive interventions during the childhood and early adolescent years.

Generally observed male-female differences in the Table 7 estimates are least pronounced for tobacco cigarettes. In 1998, an estimated 29 to 30 percent of men in the survey population were recently active tobacco cigarette smokers. The corresponding estimate for women is 25.7 percent (Table 7). This male-female difference remained relatively stable at about 4 to 5 percentage points during the last years of the 20th century. Based on NHSDA 2000, an estimated 27 percent of males age 12 and older in the survey population had smoked tobacco cigarettes in the month before survey assessment, compared with an estimated 23 percent of females in the survey population (Substance Abuse and Mental Health Administration 2001b).

Table 8 expands the epidemiological description to encompass features of race and ethnicity, based on new analyses of public use datasets distributed after completion of the NHSDA 1998 data gathering and completed specifically for this report. Public use datasets from NHSDA 1999 and 2000 have not yet been released, so it has not been possible for this report to include estimates based on these more recent data. Nonetheless, the general epidemiological patterns depicted in evidence from these analyses are not expected to change dramatically from year to year, with some important exceptions. One important exception involves dynamic epidemiological changes in the incidence of drug use, as observed in the late 1980s with cocaine. Whereas lifetime prevalence of cocaine use remained relatively stable or declined somewhat during the 1980s when national-level statistics were examined, data on the number of new initiates show dramatic changes across different race-ethnicity groups. For example, as depicted in Figure 4, data reveal that for non-Hispanic Whites, the number of new initiates reached a peak in the late 1970s and early 1980s, while the number of new Black and Hispanic initiates remained at lower levels. It was not until several years after peak incidence among Whites that the incidence curves for Blacks and Hispanics showed their peaks (Figure 4). Hence, the national epidemic of cocaine use in the United States really can be subdivided into more than one epidemic, with an earlier epidemic and earlier peak for non-Hispanic Whites and a later epidemic and later peak for Blacks and Hispanics (Gfroerer and Brodsky 1992; figure adapted from Gfroerer and Brodsky 1992).

Notwithstanding the dynamic epidemiological conditions that were evolving during the 1980s and early 1990s, it generally is true that patterns of race- and ethnicity-related alcohol, tobacco, and illegal drug use tend not to change over short spans of time. Until new analyses of the 1999 and 2000 NHSDA data have been completed, the NHSDA 1998 estimates provide the best available epidemiological descriptions for racial/ethnic minority population groups in America. As depicted in Table 8, and based on summaries across the broad five racial/

Figure 4. Estimated Number of New Users of Cocaine for Three Population Subgroups: 1976–1989



NOTE: This figure has been prepared for this report, based on results from retrospective age of onset analyses of NHSDA data (Gfroerer and Brodsky 1992). The number of White, non-Hispanic new initiates is shown on the y-axis to the left. The numbers of Black non-Hispanic initiates and Hispanic initiates are shown on the right y-axis.

ethnic categories (rather than looking for subgroup variation within these categories), the estimates show that Asian/Pacific Islanders tend to have the lowest prevalence of past-month drug use. For example, as seen in the last column of Table 8, the prevalence estimate for recently active illegal drug use is 2.8 percent for Asian/Pacific Islanders, versus estimates that range from 6.1 percent to 9.3 percent for the other subgroups listed in the table. Similar contrasts of varying magnitude can be seen for recently active use of marijuana, cocaine, and alcoholic beverages, heavy use of alcoholic beverages, and tobacco cigarette smoking (Table 8, last column). Numerical estimates for the American Indian/Alaska Native subgroup tend to display the largest values in the last column of Table 8, except for recently active drinking of alcoholic beverages. However, without confidence intervals and statistical adjustment for differences in the age distributions of these subgroups, it is difficult to assess whether American Indians and Alaska Natives have higher prevalence than the other subgroups.

In addition, as discussed by Lillie-Blanton et al. (1993), the observed variation in drug experience across racial-ethnic subgroups may be a function of socially shared neighborhood characteristics that are extrinsic with respect to race and ethnicity. That is, in analyses that did not take neighborhood into account, Lillie-Blanton and colleagues found that Blacks were more likely than Whites to have become crack-cocaine users. However, comparing Blacks and Whites living in the same neighborhood areas (i.e., with neighborhood-matching), there were no such Black-White differences in occurrence of crack-cocaine use. Flewelling and colleagues (1992)

reported similar conclusions based on analyses with statistical adjustments for characteristics of census tracts as measured in the U.S. Census (Lillie-Blanton et al. 1993). Interpretation of racial/ethnic variations, as depicted in Table 8, remains uncertain until statistical precision of the estimates has been taken into account; misinterpretation of the evidence is possible without comparison to estimates that control for features of social context and socioeconomic circumstances.

The data in Table 8 also are generally consistent with the patterns of age-specific variation seen in Table 7. For example, estimates for past-month illegal drug use show the largest values for individuals ages 18–25. This observed excess prevalence among this age group is due in part to peak periods of risk of initiating illegal drug use during the middle and later years of adolescence and in part to the epidemiological fact that many adolescent drug users sustain their illegal drug use into young adulthood, sometimes in association with development of drug dependence syndromes (e.g., see Wagner and Anthony 2002; Substance Abuse and Mental Health Administration 2001a). The lower values observed after age 34 are due in part to the lower risk of initiating illegal drug use in these years, as well as the lower risk of becoming drug dependent after young adulthood (e.g., see Eaton et al. 1989; Warner et al. 1995; Wagner and Anthony 2002).

Comparison of male-female differences shown in the next-to-last columns of Table 8 shows a general male excess in prevalence of recently active illegal drug use, alcohol use, heavy alcohol use (defined as "5 or more drinks on the same occasion on at least 5 or more days in the month prior to assessment"), and tobacco cigarette smoking, across all racial/ethnic groups under study. For example, looking across the five racial/ethnic groups, for marijuana and cocaine use, men are some one-and-a-half to three times more likely than women to be recently active marijuana users and to be recently active cocaine users. One exception is seen among American Indians/Alaska Natives, where the ratio of prevalence estimates is more than tenfold (Table 8).

To some extent, this pattern of male excess prevalence for illegal drug use may be traced back to males being more likely to have opportunities to try marijuana, cocaine, and other controlled drugs. To date, the epidemiological evidence from the United States indicates that males are more likely than females to have opportunities to initiate illegal drug use, but females are generally just as likely as males to initiate illegal drug use once the opportunity is presented (Van Etten and Anthony 2001). In addition, with the most controlled drugs, women are just as likely to become drug dependent once they initiate extramedical drug use. There may be a female excess in risk of developing dependence on prescription medicines, once extramedical use of these medicines has started, but these medicines are not included in the list of drugs in Table 8 (e.g., see Anthony et al. 1994).

A general age-related decline can be observed in comparing Table 8 estimates for individuals ages 26–34 with those for adults age 35 and older. Noteworthy exceptions are apparent for several drugs and groups, where there may be no age-related difference at all. One exception involves prevalence of recently active cocaine use among American Indian/Alaska Natives, for whom the estimate is 0.3 percent for individuals ages 25–34 and 1.5 percent for adults age 35 and older. Another exception involving the American Indian/Alaska Native population group involves heavy alcohol use, with a prevalence of 16 percent for individuals ages 26–34 and 14.3 percent for older adults. These exceptions are noteworthy because in general the above-mentioned effects of aging, birth cohort differences, and secular periods tend to contribute to lower prevalence estimates among older adults. In American Indian/Alaska Native populations, these general effects may be cancelled to some extent by excess mortality risk for middle-aged members of this racial/ethnic minority group and (more speculatively) by excess risk of alcohol or other drug dependence.

The exceptions observed for tobacco cigarette smoking in Table 8 also are noteworthy. Among Black Americans and Hispanic Americans, no age-related decline in prevalence of recently active tobacco cigarette smoking is evident in comparing individuals ages 26–34 with older adults age 35 and older. If the age-related declines observed for non-Hispanic Whites are attributed to effective public health interventions, it is possible that the impact of these interventions has not been so prominent among these racial/ethnic minority groups.

Across all age groups, American Indian/Alaska Natives exhibit the highest prevalence estimates for past-month use of marijuana. This observation requires replication as well as error checking and evaluation in relation to confidence intervals. Once the NHSDA 1998 data are subdivided by recently active (past month) drug use, age, and race/ethnicity, the numbers of American Indian/Alaska Native recently active drug users in each age group become quite small and the corresponding estimates become quite imprecise.

The apparent excess prevalence of recently active cocaine use among African Americans ages 26–34 has been observed since the early 1990s. The lower prevalence of cocaine use among the youngest African Americans also has been noted. These are epidemiological patterns that merit attention in planning for public health intervention. Nonetheless, as noted already within this chapter, with neighborhood matching or statistical adjustment for neighborhood characteristics, the excess occurrence of cocaine use among African Americans is much attenuated. An excess, if any, might be traced back to greater street-level cocaine availability and relatively uncontrolled drug dealing in still-segregated neighborhoods with a high density of African Americans (e.g., see Lillie-Blanton et al. 1991; Ensminger et al. 1997).

Table 9 presents a detailed look at recently active (past month) use of alcohol, tobacco, and other drugs within the U.S. Hispanic population, with subgroupings for six Hispanic subgroups. There is some value in presentation of prevalence estimates for these Hispanic subgroups, but caution must be voiced. Compared with prior annual NHSDA surveys, the NHSDA 1998 dataset was unusual in the number of Hispanic respondents (n=6,795). Nonetheless, once six subgroups are created and additional subdivisions into four age groups are made, the number of illegal drug users within each subgroup is limited, as is the total size of each subgroup. In consequence, the confidence intervals for most of the age-specific estimates in Table 9 are wide, and the observed variation may well be an artifact. Nevertheless, several general conclusions are warranted. For example, as depicted in the last column of Table 9, for recently active illegal drug use, considerable subgroup variation in prevalence exists across the various Hispanic heritage groups. For example, the lowest prevalence estimates are observed for U.S. Hispanic residents of South American and Cuban heritage: 2.1 percent and 3.4 percent, respectively. These lower values are observed not only for all members of these subgroups (last column) but also for males and females (next-to-last columns). The largest estimates are obtained for the "Other" group of Hispanic residents and for those of Puerto Rican heritage: 8.2 percent and 6.9 percent, respectively (shown in the last and next-to-last columns of Table 9). The excess prevalence of illegal drug use among South Americans is especially interesting because this group's value cannot be explained by their marijuana and cocaine use. Adding the marijuana and cocaine prevalence values for the "Other" group yields a sum of just 5.1 percent, not large enough to account for the 8.2 percent estimate for "any illegal drug use," even if none of the marijuana users consumed cocaine and none of the cocaine users consumed marijuana—an unlikely circumstance. Hence, some other form of illegal drug use must be contributing to the observed general excess prevalence in relation to illegal drug use—perhaps inhalant drugs as described by Mesquita and colleagues (1997) or extramedical use of prescription medicines as described by Nappy and Carlini (1993) and others.

Hispanic residents of Puerto Rican heritage also have relatively higher prevalence estimates for marijuana, cocaine, and tobacco cigarette smoking. This excess prevalence among Puerto Ricans is observed for marijuana and tobacco smoking for both males and females, but the observed excess prevalence of recently active cocaine use is seen for males of Puerto Rican heritage but not females. This epidemiological pattern merits greater attention in future research. As depicted in Figure 2, the apparent excess prevalence of illegal drug use among U.S. Hispanic residents of Puerto Rican heritage has been replicated independently in the data from NHSDA 1999–2000, and also was seen in data from NHSDA 1996. Associated implications for planning of public health interventions will become more clear once there are more probing analyses of these initial epidemiological observations, with attention to social context, geographic locations, and other circumstances, conditions, and processes associated with illegal drug use in this population subgroup.

Based on data in Table 9 from NHSDA 1998, persons of South and Central American heritage had the highest prevalence values for recently active consumption of alcohol (46 percent and 47.2 percent, respectively), but it was U.S. Hispanic residents of Mexican heritage who had the highest prevalence of recently active heavy alcohol use (7.4 percent). The South and Central American values for heavy alcohol consumption were intermediate in level (4.1 percent), and Cuban-Americans had the lowest prevalence of heavy alcohol consumption (1.7 percent).

The data on male-female differences among Hispanic subgroups show a pattern that is generally consistent with sex-specific estimates for other racial/ethnic minority groups (Table 9). That is, in general, Hispanic females have a lower prevalence of recently active drug use for all drug categories compared with males. In many contrasts, Hispanic males are two to three times more likely to be recently active drug users. Women of Cuban-American heritage have the lowest prevalence estimates observed for marijuana, cocaine, and heavy alcohol use.

As noted in the initial description of Table 9, imprecision in these epidemiological estimates prompts some hesitation in the interpretation of the observed variation across age groups within the Hispanic subgroups. Nevertheless, it is noteworthy that the general pattern of age-specific variation described in relation to the Table 8 estimates also is apparent for many of the Hispanic subgroups depicted in Table 9. One interesting age-specific relationship is seen in relation to recently active heavy alcohol consumption. There is relatively invariant prevalence of recently active heavy alcohol use across the three adult age groups of Mexican Americans, with values of 9.2 percent for individuals ages 18–25, 8.6 percent for those ages 26–34, and 7.5 percent for adults age 35 and older. There is a sharp decline from the value observed for individuals ages 18–25 of Puerto Rican heritage, compared with values observed for older adults (11.9 percent to 5.4 percent to 6.1 percent) in this subgroup. With other subgroups for which there is an adequate number of participants, the age-specific estimates show age-related declines among non-Hispanic Whites and most of the other groups represented in Table 8.

In many public health reports, women ages 15–44 are considered to be of childbearing age. Table 10 presents NHSDA 1998 estimates for the prevalence of drug use among women ages 15–44 by age, race/ethnicity, and metropolitan/nonmetropolitan location. Estimates for lifetime history of illegal drug use indicate that use is highest among White women (51.2 percent), followed by African-American women (36.0 percent), Hispanic women (26.2 percent), and women of other race/ethnicity groups (20.2 percent). Recently active illegal drug use showed a somewhat different pattern across these groups, with a slightly higher prevalence of past-month illegal drug use for both non-Hispanic White and African-American women (7.6 percent and 8.1 percent, respectively), compared with Hispanic women and women in the "Other" group (6.1 percent and 3.0 percent, respectively). In general, prevalence estimates for illegal drug use and for recently active use of marijuana and

cocaine were highest among women ages 15–24. There were several exceptions, and a noteworthy pattern of age-specific estimates was observed for recently active cocaine use among African-American women. Among that group, an estimated 0.4 percent of women ages 15–24 were recently active cocaine users, compared with 2.2 percent and 2.1 percent for individuals ages 25–29 and 30–44, respectively. The lower prevalence value for the youngest women is not seen in the age-specific estimates for non-Hispanic White women or for Hispanic women. Within these two groups, the youngest women are the most likely to be recently active cocaine users.

Observed variations across metropolitan and nonmetropolitan areas also are noteworthy in several instances. For example, among non-Hispanic White women and African-American women, there is a general tendency toward higher prevalence of illegal drug use in metropolitan areas than in nonmetropolitan areas. This pattern is not seen for women of Hispanic heritage nor for women in the "Other" racial/ethnicity group (Table 10).

From vital statistics data abstracted from birth certificates in selected States, it is possible to add a different perspective on the drug use of women in the childbearing years. These statistics disclose trends in the prevalence of tobacco smoking during pregnancy among mothers of live-born infants. From 1993 through 1999, there were modest declines in these estimates (Table 11), which represent a continuation of declines observed between 1989 through 1993 (National Institute on Drug Abuse 1998). For example, evaluating the estimates for all mothers of live-born infants (last row of Table 11), the proportion that smoked during pregnancy in 1993 was almost 16 percent. By comparison, the value observed in 1999 was 12 to 13 percent.

Supplementing the NHSDA statistics, these epidemiological data add more information about heterogeneity within the broad racial/ethnicity subgroups generally displayed in official statistics. To illustrate, in these data, the observed prevalence of smoking during pregnancy is substantially greater for Hawaiian and part-Hawaiian women than for the other Asian and Pacific Islander groups represented in the table. Whether this impression is a result of a sampling artifact or other errors remains an open question for future research. It is possible that this type of subgroup variation might be due to methodological difficulties in vital statistics, such as incomplete coverage of Hawaiian versus other Asian live-borns in the birth certificate database. It certainly is true that completeness and accuracy of information on birth certificates can vary from place to place and time to time. For example, it may be possible that birth certificate processes and recording of tobacco smoking status of the mothers is more complete in public health districts serving Hawaiian mothers and live-born infants than in other areas of the country.

ATTITUDES AND PERCEPTIONS

In accord with sociological concepts elaborated by George Herbert Mead, several social psychological theories of drug-taking link an individual's attitudes about drug use and perceptions of the harmfulness of drug use to the individual's risk of becoming and remaining a drug user. Recent economic theories also incorporate links between subjective assessments of the utility of drug-taking behavior, both short- and long-term, and the probability of choosing to initiate or sustain drug use. According to most of these theories, when people anticipate or perceive there are risks of harm attached to drug-using behaviors, they are less likely to engage in those behaviors.

Ecological analyses of national-level statistics yield evidence consistent with these theories. For example, time trends in perceived harmfulness of drug use are linked with time trends in prevalence of drug use, even when perceived availability of drugs remains constant or is held constant statistically.

These theories and data have prompted speculation about the possibility of preventing or reducing youth's drug use by manipulating attitudes or perceptions about the harmfulness of drug use, either through family process, peer communication, drug education programs, or mass media and other social marketing campaigns. Of course, it is possible that alternative processes are at work in generating the observed data. For example, mass media campaigns and drug prevention efforts often are redoubled during periods of increasing prevalence of drug use, but concurrent with these periods are processes of personal exposure to the casualties of drug use. To the extent that a youth has an older brother, other relative, or friend who becomes a casualty of drug use, the harmfulness of drug use may acquire an immediacy that has substantial impact on the likelihood of future drug use. Of course, as prevalence of drug use begins to mount, these personal experiences with the harm and casualties associated with drug use also increase, all else held constant. Consequently, perceptions of harmfulness of drug use may be more influenced by increasing prevalence of drug use and personal observation of drug-related casualties and less influenced by concurrent mass media or drug prevention campaigns.

Theories about the links between perceived harmfulness and prevalence of illegal drug use remain incomplete to the extent that they fail to account for these reciprocities between prevalence of drug use at the population level and perceptions about harmfulness of drug use at the individual level. Nevertheless, theoretical concerns aside, there is good reason to speculate about whether drug prevention campaigns might be aided by a better understanding of the interrelationships between a person's attitudes and perceptions about drug use and the person's individual-level probability of becoming a drug user. For this reason, several studies have been measuring attitudes and perceptions about drug use in an effort to track and improve understanding of their relationships with drug-taking behavior.

PATS is an ongoing national study that seeks information about the attitudes of students and parents, as well as estimates of drug-related behavior in these populations. For example, in 2000, more than 7,000 students in the middle- and high-school grades (7–12) answered questions administered as part of the PATS classroom surveys. Parents generally are interviewed at home. In some years, the PATS survey has extended to children in primary school (grades 4–6), but this was not the case in 2000, the 13th wave of this research project since its initiation in 1986.

Table 12 presents estimates from PATS, as reported from 1997 through 2000. For example, in the first row of Table 12, it is possible to see a downward trend in the proportion of youth (grades 4–6) who report that marijuana is easy to get, with general parallel trends for Whites (columns 1–4), Blacks (columns 5–8), and Hispanics (columns 9–12). The trends for teens and for parents are not as regular. For example, among White parents asked whether marijuana was very easy for their children to get, the estimate for 1997 was 27 percent, and in 2000 it was 25 percent—not a large enough difference to be remarkable. Similarly among Black parents, the corresponding values were 33 percent and 31 percent, with values of 36 percent and 42 percent in 1998 and 1999, respectively. It might be said that White teens perceived reduced availability of marijuana between 1997 (60 percent) and 2000 (54 percent), but the corresponding trends for Black and Hispanic teens were relatively more stable.

The patterns for cocaine and crack are of note and show possible variation across the racial/ethnic subgroups. For example, in 1997, an estimated 14 percent of White youth in grades 4–6 reported that cocaine and crack-cocaine were easy to get, and 17 percent of White parents reported congruent impressions about cocaine/crack availability to their children. By 1999, the estimate based on the youth's reports was only 7 to 8 percent (close to a value of 6 percent observed in 1993), and in 2000, the estimate based on parents' reports was 9 percent.

Downward shifts of somewhat smaller magnitude can be seen in the estimates for Black youth and parents, but there are no similar shifts in the Hispanic segment of the PATS sample. Whether these estimates on perceived availability of marijuana and cocaine actually reflect prevailing availability in the communities surveyed remains an open research question, but the apparent numerical difference across these several racial/ethnic groups is provocative and warrants more detailed scrutiny (e.g., confidence interval estimation and investigation of other circumstances, conditions, and processes). When seen in the context of differences between reports of Black youths and their parents, the apparent general congruence between reports of Hispanic youth and their parents also merits investigation. Many Black parents sampled have a sense that cocaine and crack are very easy for their children to get, but less than half as many children see it that way. The same patterns of child-parent incongruence and congruence are seen in the estimates for marijuana availability (Table 12).

Perception of risk is quantified in PATS by the estimated proportion of grade-school children and teens who associate great risk or danger with the use of various drugs, and by the corresponding proportion for parents who are asked to describe their child's perceptions about the dangers of drug use. The PATS assessments asked grade-school children to report their perceptions of the risks and dangers of cocaine and crack use separately, while teens and parents were asked to report about cocaine and crack as a single entity. As depicted in Table 13, from 1997 to 1999, there was general stability in the proportion of youths in grades 4–6 and teens in grades 7–12 who reported that marijuana use is dangerous. For example, in the first row of Table 13, fluctuation occurs around a value of about 80 percent for White children, 75 percent for Black children, and 75 to 77 percent for Hispanic children. Without confidence intervals, it is difficult to judge whether the observed variation in these statistics is meaningful. The general stability in the parents' reports of their child's perceptions about the danger of marijuana use also is noteworthy, with somewhat larger values in 1997 for White and Black parents, but with no clear pattern among Hispanic parents.

It also is noteworthy that the children do not assign greater danger and risk values to use of cocaine and crack or heroin than use of marijuana. These perceptions of danger and risk do not reflect what is known about the relative likelihood of becoming dependent on cocaine or heroin versus marijuana or the relative likelihood of drug-related death in association with these three drugs (e.g., see Anthony et al. 1994; Wagner and Anthony 2002; Chapter 6, this report). The children's relatively lower danger and risk evaluations of inhalant drugs also deserve more detailed investigations, given the public health importance of inhalant drug use in childhood and adolescence (e.g., see Neumark et al. 1998). These lower evaluations of danger associated with inhalant use also were seen in the PATS data from 1993 through 1996 (National Institute on Drug Abuse 1998).

Table 14 reports the PATS estimates for the proportion of youth and teens that report being afraid of taking drugs. In general, youth in grades 4–6 are more likely to report being afraid than are teens in grades 7–12. This is true for all three of the reported racial/ethnic groups. The estimates across the years reported in Table 14 (i.e., from 1997 to 2000) are generally stable, with no marked upward or downward change from year to year.

The belief that "smoking marijuana is okay sometimes" has been generally stable across these years. One exception can be seen in the last columns of Table 14, where it appears that Hispanic youths became less likely to report agreement with this statement 1997 to 1999. However, no similar difference across these years was seen for Hispanic teens or for the parents. White and Black parents were slightly more likely than their teens and younger children to agree with the statement that it is okay to smoke marijuana sometimes. This discrepancy between parents and children was not seen for the Hispanic group, except in 1997, when the younger children showed the relatively high and perhaps anomalous agreement value of 29 percent.

Fluctuation has occurred in the observed numerical proportions, but in general between 1997 and 2000, there are relatively stable estimates for the statement "If parents use marijuana, their children are likely to use marijuana." For example, among White parents, an estimated 75 percent agreed somewhat or strongly with this statement in 1997 and the corresponding value for 2000 was 72 percent. It is noteworthy that Black parents are substantially less likely to agree with this statement than are White and Hispanic parents (Table 14).

Table 14 also shows general stability in respondents' agreement with the statement "It's really hard to give my child reasons not to use marijuana." Across the years, between 14 and 20 percent of White parents endorsed this statement, compared with about 18 to 25 percent of Black parents. However, there were marked fluctuations for the Hispanic parents, with a value of 36 percent observed in 1999 and a value of 13 percent observed in 2000. Information about confidence intervals and possible differences in sampling plans or methods for Hispanic parents across these years will be required before a difference of this magnitude can be interpreted.

PATS respondents also are asked if they want to hang around people who use drugs; responses are presented in Table 14. Generally, there is stability in the reports of youth and teens on this aspect of interpersonal relations and values toward drugs. What is more striking is the difference in values for the younger students in grades 4–6 versus those of the older students in grades 7–12. Whites, Blacks, and Hispanics in older grades have greater acceptance of social relationships with drug-using people.

Data on youth's and teens' attitudes toward selling drugs to make money also are presented in Table 14. These estimates for younger and older students complement the just-reported values on social relationships with drug-using people. In contrast to youth in grades 4–6, a much greater percentage of teens feel it is okay to sell drugs to make money. This finding is consistent across racial/ethnic groupings for the 2 years (1997 and 1998) in which this comparison can be made.

Comparing the percentage of children and teens in different racial/ethnic groups who feel it is okay to sell drugs indicates that White students are less favorably disposed to drug dealing than are Black and Hispanic students. For example, in 2000, an estimated 17 percent of White teens reported strongly or somewhat agreeing with the statement that it is okay to sell drugs to make money. In that same year, an estimated 27 percent of Black teens and an estimated 24 percent of Hispanic teens expressed these values.

SUMMARY

Data from NHSDA have started to shed new light on variations within the four or five main racial/ethnic groupings that typically have been used in summaries of epidemiological evidence about illegal drug use, alcohol, and tobacco smoking. Several patterns are beginning to emerge, including challenges to preconceptions and beliefs about greater occurrence and prevalence of illegal drug use among Blacks and Hispanics than among non-Hispanic White members of the U.S. civilian noninstitutionalized population. Several observations are noteworthy and merit sustained inquiry, including the prominence of Puerto Ricans among Hispanic illegal drug users; the pattern of age-specific prevalence estimates for recently active cocaine use among African Americans, including women of child-bearing age; and the apparent excess prevalence of illegal drug use among American Indian/Alaska Native groups. In many respects, these data raise more questions than they answer.

PATS data were examined to ascertain information on attitudes of youth, teens, and parents about drug use. Youth, teens, and parents were asked about the perceived ease of obtaining several illicit drugs; statements

reflecting attitudes toward drug use, drug users, and drug dealers; and assessments of the relative danger or risk associated with different drugs. In general, patterns of general stability characterize these statistics; nevertheless, noteworthy variations are evident between children, teens, and their parents, sometimes reflecting discrepancies that merit more study because they might provide new information for use in planning drug prevention programs. In addition, interesting differences define attitudes of primary school and older students toward social relationships with drug users and acceptability of drug dealing to make money. The general observation that Black and Hispanic teens are more likely than White teens to accept drug dealing as a means of earning money is striking. Whether this attitude of acceptance is an artifact of sampling or other methodological features of the PATS approach must be investigated in more detail before this intriguing observation can be translated into public health action. If confirmed, the observation should provoke planning and implementation of new intervention programs directed toward shaping the orientation of social networks to address personal involvement in drug supply and distribution.

Finally, the age-related variation in perceptions about the harmfulness of marijuana, cocaine, heroin, and inhalants is striking. To some extent, younger students misperceive the relative danger and risk associated with use of marijuana versus cocaine, heroin, and inhalant drugs, if danger and risk are evaluated based on evidence about adverse health consequences. However, if danger and risk refer to the likelihood of apprehension by the criminal justice agencies and the adverse consequences of conviction and incarceration, it is possible that younger children's appraisals have some factual basis.

Table 5. NHSDA Sample Sizes and U. S. Civilian Noninstitutionalized Population Totals, by Sex and Age Across Race/Ethnicity for Age 12 and Older: 1998

Sex and Age	White, Non-Hispanic		Black, Non-Hispanic		Hispanic		Other	
	Sample	Population Estimate (in thousands)	Sample	Population Estimate (in thousands)	Sample	Population Estimate (in thousands)	Sample	Population Estimate (in thousands)
Sex								
Male	5,303	78,312	2,339	11,139	3,043	11,325	576	4,421
Female	6,406	83,680	3,476	13,636	3,752	11,017	605	4,914
Age								
12–17 years	3,091	15,209	1,374	3,243	1,869	3,108	444	1,180
18–25 years	2,926	18,753	1,798	3,927	2,187	3,910	407	1,376
26–34 years	1,890	23,786	1,053	4,360	1,432	4,672	162	1,784
35+ years	3,802	104,243	1,590	13,245	1,307	10,652	168	4,995
Total	11,709	161,991	5,815	24,775	6,795	22,342	1,181	9,336

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1998 public use dataset, 2000a.

Table 6. Estimated Prevalence of Use of Selected Drugs Among Persons Age 12 and Older in the United States: 1998

Drug	Ever Used		Used in Past Month	
	Percent	Population Estimate (in thousands)	Percent	Population Estimate (in thousands)
Any illegal drug use	35.8	78,123	6.2	13,615
Marijuana	33.0	72,070	5.0	11,016
Hallucinogens	9.9	21,607	0.7	1,514
Inhalants	5.8	12,589	0.3	713
Cocaine	10.6	23,089	0.8	1,750
Crack	2.0	4,476	0.2	437
Heroin	1.1	2,371	0.1	130
Nonmedical use of				
Stimulants	4.4	9,614	0.3	633
Sedatives	2.1	4,640	0.1	210
Tranquilizers	3.5	7,726	0.3	655
Analgesics	5.3	11,595	0.8	1,709
Alcohol	81.3	177,512	51.7	112,850
Cigarettes	69.7	152,313	27.7	60,406

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1998 public use dataset, 2000a.

Table 7. Estimated Prevalence of Past-Month Drug Use in the United States, by Age and Sex (by percent): 1998

Drug	Age Group				Sex		All Ages, Both Sexes
	12–17	18–25	26–34	35+	Male	Female	
Any illegal drug	9.9	16.1	7.0	3.3	8.1	4.5	6.2
Marijuana	8.3	13.8	5.5	2.5	6.7	3.5	5.0
Cocaine	0.8	2.0	1.2	0.5	1.1	0.5	0.8
Alcohol	19.1	60.0	60.9	53.1	58.7	45.1	51.7
Heavy alcohol	2.9	13.4	6.9	4.2	9.3	2.3	5.7
Cigarettes	18.2	41.6	32.5	25.1	29.7	25.7	27.7

NOTE: Heavy alcohol use has been defined as "5 or more drinks on the same occasion on at least 5 or more days in the month prior to assessment," in accord with the National Household Survey on Drug Abuse specifications on pp. 99 and 102 of source materials.

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1998 public use dataset, 2000a.

Table 8. Estimated Prevalence of Past-Month Drug Use in the United States, by Age, Sex, and Race/Ethnicity (by percent): 1998

Drug	Age Group				Sex		All Ages, Both Sexes
	12–17	18–25	26–34	35+	Male	Female	
Any illicit drug							
White, non-Hispanic	10.3	17.6	7.1	3.2	7.7	4.5	6.1
Black, non-Hispanic	9.9	17.1	9.4	4.8	12.0	5.2	8.2
American Indian/Alaska Native	16.3	24.9	15.5	6.0	16.6	5.4	9.3
Asian/Pacific Islander	5.2	7.3	2.8	0.7	3.7	1.8	2.8
Hispanic	9.9	11.1	5.4	3.5	7.7	4.5	6.1
Marijuana							
White, non-Hispanic	8.7	14.9	5.7	2.5	6.5	3.6	5.0
Black, non-Hispanic	8.3	15.2	7.4	3.3	9.9	3.8	6.6
American Indian/Alaska Native	10.3	23.3	12.9	5.4	13.5	5.0	8.0
Asian/Pacific Islander	3.7	7.3	2.8	0.7	3.3	1.8	2.6
Hispanic	7.6	9.0	3.2	2.4	5.7	3.2	4.5
Cocaine							
White, non-Hispanic	0.9	2.2	1.0	0.3	0.9	0.5	0.7
Black, non-Hispanic	*	0.6	2.7	1.3	1.7	0.9	1.3
American Indian/Alaska Native	2.0	2.3	0.3	1.5	3.7	0.2	1.4
Asian/Pacific Islander	*	0.3	*	*	0.1	0.0	0.0
Hispanic	1.4	2.7	1.1	0.9	1.8	0.8	1.3
Alcohol							
White, non-Hispanic	20.9	65.0	65.2	56.2	61.2	49.7	55.3
Black, non-Hispanic	13.1	50.3	54.8	38.3	49.0	32.3	39.8
American Indian/Alaska Native	32.1	67.4	50.7	40.9	69.1	29.2	43.3
Asian/Pacific Islander	10.5	44.0	37.5	36.7	39.9	29.2	34.5
Hispanic	18.9	50.8	53.1	47.7	56.8	33.6	45.4
Heavy alcohol**							
White, non-Hispanic	3.4	16.7	7.1	4.2	9.3	2.5	6.0
Black, non-Hispanic	0.7	6.3	7.8	4.6	8.3	1.8	4.9
American Indian/Alaska Native	5.2	12.3	16.0	14.3	31.9	3.7	13.7
Asian/Pacific Islander	1.7	4.2	4.8	2.1	5.8	0.1	2.9
Hispanic	2.4	10.5	7.7	5.8	10.3	2.0	6.5
Tobacco cigarettes							
White, non-Hispanic	20.5	46.9	34.1	24.1	28.9	26.9	27.9
Black, non-Hispanic	13.7	30.7	31.5	32.2	33.8	25.9	29.4
American Indian/Alaska Native	24.7	54.5	46.1	26.8	35.2	29.0	31.2
Asian/Pacific Islander	8.7	27.1	30.7	21.6	30.1	15.1	22.5
Hispanic	15.1	31.5	25.4	27.0	31.4	20.0	25.8

*Low precision, no estimate reported.
**Heavy alcohol use has been defined as "5 or more drinks on the same occasion on at least 5 or more days in the month prior to assessment," in accord with the National Household Survey on Drug Abuse specifications on pp. 99 and 102 of source materials.

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1998 public use dataset, 2000a.

Table 9. Estimated Prevalence of Past-Month Drug Use Among Hispanics in the United States, by Age and Sex (by percent): NHSDA 1997 and 1998 Data Combined

Drug	Age Group				Sex		All Persons
	12–17	18–25	26–34	35+	Male	Female	
Any illegal drug							
Hispanic	10.2	10.8	4.6	3.6	7.4	4.5	6.0
Puerto Rican	11.5	15.7	7.9	2.2	8.7	5.1	6.9
Mexican	9.9	10.4	4.2	4.1	7.5	4.8	6.2
Cuban	9.9	12.1	3.3	1.0	4.7	2.2	3.4
Central American	10.1	9.6	4.6	3.0	6.8	3.5	5.3
South American	16.5	1.8	*	*	2.3	2.0	2.1
Other	8.1	10.7	7.7	7.8	11.9	5.7	8.2
Marijuana							
Hispanic	8.0	8.4	2.8	2.3	5.4	3.1	4.3
Puerto Rican	10.7	14.6	4.6	1.4	6.8	4.4	5.6
Mexican	7.6	8.2	2.9	2.8	5.5	3.6	4.5
Cuban	6.5	7.9	2.9	0.3	3.5	0.9	2.1
Central American	8.0	5.0	1.5	2.3	5.2	1.0	3.2
South American	16.5	1.3	*	*	2.1	2.0	2.1
Other	1.8	7.4	4.3	2.5	5.7	1.8	3.4
Cocaine							
Hispanic	1.2	2.1	1.0	0.7	1.6	0.5	1.0
Puerto Rican	0.6	2.4	0.9	1.0	1.6	0.8	1.2
Mexican	1.2	2.2	1.0	0.7	1.8	0.4	1.1
Cuban	0.9	4.6	*	*	1.0	0.1	0.5
Central American	1.0	0.9	0.7	0.6	0.9	0.5	0.7
South American	4.7	0.6	*	*	0.2	1.2	0.6
Other	1.0	1.2	3.4	1.5	2.0	1.6	1.7
Alcohol							
Hispanic	18.9	49.7	52.4	45.3	55.2	32.2	43.9
Puerto Rican	20.1	54.1	54.9	46.6	51.7	39.4	45.4
Mexican	18.7	47.7	52.6	44.8	56.1	29.6	43.2
Cuban	23.3	47.9	58.2	39.0	49.2	35.1	41.7
Central American	17.3	53.2	45.8	53.7	57.5	35.6	47.2
South American	23.9	66.5	62.0	38.6	56.4	32.8	46.0
Other	13.5	52.1	54.2	40.3	51.4	34.7	41.5
Heavy alcohol							
Hispanic	3.1	9.5	7.0	5.7	10.4	2.1	6.3
Puerto Rican	2.4	11.9	5.4	6.1	8.6	4.3	6.4
Mexican	3.2	9.2	8.6	7.5	12.4	2.2	7.4
Cuban	2.8	4.6	4.5	0.3	3.0	0.6	1.7
Central American	2.5	10.7	4.4	2.1	6.6	1.2	4.1
South American	11.4	17.2	0.6	*	6.2	1.5	4.1
Other	0.9	3.3	*	4.5	7.9	0.1	3.2

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Table 9 (continued). Estimated Prevalence of Past-Month Drug Use Among Hispanics in the United States, by Age and Sex (by percent): NHSDA 1997 and 1998 Data Combined

Drug	Age Group				Sex		All Persons
	12–17	18–25	26–34	35+	Male	Female	
Tobacco cigarettes							
Hispanic	15.5	31.2	27.0	27.9	31.9	21.1	26.6
Puerto Rican	18.4	35.9	32.1	35.6	33.4	31.7	32.5
Mexican	15.2	29.7	27.4	29.2	32.5	20.8	26.9
Cuban	12.6	28.1	24.1	20.4	26.7	16.1	21.1
Central American	14.5	37.5	21.7	20.4	28.3	16.3	22.6
South American	26.6	36.4	40.9	27.5	40.2	20.3	31.5
Other	10.9	24.0	21.5	22.4	30.4	15.0	21.3

*Low precision, no estimate reported.
**Heavy alcohol use has been defined as "5 or more drinks on the same occasion on at least 5 or more days in the month prior to assessment," in accord with National Household Survey on Drug Abuse specifications on pp. 99 and 102 of source materials.

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1997–1998 public use datasets, 1999a and 2000a.

Table 10. Estimated Percentage of Women of Childbearing Age (15–44) Using Drugs, by Age, Race/Ethnicity, and Population Density: 1998

Age	Race/ Ethnicity	Population Density	Any Illicit Drug			Marijuana			Cocaine			Cigarettes		
			Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month
All ages	All Groups	Total U.S.	44.6	13.3	7.3	42.4	10.9	5.8	13.3	2.2	0.9	66.9	34.6	30.9
		Nonmetro	37.9	10.5	5.1	35.5	8.6	3.9	8.8	1.9	0.6	68.6	39.8	36.8
		Metro	46.1	14.0	7.8	44.0	11.4	6.3	14.3	2.2	1.0	66.5	33.4	29.6
	White, NH	Total U.S.	51.2	14.2	7.6	49.3	11.7	6.2	15.8	2.4	0.9	73.8	37.8	33.7
		Nonmetro	40.4	10.0	4.1	38.3	8.2	3.0	9.3	1.9	0.5	71.2	40.9	38.0
		Metro	54.2	15.4	8.6	52.4	12.7	7.1	17.6	2.5	1.0	74.6	36.9	32.5
	Black, NH	Total U.S.	36.0	14.0	8.1	32.6	11.4	6.0	7.5	2.2	1.5	56.7	31.6	29.5
		Nonmetro	25.4	9.9	6.6	21.3	7.0	4.5	4.0	1.6	1.0	58.3	33.7	31.3
		Metro	37.9	14.7	8.4	34.7	12.2	6.3	8.1	2.4	1.7	56.4	31.2	29.2
	Hispanic	Total U.S.	26.2	10.4	6.1	22.8	8.0	4.5	8.3	1.6	0.9	49.7	25.2	21.3
		Nonmetro	28.0	14.1	10.5	24.2	12.9	9.7	7.7	2.4	1.6	56.1	37.0	33.3
		Metro	26.0	10.0	5.6	22.6	7.4	3.9	8.4	1.5	0.8	49.0	23.9	19.9
	Others	Total U.S.	20.2	6.4	3.0	19.7	5.2	2.9	6.2	0.2	0.1	38.5	21.2	19.9
		Nonmetro	36.1	20.6	16.6	35.0	19.4	15.5	17.7	0.9	0.5	59.1	37.2	31.7
		Metro	18.7	5.0	1.8	18.2	3.9	1.7	5.2	0.1	0.1	36.5	19.7	18.8
15–24	All Groups	Total U.S.	37.8	23.2	13.0	35.2	21.2	11.4	7.0	3.7	1.5	59.4	40.3	33.8
		Nonmetro	30.7	17.0	9.0	28.7	14.9	7.3	5.0	2.7	1.4	64.3	45.5	39.6
		Metro	40.0	24.9	14.1	37.0	23.0	12.6	7.6	4.0	1.6	58.0	38.8	32.2
	White, NH	Total U.S.	42.5	26.3	14.4	40.5	24.3	12.9	8.6	4.6	1.8	67.2	47.6	40.2
		Nonmetro	32.8	17.3	8.5	31.0	15.3	7.0	5.4	2.6	1.1	68.6	50.0	43.8
		Metro	46.0	29.4	16.4	43.9	27.4	15.0	9.7	5.3	2.0	66.8	46.8	39.0

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Table 10 (continued). Estimated Percentage of Women of Childbearing Age (15–44) Using Drugs, by Age, Race/Ethnicity, and Population Density: 1998

Age	Race/ Ethnicity	Population Density	Any Illicit Drug			Marijuana			Cocaine			Cigarettes		
			Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month
15–24	Black, NH	Total U.S.	30.2	19.4	11.9	26.2	17.6	10.1	1.0	0.5	0.4	42.3	24.7	21.1
		Nonmetro	20.4	14.9	11.6	16.4	11.5	7.6	1.3	1.3	1.3	49.6	24.3	20.9
		Metro	31.9	20.1	12.0	27.9	18.6	10.6	0.9	0.4	0.2	41.1	24.8	21.2
	Hispanic	Total U.S.	30.3	17.7	10.3	26.0	15.0	8.0	7.9	3.7	2.1	47.2	27.5	21.5
		Nonmetro	28.1	21.8	13.9	24.6	19.6	12.5	7.7	5.8	4.3	47.6	31.9	27.0
		Metro	30.5	17.2	9.9	26.2	14.4	7.4	7.9	3.4	1.8	47.1	26.9	20.8
	Others	Total U.S.	15.4	7.6	4.6	14.2	7.2	4.3	1.2	0.6	0.3	36.8	22.1	18.4
		Nonmetro	17.8	5.7	3.0	17.3	4.9	2.0	1.7	1.4	0.6	39.9	30.0	20.5
		Metro	15.0	8.0	4.9	13.6	7.7	4.7	1.1	0.5	0.3	36.2	20.5	18.0
25–29	All groups	Total U.S.	42.3	9.1	3.6	40.2	7.1	2.9	9.5	1.3	0.5	63.9	34.9	31.1
		Nonmetro	34.0	3.5	1.8	31.8	3.1	1.5	7.9	0.3	*	61.7	30.6	29.4
		Metro	44.1	10.3	4.0	42.1	7.9	3.2	9.9	1.5	0.6	64.4	35.8	31.5
	White, NH	Total U.S.	50.3	8.8	2.9	48.3	7.0	2.6	10.5	1.0	0.1	72.8	40.8	36.5
		Nonmetro	37.1	2.2	0.7	34.8	2.0	0.7	8.2	0.2	*	65.3	31.1	30.6
		Metro	54.0	10.7	3.6	52.2	8.4	3.1	11.1	1.3	0.1	74.9	43.5	38.2
	Black, NH	Total U.S.	38.6	14.4	7.7	35.5	10.8	5.7	7.0	3.2	2.2	57.8	27.0	24.4
		Nonmetro	20.1	6.2	5.7	19.1	5.2	4.7	0.5	*	*	56.6	41.0	33.9
		Metro	41.1	15.5	7.9	37.7	11.6	5.8	7.9	3.7	2.5	58.0	25.2	23.1
	Hispanic	Total U.S.	21.3	7.0	3.5	19.1	4.6	1.9	8.6	1.1	0.4	43.7	21.8	18.0
		Nonmetro	8.1	4.0	2.8	6.1	1.9	0.7	5.8	1.9	*	29.7	9.6	8.3
		Metro	22.6	7.3	3.6	20.5	4.9	2.1	8.9	1.1	0.5	45.1	23.0	19.0
	Others	Total U.S.	14.4	4.6	1.9	14.0	4.3	1.8	7.9	0.1	0.1	30.4	21.2	20.9
		Nonmetro	61.2	35.2	20.8	59.7	33.8	19.3	33.6	0.7	0.7	61.5	39.4	39.4
		Metro	10.4	2.0	0.3	10.2	1.8	0.3	5.7	*	*	27.8	19.7	19.4
30–44	All groups	Total U.S.	49.2	8.9	5.1	47.2	6.2	3.5	18.0	1.5	0.8	72.0	31.3	29.2
		Nonmetro	44.2	8.0	3.3	41.5	5.9	2.2	11.8	1.8	0.3	73.6	38.6	37.1
		Metro	50.2	9.1	5.5	48.4	6.2	3.7	19.3	1.4	0.9	71.6	29.8	27.5
	White, NH	Total U.S.	56.0	9.2	5.4	54.2	6.4	3.6	20.9	1.5	0.7	77.5	31.9	29.5
		Nonmetro	46.7	7.3	2.1	44.4	5.1	0.9	12.3	1.9	0.2	74.8	37.6	36.2
		Metro	58.2	9.7	6.2	56.6	6.7	4.3	23.0	1.4	0.8	78.2	30.4	27.9
	Black, NH	Total U.S.	39.1	10.0	5.5	36.2	7.3	3.2	12.3	3.1	2.1	66.4	38.1	37.3
		Nonmetro	29.8	7.8	3.8	24.9	4.7	2.6	6.5	2.1	1.1	63.9	37.5	36.8
		Metro	41.0	10.4	5.9	38.5	7.8	3.4	13.5	3.3	2.3	66.9	38.3	37.4
	Hispanic	Total U.S.	25.2	6.5	4.1	21.9	4.3	3.1	8.5	0.3	0.3	53.9	25.0	22.4
		Nonmetro	35.1	11.7	10.8	30.5	11.7	10.8	8.4	*	*	72.4	50.9	47.4
		Metro	24.1	6.0	3.4	20.9	3.4	2.2	8.5	0.4	0.3	51.8	22.1	19.6
	Others	Total U.S.	25.1	6.3	2.6	25.0	4.4	2.5	8.7	*	*	42.4	20.7	20.5
		Nonmetro	57.7	41.7	41.3	55.4	40.1	40.1	40.1	*	*	96.1	50.3	49.7
		Metro	23.5	4.5	0.6	23.5	2.7	0.6	7.1	*	*	39.8	19.2	19.1

*Low precision, no estimate reported.
NH: Non-Hispanic.

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 1998 public use dataset, 2000a.

Table 11. Estimated Percentage of Live-Born Infants' Mothers Who Reported Smoking During Pregnancy, by Year and Race/Ethnicity, U.S. Final Natality Statistics: 1993–1999

Race/Ethnicity	1993	1994	1995	1996	1997	1998	1999
Race of mother*							
African-American	12.7	11.4	10.6	10.2	9.7	9.5	9.3
American Indian/Alaska Native	21.6	21.0	20.9	21.3	20.8	20.2	20.2
Asian/Pacific Islander	4.3	3.6	3.4	3.3	3.2	3.1	2.9
Chinese	1.1	0.9	0.8	0.7	1.0	0.8	0.5
Filipino	4.3	3.7	3.4	3.5	3.4	3.3	3.3
Hawaiian and part-Hawaiian	17.2	16.0	15.9	15.3	15.8	16.8	14.7
Japanese	6.7	5.4	5.2	4.8	4.7	4.8	4.5
Other Asian/Pacific Islander	3.2	2.9	2.9	2.7	2.5	2.4	2.3
White	16.8	15.6	15.0	14.7	14.3	14.0	13.6
Hispanic origin of mother							
Hispanic origin	5.0	4.6	4.3	4.3	4.1	4.0	3.7
Cuban	5.0	4.8	4.1	4.7	4.2	3.7	3.3
Central and South American	2.3	1.8	1.8	1.8	1.8	1.5	1.4
Mexican American	3.7	3.4	3.1	3.1	2.9	2.8	2.6
Other and unknown Hispanic	9.3	8.1	8.2	9.1	8.5	8.0	7.7
Puerto Rican	11.2	10.9	10.4	11.0	11.0	10.7	10.5
African American, non-Hispanic	12.7	11.5	10.6	10.3	9.8	9.6	9.4
White, non-Hispanic	18.6	17.7	17.1	16.9	16.5	16.2	15.9
Total	15.8	14.6	13.9	13.6	13.2	12.9	12.6

*Includes data for 46 States and the District of Columbia in 1993–1999. Excludes data for California, Indiana, New York (but includes New York City), and South Dakota, which did not report tobacco use on the birth certificate.

SOURCES: National Center for Health Statistics, 2000; Ventura et al., 1998–2001.

Table 12. Estimated Percentage of Respondents Who Believe That Selected Drugs Are Easy to Get for Themselves (Youth and Teens) and by Their Children (Parents), by Race/Ethnicity: 1997–2000

Drug and Respondent	White				Black				Hispanic			
	1997	1998	1999	2000	1997	1998	1999	2000	1997	1998	1999	2000
Marijuana												
Youth[a]	19	13	9	N/A	16	10	13	N/A	21	15	18	N/A
Teens[b]	60	57	54	54	59	59	57	55	60	56	56	56
Parents[b]	27	22	34	25	33	36	42	31	22	34	21	20
Cocaine												
Youth[a]	14	7	7	N/A	10	7	8	N/A	14	9	14	N/A
Crack												
Youth[b]	14	9	8	N/A	10	9	8	N/A	13	12	15	N/A
Cocaine/Crack												
Parents[b]	17	7	16	9	26	26	28	20	14	25	14	13

[a]Easy
[b]Very easy
N/A: Not available. As of 2000, youth target is no longer surveyed.
SOURCE: Partnership Attitude Tracking Study, Partnership for a Drug-Free America, 2001.

Table 13. Estimated Percentage of Respondents Who Associate Danger/Great Risk With the Use of Selected Drugs, by Race/Ethnicity: 1997–2000

Drug and Respondent	White				Black				Hispanic			
	1997	1998	1999	2000	1997	1998	1999	2000	1997	1998	1999	2000
Marijuana												
Youth	80	76	84	N/A	76	76	74	N/A	75	82	73	N/A
Teens	60	61	60	62	58	60	59	59	56	58	56	55
Parents	72	63	63	61	75	64	66	60	71	82	70	67
Cocaine												
Youth	82	80	83	N/A	80	79	78	N/A	77	82	73	N/A
Crack												
Youth	76	72	79	N/A	80	78	74	N/A	66	75	69	N/A
Cocaine/Crack												
Teens	88	87	85	86	74	79	75	77	78	77	79	77
Parents	95	89	92	91	90	86	82	89	88	95	84	79
Inhalants												
Youth	61	58	55	N/A	55	54	50	N/A	55	50	51	N/A
Heroin												
Youth	58	59	58	N/A	54	51	45	N/A	54	53	46	N/A

N/A: Not available. As of 2000, youth target is no longer surveyed.
SOURCE: Partnership Attitude Tracking Study, Partnership for a Drug-Free America, 2001.

Table 14. Estimated Percentage of Respondents Who Agree With Selected Statements About Specific Drugs, by Race/Ethnicity: 1997–2000

Respondent	White				Black				Hispanic			
	1997	1998	1999	2000	1997	1998	1999	2000	1997	1998	1999	2000
	Taking drugs scares respondent.											
Youth[a]	68	70	81	N/A	73	73	75	N/A	59	70	75	N/A
Teens[b]	31	29	33	34	44	40	42	38	33	31	28	27
	Smoking marijuana is okay sometimes.											
Youth[c]	13	12	11	N/A	21	13	20	N/A	29	16	19	N/A
Teens[d]	19	15	14	15	17	17	13	14	18	16	13	17
Parents[d]	24	27	24	35	20	24	19	20	17	16	16	14
	If parents use marijuana, their children are likely to use marijuana.											
Parents[d]	75	70	72	72	56	61	67	55	71	74	79	70
	It's really hard to give my child reasons not to use marijuana.											
Parents[d]	20	14	15	17	18	21	25	19	28	22	36	13
	Don't want to hang around people who use drugs.											
Youth[a]	72	75	84	N/A	70	72	78	N/A	66	70	75	N/A
Teens[b]	33	28	34	33	44	28	42	41	30	26	30	28
	It's okay to sell drugs to make money.											
Youth[c]	6	5	N/A	N/A	10	9	N/A	N/A	14	9	N/A	N/A
Teens[d]	21	19	17	17	31	31	26	27	27	25	24	24

[a]Agree a lot.
[b]Agree strongly.
[c]Agree a lot/agree a little.
[d]Agree strongly/agree somewhat.
N/A: Not available. As of 2000, youth target is no longer surveyed.

SOURCE: Partnership Attitude Tracking Study, Partnership for a Drug-Free America, 2001.

Chapter 4. PREVALENCE OF DRUG USE AMONG YOUTH

This chapter presents data on drug use among minority youth, including age at first use; prevalence of lifetime, past-month, and past-year use; and longitudinal trends in prevalence of drug use. It also includes a special section on drug use among American Indian youth. As described in Chapter 3, the lifetime prevalence estimates convey "cumulative occurrence" of drug taking within the survey population, answering such questions as, "What proportion of the population has become an illegal drug user?" In comparison, the past-month estimates answer questions such as, "What proportion has been a recently active illegal drug user?", with recently active use defined in terms of the 1-month interval up to and including the day of the assessment.

The most extensive surveys of drug use among U.S. adolescents have been completed as part of the National Household Survey on Drug Abuse (NHSDA), described in Chapters 1 and 3, and as part of the Monitoring the Future (MTF) study sponsored by the National Institute on Drug Abuse (NIDA), already described in Chapter 1. These surveys provide some of the best data available for prevalence estimates of drug use among young people in this country. Each surveillance tool has its own strengths and limitations. For example, in theory, the NHSDA sample encompasses truants and dropouts, who are included within the population definition but may be missing from the sampling frame. By comparison, dropouts are not included in the population definition for the MTF study, which samples schools, classrooms within schools, and students within classrooms. Truants are included within the population definition for the MTF study, but they may not be present on the day or days of classroom assessment via self-report standardized questionnaire. Also contained in this chapter are data from the Youth Risk Behavior Survey (YRBS), the National Longitudinal Survey of Youth (NLSY), and surveys of American Indian/Alaska Native students and dropouts, which have been conducted by the Colorado State University Tri-Ethnic Center for Prevention Research. Each of these studies has the strengths and limitations noted with the NHSDA and the MTF investigations.

Recent estimates for the age-specific incidence of various drugs help shed new light on recent trends in drug taking among youth in the United States. For example, based on a retrospective method for modeling past and recent risk of starting to use marijuana, the NHSDA research team has estimated that the risk of starting to smoke marijuana increased sharply during the 1960s. For youth ages 12–17 in 1965, the estimated risk of becoming a new marijuana smoker in that year was just under 1 percent. By 1969–1970, the risk for this age group had increased to about 3.3 to 4.9 percent per year. Thereafter, there were sustained increases in the risk of starting to smoke marijuana from 1970 onward, with peak values of about 8 percent per year during the last few years of the 1970s. Subsequently, the rate dropped to 4.3 to 4.5 percent per year for youth ages 12–17 in the early 1990s—a reduced level not seen since the late 1960s. During the 1990s, these risk estimates again increased, with the risk among this group about 8.8 percent in 1996. The 1996 risk estimate is larger than any other value estimated in the series, and it was followed by risk estimates of 8.5 to 8.7 percent per year in 1997 and 1998 (Substance Abuse and Mental Health Administration 2001a).

Although these estimates are subject to the limitations of the NHSDA data and the retrospective method for risk estimation, these are the best available epidemiological estimates for risk of becoming a marijuana smoker in the United States. In addition, recent MTF estimates for the cumulative occurrence (lifetime prevalence) of cocaine use among 8th-, 10th-, and 12th-graders also show increases between 1995 and 1998 (Johnston et al. 2001). The observation that youth ages 12–17 now may be experiencing record high levels of risk for becoming marijuana smokers deserves our attention. It is possible that the retrospective method overstates the risk in the most recent years of any given series. Nevertheless, even if the estimate is off by 10 percent or even 25 percent,

substantial risk exists for becoming a marijuana smoker during adolescence, with levels of risk corresponding to values estimated for the United States during the military conflict and war in Vietnam.

The same analytical procedures have been applied to the NHSDA data on cocaine, with similar provocative results. For example, for youth ages 12–17 alive in the mid-1970s who participated in subsequent NHSDA assessments, the risk of becoming a new user of cocaine is estimated to have been about 5 to 6 new users per 1,000 youths per year (Substance Abuse and Mental Health Administration 2001a). Peak levels of risk for becoming a cocaine user during these adolescent years were observed between 1977 and 1989, with estimated values between 7 and 11 new cocaine users per 1,000 youths per year, followed by a trough year of 4 to 5 new users per 1,000 youths in 1991. During the 1990s, the estimated risk values have been increasing and now are above 10 per 1,000 youths per year (i.e., 1 percent per year). For example, the risk estimate for 1997 is 13 new cocaine users per 1,000 youths ages 12–17, and the risk of becoming a new cocaine user in 1998 is estimated as 14 per 1,000 per year (i.e., 1.4 percent per year). This apparent return to levels of risk last seen during the epidemic of the 1980s poses a challenge for new epidemiological investigation. If the estimation procedure is valid, it is conveying information that signals a need for renewed public health action oriented toward cocaine.

Marijuana and cocaine are not the only two drugs showing recent increases in risk of initiation. For example, in 1998, the estimated number of new users of hallucinogens among youth ages 12–17 is just over 650,000, corresponding with an estimated risk of 2 to 3 percent per year. This estimate is four to five times greater than the corresponding risk estimate for the "flower power" years of the late 1960s, and the risk level has doubled since the late 1980s. Risk estimates for becoming a new illegal user of stimulant drugs in adolescence now are at about one-half the level of risk of becoming a new user of hallucinogens (Substance Abuse and Mental Health Administration 2001a).

These risk estimates convey values that were developed for the entire U.S. population and may not hold for all subgroups within the population. For example, Gfroerer and Brodsky (1992) used NHSDA data and a similar analysis methodology to estimate the risk of becoming a new cocaine user between 1976 and 1989, producing separate estimates for non-Hispanic Whites, non-Hispanic Blacks, and Hispanics in the United States, already presented in Figure 4 in Chapter 3. As depicted in that figure, Gfroerer and Brodsky (1992) observed that, for Whites, the number of new initiates reached a peak in the early 1980s, while the number of new Black and Hispanic initiates did not peak until later in the 1980s. Hence, the national epidemic of cocaine use in the United States really may be subdivided into different experiences, with an earlier epidemic trend and peak for White Americans and a later peak for Blacks and Hispanic Americans.

Because initiation of illegal drug use, alcohol, and tobacco smoking tends to occur during adolescence, NHSDA and the MTF study assume crucial importance as we seek to monitor and understand the drug experience of the U.S. population (Kandel and Logan 1984; Wagner and Anthony 2002; Substance Abuse and Mental Health Administration 2001a). From a social and public health perspective, it also is important to monitor the trends and patterns of drug use among youth because of links with other problem behaviors, including deviant and delinquent activities (e.g., vandalism and starting fights), maladaptation within the family and in school, truancy, and school dropout. For many youth, drug use becomes part of a more general clustering or syndrome of maladaptive behavior that involves conduct problems, failure at school, precocious sexual activity, unsafe sex and other unhealthy behaviors, and affiliation with other deviant and other drug-using peers (e.g., see Jessor 1998)

AGE AT FIRST USE

A great many drug users begin using drugs before age 14 and almost all illegal drug use starts before age 35. NHSDA estimates for the average (mean) age at first use of tobacco cigarettes, alcohol, marijuana, and cocaine for adolescents ages 12–17 during selected years between 1991 and 1998 are presented in Table 15. Trends in the average age of first use were similar across all racial/ethnic groups examined. Although the estimates fluctuate, year-to-year variation in age at first use for these drugs has been relatively modest.

Comparison of age of first use by type of drug indicates average age at initiation for tobacco cigarettes rose modestly from 1991 to 1998 for all race/ethnicity groups shown in the table. For example, among White youth, the mean age for starting to smoke tobacco cigarettes was estimated as 11.4 years old in 1991 and as 12.3 in 1998. Corresponding values for Black youth are 11.3 and 12.8; for Hispanic youth, the estimates are 12.0 and 12.7 (Table 15).

The mean age at first use of alcohol and the mean age for first use of marijuana showed relative stability and no more than modest increases over this period for all race/ethnicity groups under study (Table 15). To some extent, this stability is a function of studying a broad age range (ages 12–17) over short intervals (e.g., 1 to 2 year intervals). The populations of youth under study overlap considerably. For example, a 12-year-old in 1992 becomes a 13-year-old in 1993 and remains eligible for inclusion in the population as a 17-year-old in 1997. This degree of continuity in the birth cohorts represented in each year of the survey tends to yield a relatively stable estimate for the mean age of initiation of drug use, even when individual respondents are excluded from participation in successive years of the survey.

The mean age of cocaine use has been relatively stable during the 1990s. However, coupled with the above-mentioned increased risk of starting to use cocaine during the late 1990s, the slight decline in mean age of first cocaine use for 1997 and 1998 may represent more than a random fluctuation around a grand mean. If the risk estimates are correct for youth ages 12–17, there may be an actual trend toward declining mean age of first cocaine use. This recent trend of declining mean age of first cocaine use has been described for the total NHSDA survey population in its most recent series of reports (e.g., see Substance Abuse and Mental Health Administration 2001a).

The observed mean age of 13 years for Black adolescents in 1998 represents a sharp drop and may be a signal of a changing dynamic of cocaine use in this population, when considered against a backdrop of relatively stable estimates between values of age 14.0 in 1991 and age 14.3 in 1997. New values from more recent NHSDA data will be needed to evaluate this possible trend, but public use datasets for NHSDA 1999 and 2000 are not expected to be available until late 2002 or 2003.

PREVALENCE TRENDS

This section presents prevalence trends for estimated cumulative and recent occurrence of illegal drug use, alcohol use, and tobacco cigarette smoking among minority youth. Data are for secondary school students, American Indian/Alaska Native youth, and youth ages 12–21.

School-Attending Youth

The MTF Study, funded by NIDA, is a nationally representative cross-sectional sample survey of school-attending youth in the United States, administered to 8th-, 10th-, and 12th-graders, with longitudinal followup

of subsamples as these students progress into the college years and young adulthood. One of the major purposes of the survey is to develop an accurate picture of drug use and related attitudes and behaviors among youth (Johnston and O'Malley 1997; Johnston et al. 2001). Data presented in this report are from the MTF cross-sectional surveys only.

Examination of racial/ethnic variations in MTF estimates for 2000, presented on the first page of Table 16, tend to indicate that Hispanic 8th-graders are more likely to have started using marijuana, inhalants, LSD, other hallucinogens, and cocaine than are 8th-grade non-Hispanic Whites or Blacks (Table 16, first page). Among 12th-graders, Hispanic students are more likely to have started to use marijuana and cocaine, but the excess cumulative occurrence of use is not observed for inhalants, LSD, or other hallucinogens. As depicted in the last row of page one of Table 16, there is a slight tendency for Hispanic students to be more likely to be daily marijuana users, but the numerical excess is seen only for 8th-graders and 12th-graders, and these estimates may be too imprecise for definitive interpretation.

Consistent with findings from NHSDA, as reported in Chapter 3, the MTF estimates for Black students show generally lower values for all drugs except marijuana. For example, Black students are less likely to have become cocaine users ("lifetime prevalence"), to have used in the year leading up to and including the date of the survey ("annual prevalence"), and to have used in the month leading up to and including the date of the survey ("30-day prevalence"). By comparison, Black and White students have roughly comparable estimates for prevalence of marijuana use, whether the focus is on the lifetime experience (23.8 percent versus 19 percent among 8th-graders), the past year (16.1 percent versus 14.9 percent among 8th-graders), the past month (9.3 percent versus 8.4 percent among 8th-graders), or daily use (1.0 percent versus 1.2 percent among 8th-graders), as depicted in the first column of Table 16. Where differences emerge between the racial/ethnic groups for marijuana, the largest values tend to be observed for Hispanic students and the smallest for Black students.

With inhalant drug use, White and Hispanic students tend to have generally comparable prevalence estimates; Black students have comparatively lower prevalence estimates. For example, among 8th-graders, an estimated 19.9 percent of Whites, 23.1 percent of Hispanics, and only 10.5 percent of Black students have tried inhalant drugs. The same general pattern is seen for inhalant drug use among the 10th- and 12th-graders (Table 16, first page, columns 4–6). A similar pattern is seen for LSD and other hallucinogenic drugs, with Whites and Hispanics having larger and more similar values, and with Black students tending to have lower values (Table 16, first page, columns 7–12).

Scanning across the lifetime or cumulative occurrence estimates for the different grade levels for each drug, there is a tendency for the estimates to increase across grades 8 to 10 to 12. To some extent, the same is true for the estimates of recently active drug use (i.e., use in the month prior to survey). An important exception is the inhalant drug use group, which remains relatively stable from grade to grade, perhaps because inhalant drug use in 8th grade is associated with dropping out of school or more frequent truancy by 12th grade. That is, students who start to use inhalant drugs in high school may be especially more likely to drop out or to be truant than other students in Grades 10 and 12; this association would contribute to a relative stability in the grade-specific estimates for inhalant drug use.

Table 16 (second page) reports MTF estimates on crack-cocaine, cocaine other than crack, heroin, other opioid drugs (e.g., morphine, codeine), and stimulant drugs. Here again, evidence exists of greater prevalence among Hispanic and White youth for use of crack-cocaine and other heroin, and to some extent for heroin and other

opioids, and stimulants; Black students have lower values at virtually every grade level. By grade 12, stimulants become more prevalent among White than Hispanic students. Of note, an estimated 18.2 percent of White 12th-graders have tried stimulants at least once; the corresponding estimates for Blacks and Hispanics in 12th grade are 4.9 percent and 15.1 percent, respectively.

Table 16 (third page) conveys the same general pattern. However, for barbiturate drugs (sleep preparations and calmatives) and for tranquilizers, White 12th-graders tend to have larger prevalence estimates than Hispanic youth, and Black seniors have the lowest prevalence values of the three groups. Prevalence estimates for Whites and Hispanics are more similar for alcohol, for having been drunk, and for drinking five or more drinks on an occasion (sometimes called "binge drinking"). For example, an estimated two-thirds of White and Hispanic seniors have been drunk at least once in their lifetimes. By comparison, the corresponding value for Black seniors is 40.9 percent. One hypothesis about this finding is that Black students who get heavily involved with alcohol or other drugs are more likely than White and Hispanic students to drop out of school or become truant. However, the lower prevalence values also are seen for 8th-graders when truancy and dropout have started to occur, but are less prominent as a cause of school absence on the day of a school survey. Until there is evidence that drug-associated truancy and dropout problems exert a differentially greater influence on Black 8th-graders than on other 8th-graders, the observed lower prevalence of drug use among Black students merits careful evaluation. Protective or resiliency conditions and processes among Black adolescents can be identified, and it may be able to harness the evidence in prevention and intervention programs tailored specifically to this important minority population, especially if the programs also can retain Black students through graduation (Crum and Anthony 2000).

Data on daily tobacco cigarette use indicate that among 12th-graders, an estimated 25.7 percent of Whites smoke daily, compared with 15.7 percent of Hispanic seniors and 8.0 percent of Black seniors (Table 16, fourth page). The origins of the greater prevalence of daily smoking among White and Hispanic seniors may be seen in the cumulative occurrence or lifetime prevalence estimates in the first row and first column of Table 16 (fourth page). For example, between 8th and 12th grade, a stronger association between race/ethnicity and risk of starting to smoke tobacco emerges, with greater increases as we look from grade to grade for Whites and Hispanics—among seniors, two-thirds of these students have started to smoke. In contrast, the risk of starting to smoke apparently remains at lower levels for Black students, with occurrence of tobacco smoking remaining below 50 percent even in 12th grade.

Smokeless tobacco use is most prevalent among White students, with Hispanics in an intermediate position. Again, Black students are least likely to use this drug. An estimated 4.3 percent of White students have become daily smokeless tobacco users by 12th grade. Corresponding estimates for Hispanic and Black seniors are below 1 percent.

By comparison, the pattern for steroid use follows that seen for other drugs, with both Whites and Hispanics sharing higher prevalence values (e.g., lifetime prevalence of 2.8 percent to 3.4 percent among 12th graders). Blacks are substantially less likely to have started to use steroids (1.3 percent by 12th grade).

Long span trend estimates for occurrence of drug use among high-school seniors are shown in Figures 5–9, with distinctions between non-Hispanic Whites and Blacks, Hispanics, and a "Total" category. These long span trend estimates are not available for 8th- and 10th-graders because MTF surveys of those grades did not start until 1991.

The long span trend data help sustain some of the general impressions gained from the numerical estimates presented in Table 16. For example, the generally lower prevalence values for Black seniors were present in the earliest MTF surveys during the 1970s and have been sustained to the present. Indeed, for trends in prevalence of daily tobacco cigarette smoking, the separation between Whites and Blacks has increased. In the late 1970s, Hispanic seniors were less likely to have become and remained daily tobacco smokers, but in the early 1980s, the curve crossed when daily smoking became more common among Hispanics than Whites (Figure 5).

To some extent, these long span trend data on daily tobacco smoking are congruent with recent reports from the Surgeon General's office, which have noted that cigarette smoking prevalence increased in the 1990s among African American and Hispanic youth after some years of substantial decline (U.S. Department of Health and Human Services 1998). This increase, the report states, "is particularly striking among African American youth, who had the greatest decline of the four groups during the 1970s and 1980s" (p. 6). The prevalence of cigarette smoking among African American adolescents in the 1980s and 1990s has been lower than the prevalence among any other racial/ethnic group (see Table 17). Also of note in the MTF data is that American Indian/Alaska Native 12th-graders had the highest prevalence of tobacco cigarette smoking between 1976 and 1994, whereas Asian Americans/Pacific Islanders had the second lowest prevalence rates (Table 17). Data from the Youth Risk Behavior Surveillance System (YRBSS) of the Centers for Disease Control and Prevention (CDC) show similar patterns for the long decline of prevalence of cigarette smoking with recent increases among African Americans compared with other racial/ethnic groups; similar patterns are evident with the other minority groups mentioned above (data not shown in a table).

Figure 6 shows generally parallel trends for Whites, Hispanics, and Blacks. However, for many years between the late 1970s and the late 1980s, White seniors were more likely than Hispanic seniors to have become and remained marijuana users. This situation changed in the early 1990s, with generally comparable prevalence estimates for Whites and Hispanics during the last decade of the 20th century. By 1999, the marijuana prevalence estimates for Hispanics had become numerically larger than the estimates for non-Hispanic Whites, but the observed estimates actually are not appreciably different from one another.

Figure 7 offers an interesting epidemiological puzzle. First, the observed low prevalence values for inhalant drug use among Black seniors deserves scrutiny until we understand why inhalant drug use has not taken hold in this segment of the U.S. population. Second, Hispanic seniors started with inhalant prevalence estimates lower than those of non-Hispanic Whites in the late 1970s; however, during the intervening years, they lost and regained, then again lost and regained the advantage associated with lower inhalant prevalence values. The size of the observed differences between Whites and Hispanics generally is too great to explain as a manifestation of imprecision in the estimates. Some other explanation is needed.

To some extent, the trend data on prevalence of recently active cocaine use reflect the epidemiological experience described above, with earlier peaks in the cocaine epidemic affecting non-Hispanic Whites and later peaks for non-Hispanic Blacks and Hispanics. In the most recent years of the MTF data series, there are signs of increasing prevalence of cocaine use among the two minority group populations of seniors, but these signs are not present for non-Hispanic White seniors (Figure 8). These estimates do not contradict the NHSDA risk estimates for cocaine in recent years. Whereas the NHSDA research team has completed analyses to focus attention on a possibly increasing risk of starting to use cocaine in recent years, the MTF estimates shown in Figure 8 are for occurrence of recently active cocaine use (i.e., not for risk of becoming a cocaine user, but for probability of

using cocaine in the recent past). This distinction between risk of becoming a drug user and probability of being a drug user is a crucial distinction in drug dependence epidemiology (e.g., see Anthony and Helzer 1995).

Figure 9 depicts the estimated probability of being an LSD user and shows a now-familiar pattern of relatively low prevalence estimates for non-Hispanic Black seniors. There were unstable fluctuations in the prevalence estimates for Hispanic seniors in the late 1970s and early 1980s. Since then, non-Hispanic White seniors have been more likely to use LSD than their Hispanic counterparts. However, evidence exists of increasing comparability of the prevalence estimates for non-Hispanic White seniors and Hispanic seniors during the last years of the 20th century.

Figure 10 summarizes the prevalence of any illegal drug use among high-school seniors from 1977 through 2000, with estimates showing that the probability of being an illegal drug user is least likely for Black seniors. Hispanic seniors, for a time, were less likely than non-Hispanic White seniors to be illegal drug users, but this difference between non-Hispanic Whites and Hispanics disappeared in the early 1990s, for reasons that remain unknown and understudied.

Data on trends in drug use for 8th- and 12th-graders are presented in Table 18, with separate estimates for boys and girls and for racial/ethnic minority status. The prevalence of tobacco cigarette smoking among 12th-graders fluctuated throughout the 1980–2000 survey period for females, increased since the early 1990s for males and for Whites, and first declined and then increased for Blacks. Among 8th-graders, there is some evidence of a possibly promising decline (or random fluctuation) in the final years of the 20th century.

Values for prevalence of marijuana use presented in Table 18 show the previously mentioned increases during 1990s. Fluctuations observed between 1998 and 2000 are so small as to be uninterpretable. It is of interest that, among 8th-graders, both males and females and Whites and Blacks have prevalence estimates of about 14 to 17 percent in 2000, versus corresponding values of roughly 14 to 20 percent in 1996. By comparison, among 12th-graders in 2000, the estimates are almost double these values and fall in a range of 30 to 40 percent. Though subject to attrition (e.g., due to dropping out of school), the 8th-graders of 1996 became the 12th-graders of 2000, and in the process the prevalence of marijuana use more than doubled for each group except females. The estimate for female 8th-graders in 1996 was 16.9 percent and among female seniors in 2000 had risen to 33.4 percent (Table 18).

Estimates for prevalence of being a student cocaine user shown in Table 18 do not reflect the previously mentioned apparent recent increases in risk of becoming a cocaine user among noninstitutionalized U.S. residents ages 12–17. The observed variation in the MTF cocaine prevalence estimates over the past several years is rather small, relative to fluctuations over the prior span of more than a decade. Whereas the senior class of 2000 had marijuana prevalence values double between 1996 (when they were 8th-graders) and the time of the MTF survey in their senior year, the magnitude of cocaine use was somewhat smaller and substantially less than a doubling for Blacks in the graduating class of 2000. This process may reflect greater attrition of cocaine-using Blacks during high school, but we have no definitive evidence on this research issue.

Some promising trend data on prevalence of inhalant drug use may be seen in Table 18 (second page). From 1996 to 2000, inhalant prevalence estimates generally declined for males and females and for Whites. The inhalant prevalence estimates for Blacks are quite low, which makes detection of declining trends quite difficult.

Table 18 reveals no recent striking increases nor decreases in prevalence of alcohol use. The pattern for so-called "binge drinking" (five or more drinks on a single occasion) also is quite stable in recent years.

MTF data have also been analyzed to explore possible interactions between tobacco smoking among African American and White youth and use of alcohol and other drugs. Table 19 shows that between 1976 and 1994, the percentage of African-American 12th-graders who did not use tobacco cigarettes or illegal drugs in the previous month was higher than for White 12th-graders and increased more rapidly in every category of drug use. Trends in the use of tobacco cigarettes, alcohol, and other substances among 12th-graders indicate that among smokers and nonsmokers, African Americans were generally less likely than Whites to use drugs other than tobacco cigarettes. Furthermore, concurrent use of tobacco cigarettes and other illegal drugs was lower and showed greater declines for African-American 12th-graders than for White 12th-graders between 1976 and 1994.

CDC's ongoing YRBSS, mentioned earlier in this chapter, monitors health risk behaviors among youth and young adults, including their use of alcohol, tobacco, and other drugs. YRBSS includes a national school-based survey conducted by CDC, in addition to surveys conducted by individual State and local education agencies. Estimates from the 1999 YRBSS are presented in Table 20, with values for individual drugs and separate estimates for boys and girls, race/ethnicity groups, and age groups. With use of alcoholic beverages and several other drugs, the pattern from the YRBSS prevalence data resembles the pattern from the MTF data, with Whites and Hispanics most often having the higher prevalence estimates and Blacks having lower prevalence values. For example, among male students 18 and older, the estimated cumulative occurrence of alcohol use in their lifetime is close to 90 percent for Whites and Hispanics and close to 70 percent for Blacks. A similar pattern also is seen for cocaine among male and female older students. Here also, we see that prevalence of cocaine use is lower for Black students than for Whites and Hispanics, both males and females, at each of the three age levels.

The pattern is somewhat different for marijuana, with roughly equivalent estimates for Whites and Blacks among the older students, but with a male-female difference in prevalence of use (Table 20). For example, the prevalence estimates for cumulative occurrence of marijuana use are 65 to 66 percent for White males and Black males, but are 51 to 52 percent for White and Black females. The corresponding estimate for Hispanic males is about 60 percent (lower than the values for the other males) and for Hispanic females it is 53 percent (roughly comparable to the values for the other females).

Male-female differences are present for virtually all of the drugs considered in Table 20, except in the estimates for recently active alcohol use and for recently active cocaine use among the oldest students. For recently active alcohol use among these students, there is a modest male-female difference for Whites, essentially no difference for Blacks, and a male excess for Hispanics. For recently active cocaine use, there is a modest male-female difference for Whites, a possible female excess for Blacks, and a male excess for Hispanics. As discussed above in relation to the MTF studies, it is possible that cocaine use is more prominent as a determinant of dropping out of high school for Blacks than for other racial/ethnic groups. Cocaine use also may be more prominent as a determinant of school dropout for Black male students than for female Black students.

American Indian/Alaska Native Students

Since 1975, the Colorado State University Tri-Ethnic Center for Prevention Research, with support from NIDA grant awards has conducted an ongoing survey of American Indian/Alaska Native students in grades 7–12 enrolled in Indian reservation schools. Results from the 1975 through 1997–1998 school year surveys are

provided in Tables 21–23. In addition, estimates from more recently conducted surveys and a substudy of American Indian/Alaska Native school dropouts have been incorporated into these tables.

Although prevalence estimates for drug use have tended to be larger for American Indian/Alaska Native youth on reservations than for non-Indian youth, the general trends in both groups have been parallel over the last several decades. A pattern of large increases in the late 1970s, a leveling off in the 1980s, and modest declines in the 1990s has emerged for both American Indian and non-Indian youth. However, among non-Indian adolescents, there has been a general trend of increasing drug use, especially marijuana use, since 1992 (National Institute on Drug Abuse 1998). During the mid-1990s, it appeared that American Indian/Alaska Native youth on reservations might be spared this general trend, but more recent data suggest otherwise.

For example, as shown in Table 21, there has been a declining trend in the proportion of reservation American Indian/Alaska Native youth who have started drinking alcohol (Table 21, row 1). However, the value of 69-percent prevalence for marijuana use, observed during the 1996–1998 surveys, suggests a possible increasing trend seen in marijuana use, in tandem with the previously mentioned increasing trend in general population statistics.

Cumulative occurrence for many drugs in this survey showed peak values in 1980–1981 with subsequent declines through the mid-1990s. An exception to this pattern was for use of psychedelics, which showed increases from the early 1980s to the early 1990s and has remained relatively high, with prevalence estimates in a range from 19 to 22 percent since 1991–1992.

As with other school-based surveys, drug use information from this survey of American Indians/Alaska Natives is affected by school dropouts, and it is acknowledged that dropouts as a group may have more social and adaptational problems, including problems associated with drug use. Estimates for reservation-dwelling American Indians/Alaska Natives suggest especially large school dropout rates. Although these dropout estimates are sparse and highly variable, Beauvais et al. (1995) developed a method to correct the drug use prevalence estimates by taking into account a 50-percent school dropout rate. The estimates in the last column of Table 21 include an attempted correction for the drug use of school dropouts. To strengthen these estimates, Tri-Ethnic Center investigators, including Beauvais, surveyed a sample of American Indian high-school dropouts. Their drug use experiences were assessed, and the results of this assessment have been weighted into a correction for the prevalence estimates from the 1992–1994 surveys. As seen in comparing the last column of Table 21 with the third-to-last column, the net effect of this correction for school dropouts is generally an increase in the estimated prevalence values.

Table 22 compares estimates from the survey of reservation-schooled American Indian/Alaska Native students with corresponding estimates from the MTF surveys for 1997–1998. Alcohol and marijuana show a somewhat similar pattern across the grades under study. In 8th and 10th grade, the American Indian/Alaska Native youth have larger prevalence estimates for drinking alcoholic beverages and alcohol intoxication than the non-Indian youth surveyed in the MTF study, but in 12th grade the estimates for American Indian/Alaska Native and non-Indian seniors are roughly comparable. For virtually all of the other drugs considered, cumulative occurrence ("lifetime prevalence") was greater for American Indian/Alaska Native youth than for their non-Indian student counterparts in the MTF survey. For example, an estimated two-thirds of the American Indian/Alaska Native youths had started to smoke marijuana when they were surveyed in 8th grade; the values for 10th-graders and 12th-graders are 82 percent and 74 percent, respectively. The corresponding marijuana estimates for non-Indian students are 23 percent, 42 percent, and 50 percent.

The comparison for inhalant drugs may challenge a preconception about glue or gasoline sniffing on the reservations. For example, among 8th-graders, non-Indian students are more likely than Indian students to have started using inhalant drugs (21 percent versus 14 percent), and the same is the case for 10th-graders. It is only in 12th grade that the American Indian/Alaska Native students are more likely that the non-Indian students to have started using inhalant drugs (16 percent for Indian youth, 10 percent for non-Indian youth).

The cocaine experience of the American Indian/Alaska Native students also may challenge preconceptions. In 1997–1998, an estimated 20 percent of the reservation-dwelling students had tried cocaine, whereas only 9 percent of the non-Indian seniors had done so. Similar differences are present in the estimates for cocaine use among 8th- and 10th-graders.

Striking differences also appear for both tobacco cigarettes and smokeless tobacco. In 8th grade, an estimated 79 percent of American Indian/Alaska Native youth had started to smoke tobacco, compared with 47 percent of non-Indian students. In 12th grade, an estimated 75 percent of the American Indian/Alaska Native seniors had started to smoke tobacco, compared with 65 percent of non-Indian seniors. The pattern for smokeless tobacco is comparable, with about 45 percent of the American Indian/Alaska Native 8th-graders having started to use smokeless tobacco. By comparison, estimated cumulative occurrence for non-Indian students is only 17 percent.

Table 23 presents time trends in estimated cumulative occurrence of drug use among American Indian/Alaska Native 4th- and 6th-graders. In 1980–1981, an estimated one-third of these students had tried alcohol. A sharp decline occurred between 1981 and 1987, with no more than modest declines to 17 percent through 1994, when the last survey of these grades was completed. The epidemiological pattern for marijuana is somewhat different, with sustained declines from 23 percent in 1980–1981 to 7 percent in 1992–1994. By comparison, there has been little change in the estimates for use of inhalant drugs or tobacco cigarettes among students in grades 4–6.

LONGITUDINAL TRENDS

Table 24 presents estimates on drug use for a cohort of young adults participating in NLSY (Bureau of Labor Statistics 1996). To control for potential attrition effects, only those respondents remaining in the 1994 sample were used for the analysis of all 4 years. Additionally, calculation of estimates for cumulative occurrence of drug use during the lifetime of these youths was achieved by summing the drug use reported for each of the survey years.

The table shows the estimated proportion of NLSY participants who had started to use marijuana in their lifetimes, as well as prevalence estimates for more recent intervals, for non-Hispanic Whites, non-Hispanic Blacks, and "Other" race/ethnicity groups. Between 1984 and 1994, the study population generally exhibited declines in estimated 1-year prevalence of marijuana use (i.e., use in the year up to and including the date of assessment). Between 1992 and 1994, some evidence emerges of increasing prevalence of marijuana use among non-Hispanic African Americans. Prevalence of recently active marijuana use (use in the month before assessment) tended to decline over the interval.

By studying the successive reports of individuals in the longitudinal sample, it was possible to ascertain that most of the participants in the sample had started to use marijuana before or during 1984. For example, an estimated 66.5 percent of non-Hispanic White members of the study population had started marijuana use by the time

of the assessment in 1984. Reassessed in 1994, an estimated 77.9 percent had started marijuana use. Roughly 14 percent of the marijuana users identified in 1994 had started since 1984, and the remainder had started in 1984 or before.

Table 24 also presents corresponding estimates for cocaine use. The estimated proportion using cocaine showed declines for non-Hispanic Whites for the 1984–1992 period but a modest increase from 1992 to 1994. Among African-American youth, there were increases in prevalence of cocaine use to 1988, a modest decline in 1992, and a modest increase in 1994. Estimated cumulative occurrence of cocaine use doubled between 1984 and 1994 for non-Hispanic Whites and "Other" groups and tripled for non-Hispanic Blacks.

SUMMARY

Estimates from NHSDA help clarify that the risks of starting illegal drug use, alcohol use, and tobacco cigarette smoking are concentrated during the adolescent and young adult years. NHSDA estimates provide new information about the risks of starting to use each drug of interest during adolescence. The most recent evidence indicates recent increases in risk of starting to use these drugs, with risk estimates as large or larger than have ever been experienced since the 1960s—possibly with larger values than ever before in U.S. history.

The risk of starting illegal drug use and the probability of being an illegal drug user have not been constant over the time spans examined in this chapter. The ebb and flow of the estimates reminds us that drug-taking behavior represents a dynamic phenomenon. We appear to be entering a period of increased risk for youthful drug taking, with increasing numbers of new initiates for several different drugs during the last years of the 20th century. One of the emerging trends involves initiation of LSD and other hallucinogen use (e.g., ecstasy).

If confirmed, these findings have important implications as plans are laid for prevention and intervention activities. In addition to validating the NHSDA risk estimation methodology, it will be important to study these recent risk estimates for racial and ethnic minority groups. This chapter's NHSDA estimates for becoming a new illegal drug user are for the total population of civilian noninstitutionalized adolescents ages 12–17 in the United States and are dominated by the experiences of non-Hispanic White adolescents. If we generalize from epidemiological patterns for incidence of cocaine use between 1975 and 1990, as depicted in Figure 4, the observed recent increases in risk of starting illegal drug use during adolescence may now be limited to non-Hispanic White adolescents. If there is to be a new increase in risk of illegal drug use for the adolescent racial/ethnic minority population groups in the United States, there may be a lag of several years before that increase can be perceived in the national-level NHSDA statistics.

MTF estimates clarify changing epidemiological patterns in the prevalence of drug use among students, with estimates for Hispanics substantially increasing and decreasing since the late 1970s, relative to estimates for non-Hispanic Whites. Nonetheless, the most recent estimates indicate that non-Hispanic Whites and Hispanics often have larger prevalence estimates, with non-Hispanic Blacks having lower prevalence estimates for many illegally used drugs, alcohol, and tobacco.

Comparisons of drug use data for 8th-graders versus recent high-school seniors indicate dramatic increases during the school years, even when some drug users drop out of school and are surveyed in 12th grade. By 8th grade, many students already have started to use alcohol, tobacco, and other illegal drugs, and between 8th and 12th grade, the prevalence of use often doubles or almost doubles. These increases are seen for each of the

racial/ethnic groups under study, despite almost certain associations between use of these drugs, truancy and other forms of school absenteeism, and dropping out of school.

Epidemiological studies of American Indian/Alaska Native youths in reservation schools have been completed in parallel with the MTF studies for the entire Nation. These American Indian/Alaska Native surveys highlight two epidemiological features. First, this racial/ethnic group may be at especially increased risk of drug involvement, and there is special concern that early drug use may be associated with dropping out of school. Second, trends in drug use among American Indian/Alaska Native students tend to be responsive to the broader influences on trends in drug use for the rest of adolescent society in the United States. The trends for this minority group may lag somewhat behind the more general trends. Nonetheless, the general impression is one of parallel or slightly lagged trends, and for many drugs, an excess prevalence of use among the American Indians/Alaska Natives who attend schools on reservations. When the American Indian/Alaska Native estimates are analyzed with a method to correct for school dropout, the prevalence estimates become larger after the correction.

During the first half of the 21st century, changing demographic, social, economic, and family circumstances are likely to have profound influences on the epidemiological patterns of drug experiences of young people in the United States. The social and family circumstances of African-American youth changed markedly during the last half of the 20th century, young African Americans disproportionately exhibit sustained troubling patterns of arrest for drug-related crimes, conviction, and incarceration. Over the next several decades, social and family circumstances for young Hispanics will change dramatically, while Hispanic Americans become increasingly numerous and prominent within our Nation's minority populations. If recent trends continue, contrasts between the "haves" and the "have nots" will be more prominent and will affect all population groups, including these racial/ethnic minority groups. If we are to understand the drug experiences of young people, and the links between illegal drug use and health disparities affecting racial/ethnic minorities, it will be important to improve our epidemiological surveillance operations for the methodological and measurement issues mentioned in this chapter and in Chapter 3. It also will be important to sustain and strengthen research projects with specific, targeted research aims intended to probe these linkages in more detail than can be achieved via analyses of epidemiology's surveillance data.

Table 15. Estimated Average Age of First Use of Cigarettes, Alcohol, and Marijuana for Youth Ages 12–17, by Race/Ethnicity: Selected Years

Drug and Race/Ethnicity of Student	1991	1993	1995	1996	1997	1998
Cigarettes						
White, non-Hispanic	11.4	11.8	12.2	12.3	12.3	12.3
Black, non-Hispanic	11.3	11.8	12.7	12.6	12.8	12.8
Hispanic	12.0	12.0	12.8	12.8	12.7	12.7
Alcohol						
White, non-Hispanic	12.6	12.9	12.8	13.1	13.1	13.1
Black, non-Hispanic	12.9	13.2	13.1	13.2	13.0	13.1
Hispanic	12.8	13.0	13.1	13.3	13.0	13.2
Marijuana						
White, non-Hispanic	14.4	13.9	13.8	14.0	13.8	13.8
Black, non-Hispanic	13.7	14.0	14.1	14.0	13.8	13.8
Hispanic	13.1	13.7	13.9	13.6	13.5	13.5
Cocaine						
White, non-Hispanic	14.3	14.6	14.6	14.7	14.8	14.7
Black, non-Hispanic	14.0	14.5	*	14.3	14.3	13.0
Hispanic	14.4	14.3	14.3	14.9	14.8	14.3

*Low precision, no estimate reported.

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Service Administration, Office of Applied Studies, selected years.

Table 16. Estimated Prevalence of Lifetime, Annual, 30-Day, and Daily Use of Selected Drugs, by Race/Ethnicity for Students in Grades 8, 10, and 12 (by percent): 2000*

Estimated Prevalence	Marijuana			Inhalants			Hallucinogens			LSD			Cocaine			Crack-cocaine		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime																		
White, non-Hispanic	19.0	40.1	49.4	19.9	18.5	16.7	4.9	10.5	14.9	4.2	9.1	13.2	4.2	7.4	9.9	2.8	3.7	4.4
Black, non-Hispanic	23.8	39.5	45.7	10.5	6.6	4.6	1.3	1.4	2.1	0.9	1.2	1.7	1.4	1.2	1.9	0.9	0.9	0.8
Hispanic	27.1	46.0	55.0	23.1	17.6	15.4	6.8	8.6	15.3	5.8	7.6	13.1	8.9	12.4	13.3	5.6	6.8	6.3
Annual																		
White, non-Hispanic	14.9	32.6	38.2	10.9	8.4	6.4	3.1	7.6	9.9	2.6	6.5	8.3	2.5	4.7	6.2	1.7	2.2	2.5
Black, non-Hispanic	16.1	27.6	30.0	4.3	2.0	1.9	0.7	1.0	1.6	0.5	0.9	1.3	0.8	0.6	1.0	0.4	0.5	0.5
Hispanic	20.1	34.8	40.5	12.2	6.3	6.3	4.0	5.2	9.6	3.5	4.6	7.6	4.7	8.0	7.6	2.9	4.0	3.4
30-day																		
White, non-Hispanic	8.4	20.2	22.7	5.2	2.9	2.1	1.2	2.9	3.2	1.0	2.2	2.3	1.1	1.8	2.5	0.8	0.8	1.0
Black, non-Hispanic	9.3	15.8	19.0	2.3	1.1	1.3	0.5	0.5	0.9	0.3	0.5	0.8	0.4	0.3	0.8	0.2	0.3	0.4
Hispanic	12.7	20.5	24.6	5.6	2.3	3.1	2.0	2.0	3.8	1.7	1.6	2.4	2.7	3.0	3.6	1.5	1.4	2.1
Daily																		
White, non-Hispanic	1.2	4.0	6.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black, non-Hispanic	1.0	3.2	4.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hispanic	1.9	3.2	6.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Table 16 (continued). Estimated Prevalence of Lifetime, Annual, 30-Day, and Daily Use of Selected Drugs, by Race/Ethnicity for Students in Grades 8, 10, and 12 (by percent): 2000*

Estimated Prevalence	Other Cocaine			Heroin			Other Opiates			Stimulants			Barbiturates			Tranquilizers		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime																		
White, non-Hispanic	3.3	6.5	9.0	1.9	2.4	2.4	N/A	N/A	12.4	11.8	18.2	18.2	N/A	N/A	10.3	4.7	9.2	10.6
Black, non-Hispanic	1.0	1.0	1.9	0.8	0.7	0.5	N/A	N/A	2.8	4.4	5.1	4.9	N/A	N/A	2.4	1.5	1.9	1.5
Hispanic	7.4	11.1	11.0	3.4	2.3	3.1	N/A	N/A	8.1	11.4	13.4	15.1	N/A	N/A	8.1	6.8	6.5	8.5
Annual																		
White, non-Hispanic	1.9	4.1	5.7	1.2	1.5	1.3	N/A	N/A	8.3	8	12.7	11.9	N/A	N/A	6.9	3	6.4	6.9
Black, non-Hispanic	0.6	0.5	1.0	0.5	0.5	0.5	N/A	N/A	1.7	2.4	2.5	2.6	N/A	N/A	1.3	0.5	1.1	0.7
Hispanic	3.9	7.1	6.6	2.0	1.4	2.0	N/A	N/A	4.6	6.8	9.1	9.2	N/A	N/A	5.1	3.5	4.0	4.3
30-day																		
White, non-Hispanic	0.8	1.5	2.3	0.5	0.6	0.6	N/A	N/A	3.3	4	6.1	5.3	N/A	N/A	3.2	1.4	2.7	3
Black, non-Hispanic	0.3	0.3	0.7	0.4	0.2	0.5	N/A	N/A	0.7	1.3	1.4	1.2	N/A	N/A	0.8	0.3	0.5	0.4
Hispanic	2.3	2.7	2.9	0.8	0.6	1.2	N/A	N/A	1.7	3.1	4.2	4.5	N/A	N/A	2.2	1.7	1.8	2.1
Daily																		
White, non-Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black, non-Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Table 16 (continued). Estimated Prevalence of Lifetime, Annual, 30-Day, and Daily Use of Selected Drugs, by Race/Ethnicity for Students in Grades 8, 10, and 12 (by percent): 2000*

Estimated Prevalence	Alcohol			Been Drunk			5+ Drinks			Cigarettes			Smokeless Tobacco			Steroids		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime																		
White, non-Hispanic	52.1	72.8	82.0	26.3	53.3	66.5	N/A	N/A	N/A	42.6	58.4	67.2	16.2	23.0	29.7	3.1	3.1	2.8
Black, non-Hispanic	47.7	61.2	70.3	18.0	29.9	40.9	N/A	N/A	N/A	39.8	45.4	45.5	8.0	7.8	5.2	1.7	2.3	1.3
Hispanic	57.7	74.1	84.3	27.7	48.1	67.3	N/A	N/A	N/A	45.7	57.6	66.1	9.9	13.4	11.5	3.0	3.1	3.4
Annual																		
White, non-Hispanic	45.1	67.7	76.7	20.4	46.2	58.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.9	2.1	1.8
Black, non-Hispanic	33.0	49.0	58.8	10.6	19.6	27.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	1.2	1.0
Hispanic	48.5	65.9	76.0	19.3	37.7	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.8	1.8	2.4
30-day																		
White, non-Hispanic	24.7	43.9	55.1	10	26.7	37	N/A	N/A	N/A	17.7	28.2	37.9	5.2	7.5	10.5	0.8	0.9	0.8
Black, non-Hispanic	16	24.7	30	4.7	8.6	14.9	N/A	N/A	N/A	9.6	11.1	14.3	2.7	2.0	1.5	0.4	0.7	0.4
Hispanic	26.7	40.5	51.2	8.5	18.0	29.8	N/A	N/A	N/A	16.6	19.6	27.7	3.7	4.5	3.8	0.9	1.0	1.5
Daily																		
White, non-Hispanic	0.8	1.8	3.3	N/A	N/A	N/A	14.9	28.1	34.6	9.0	17.7	25.7	0.8	1.7	4.3	N/A	N/A	N/A
Black, non-Hispanic	0.5	1.1	1.4	N/A	N/A	N/A	10.0	12.9	11.5	3.2	5.2	8.0	0.4	0.2	0.1	N/A	N/A	N/A
Hispanic	1.1	2.0	5.0	N/A	N/A	N/A	19.1	28.3	31.0	7.1	8.8	15.7	0.6	0.7	0.9	N/A	N/A	N/A

*To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase sample sizes and thus provide more stable estimates.

N/A: Not available.

SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnson et al., 2001d.

Table 17. Trends in the Estimated Percentage of 12th-Graders Who Were Previous-Month Smokers, by Race/Ethnicity and Gender: 1976–1999

12th-Grade Smokers	1976–79	1980–84	1985–89	1990–94	1995–99
Males					
African-American	33.1	19.4	15.6	11.6	19.3
American Indian/Alaska Native	50.3	39.5	36.8	41.1	42.3
Asian/Pacific Islander	20.7	21.5	16.8	20.6	25.5
Hispanic	30.3	23.8	23.3	28.5	28.8
White	35.0	27.5	29.8	33.4	39.7
Females					
African-American	33.6	22.8	13.3	8.6	10.8
American Indian/Alaska Native	55.3	50.0	43.6	39.4	51.7
Asian/Pacific Islander	24.4	16.0	14.3	13.8	17.5
Hispanic	31.4	25.1	20.6	19.2	24.4
White	39.1	34.2	34.0	33.1	39.5

SOURCE: Bachman et al., 2001; Institute for Social Research, University of Michigan, unpublished data.

Table 18. Estimated Prevalence of Use of Selected Substances in the Past Year, Cigarette Use in the Past 30 Days, and Binge Drinking in the Past 2 Weeks Among 12th-Graders and 8th-Graders, by Sex and Race/Ethnicity (by percent): Selected Years

Use by Drug Type	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Cigarettes													
All 12th-graders	30.5	30.1	29.4	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4
Male	26.8	28.2	29.1	29.0	29.2	30.7	32.9	34.5	34.9	37.3	36.3	35.4	32.8
Female	33.4	31.4	29.2	27.5	26.1	28.7	29.2	32.0	32.4	35.2	33.3	33.5	29.7
White	33.0	31.3	32.3	32.2	31.8	33.2	35.2	36.6	38.1	40.7	41.7	40.1	37.9
Black	26.8	18.1	12.2	10.6	8.7	9.5	10.9	12.9	14.2	14.3	14.9	14.9	14.3
All 8th-graders	N/A	N/A	N/A	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6
Male	N/A	N/A	N/A	15.5	14.9	17.2	19.3	18.8	20.6	19.1	18.0	16.7	14.3
Female	N/A	N/A	N/A	13.1	15.9	16.3	17.9	19.0	21.1	19.5	19.8	17.7	14.7
White	N/A	N/A	N/A	N/A	16.2	17.8	18.9	20.7	22.7	22.8	21.5	20.1	17.7
Black	N/A	N/A	N/A	N/A	5.3	6.6	8.7	8.9	9.6	10.9	10.6	10.7	9.6
Marijuana													
All 12th-graders	48.8	40.6	27.0	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5
Male	53.4	43.1	29.4	27.2	24.4	29.0	35.1	38.1	39.4	40.9	41.7	41.4	39.2
Female	44.1	37.8	24.2	20.1	18.9	22.4	26.4	30.6	31.6	35.5	33.0	34.1	33.4
White	51.2	41.6	31.6	28.2	24.9	25.9	30.2	34.2	36.4	38.7	39.9	39.1	38.2
Black	37.9	33.4	13.7	11.4	11.5	14.2	20.7	26.8	30.2	30.4	30.0	30.4	30.0
All 8th-graders	N/A	N/A	N/A	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	15.6
Male	N/A	N/A	N/A	7.3	7.4	10.5	15.1	17.7	19.6	19.2	18.0	18.1	16.7
Female	N/A	N/A	N/A	5.1	6.9	8.0	10.9	13.7	16.9	16.1	15.3	14.9	14.3
White	N/A	N/A	N/A	N/A	6.4	7.8	10.0	13.5	16.7	17.8	16.7	15.4	14.9
Black	N/A	N/A	N/A	N/A	4.1	5.7	8.9	11.9	14.0	15.3	16.0	16.3	16.1
Cocaine													
All 12th-graders	12.3	13.1	5.3	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0
Male	14.8	14.8	6.6	4.1	3.7	4.0	4.5	4.8	6.0	6.6	6.8	7.3	5.8
Female	9.8	11.2	3.8	2.6	2.4	2.3	2.8	3.1	3.5	4.2	4.5	5.0	3.9
White	12.8	13.0	6.3	4.6	3.3	3.1	3.5	4.0	4.5	5.5	6.3	6.7	6.2
Black	5.2	5.3	1.7	1.5	1.2	0.8	0.9	1.0	0.8	0.9	0.9	0.9	1.0
All 8th-graders	N/A	N/A	N/A	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6
Male	N/A	N/A	N/A	1.4	1.5	1.9	2.1	2.5	2.7	3.1	2.9	2.8	2.6
Female	N/A	N/A	N/A	0.9	1.5	1.5	2.1	2.6	3.1	2.5	3.1	2.7	2.6
White	N/A	N/A	N/A	N/A	1.2	1.3	1.6	2.3	2.8	3.0	2.8	2.6	2.5
Black	N/A	N/A	N/A	N/A	0.7	0.7	0.7	0.6	0.6	0.5	0.7	0.8	0.8

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Table 18 (continued). Estimated Prevalence of Use of Selected Substances in the Past Year, Cigarette Use in the Past 30 Days, and Binge Drinking in the Past 2 Weeks Among 12th-Graders and 8th-Graders, by Sex and Race/Ethnicity (by percent): Selected Years

Use by Drug Type	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Inhalants													
All 12th-graders	4.6	5.7	6.9	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9
Male	5.9	6.9	8.8	8.2	8.0	9.2	9.6	9.9	9.1	8.3	7.5	6.5	6.8
Female	3.5	4.5	4.9	5.0	4.5	4.8	6.0	6.2	6.1	5.2	5.1	4.9	5.1
White	5.3	5.9	7.2	7.6	7.2	7.6	8.6	9.1	9.0	8.6	7.9	7.0	6.4
Black	2.2	2.0	2.1	2.7	2.5	2.2	2.4	2.6	2.2	1.9	1.7	1.4	1.9
All 8th-graders	N/A	N/A	N/A	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4
Male	N/A	N/A	N/A	9.0	9.2	10.4	11.2	11.5	10.3	10.5	10.6	9.5	8.9
Female	N/A	N/A	N/A	9.0	9.8	11.9	12.2	14.0	14.1	12.9	11.6	11.1	9.9
White	N/A	N/A	N/A	N/A	10.1	11.3	12.4	13.8	14.6	14.1	13.3	12.1	10.9
Black	N/A	N/A	N/A	N/A	4.4	4.6	5.3	5.0	4.2	3.8	4.2	4.2	4.3
Alcohol													
All 12th-graders	72.0	65.9	57.1	54.0	51.3	48.6	50.1	51.3	50.8	52.7	52.0	51.0	50.0
Male	77.4	69.8	61.3	58.4	55.8	54.2	55.5	55.7	54.8	56.2	57.3	55.3	54.0
Female	66.8	62.1	52.3	49.0	46.8	43.4	45.2	47.0	46.9	48.9	46.9	46.8	46.1
White	75.4	71.2	63.8	60.0	56.8	55.6	54.0	54.5	54.8	56.4	57.7	56.3	55.1
Black	47.6	42.8	35.8	33.7	31.7	32.4	33.8	35.2	36.5	34.3	33.3	32.2	30.0
All 8th-graders	N/A	N/A	N/A	25.1	26.1	24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4
Male	N/A	N/A	N/A	26.3	26.3	25.3	26.5	25.0	26.6	25.2	24.0	24.8	22.5
Female	N/A	N/A	N/A	23.8	25.9	23.7	24.7	24.0	25.8	23.9	21.9	23.3	22.0
White	N/A	N/A	N/A	N/A	26.6	27.1	25.3	25.4	26.6	26.7	24.8	24.7	24.7
Black	N/A	N/A	N/A	N/A	18.6	19.7	19.4	18.7	18.1	17.9	16.1	16.1	16.0
Binge drinking													
All 12th graders	41.2	36.7	32.2	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0
Male	52.1	45.3	39.1	37.8	35.6	34.6	37.0	36.9	37.0	37.9	39.2	38.1	36.7
Female	30.5	28.2	24.4	21.2	20.3	20.7	20.2	23.0	23.5	24.4	24.0	23.6	23.5
White	44.3	41.5	36.6	34.6	32.1	31.3	31.5	32.3	33.4	35.1	36.4	35.7	34.6
Black	17.7	15.7	14.4	11.7	11.3	12.6	14.4	14.9	15.3	13.4	12.3	12.3	11.5
All 8th-graders	N/A	N/A	N/A	12.9	13.4	13.5	14.5	14.5	15.6	14.5	13.7	15.2	14.1
Male	N/A	N/A	N/A	14.3	13.9	14.8	16.0	15.1	16.5	15.3	14.4	16.4	14.4
Female	N/A	N/A	N/A	11.4	12.8	12.3	13.0	13.9	14.5	13.5	12.7	13.9	13.6
White	N/A	N/A	N/A	N/A	12.7	12.6	12.9	13.9	15.1	15.1	14.1	14.3	14.9
Black	N/A	N/A	N/A	N/A	9.6	10.7	11.8	10.8	10.4	9.8	9.0	9.9	10.0

*To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase sample sizes and thus provide more stable estimates.

N/A: Not available.

SOURCE: Monitoring the Future Study, University of Michigan; Johnston et al., 2001d.

Table 19. Estimated Percentage of African-American and White 12th-Graders Who Reported Using or Not Using Tobacco Cigarettes and Other Substances in the Past 30 Days[a]: 1976–1994 Aggregate Data

Use of Substance	Cigarette Use Among African Americans[b]							
	1976–79		1980–84		1985–89		1990–94	
	Yes	No	Yes	No	Yes	No	Yes	No
Alcohol								
Yes	22.7	25.6	15.2	31.2	11.0	29.5	7.2	26.2
No	9.7	41.7	5.3	48.4	3.1	56.4	2.6	64.1
Marijuana								
Yes	17.2	11.9	11.2	14.2	6.4	7.8	3.1	5.8
No	15.0	55.9	9.3	65.3	7.6	78.2	6.6	84.5
Cocaine								
Yes	1.4	0.6	1.4	1.3	1.0	1.0	0.3	0.2
No	31.7	66.3	19.7	77.6	13.3	84.8	9.6	89.8
Any illicit drug use[c]								
Yes	17.6	12.9	11.4	15.2	6.6	9.3	3.3	6.8
No	14.0	55.5	8.8	64.6	7.0	77.1	6.2	83.7
	Cigarette Use Among Whites[c]							
Use of Substance	1976–79		1980–84		1985–89		1990–94	
	Yes	No	Yes	No	Yes	No	Yes	No
Alcohol								
Yes	33.7	40.5	28.2	46.0	28.6	40.9	27.5	29.7
No	3.3	22.4	2.7	23.1	3.6	26.8	5.7	37.1
Marijuana								
Yes	22.4	13.7	16.9	12.8	14.4	8.1	11.8	4.4
No	14.3	49.6	13.8	56.5	17.5	60.0	21.3	62.5
Cocaine								
Yes	2.6	1.1	3.5	2.0	3.4	1.1	1.2	0.2
No	34.3	62.0	27.3	67.2	28.5	66.6	31.9	66.7
Any illicit drug use[d]								
Yes	23.3	14.8	18.9	15.5	16.1	10.0	13.3	5.9
No	13.3	48.6	11.7	53.9	15.7	58.3	19.6	61.2

[a]Refers to use of these substances in the last 30 days.
[b]Entries are percentage of the entire African-American 12th-grade population.
[c]Entries are percentage of the entire White 12th-grade population.
[d]Any illicit drug use includes any use of marijuana, hallucinogens, cocaine, or heroine or any use of other opiates, stimulants, barbiturates, methaqualone, or tranquilizers not under physician's orders. Methaqualone is excluded from the definition of illicit drugs for 1990–94 survey data.

SOURCE: Monitoring the Future Study, University of Michigan, public use data tapes, 1976–1994; Johnston et al., 2001d.

Table 20. Estimated Prevalence of Youth Age 12 and Older Having Used Alcohol, Marijuana, Cocaine, or Crack-Cocaine in Lifetime or Past Month, by Age, Sex, Race/Ethnicity (by percent): 1999

Use by Drug and Race/Ethnicity	Male			Female		
	12–15	16–17	18+	12–15	16–17	18+
Use in Lifetime						
Alcohol						
White	77.7	81.6	90.7	77.2	83.8	89.2
Black	66.4	80.1	71.3	70.8	78.4	79.6
Hispanic	70.2	89.5	86.9	80.8	88.1	82.5
Marijuana						
White	40.4	49.9	66.0	27.3	50.0	51.8
Black	39.9	63.7	65.1	30.7	49.0	51.2
Hispanic	41.1	65.3	59.6	36.9	51.4	53.1
Cocaine or crack-cocaine						
White	6.4	12.6	15.5	4.6	10.8	11.8
Black	2.7	3.1	2.0	0.8	2.2	1.3
Hispanic	14.8	21.0	17.7	11.3	13.9	8.3
Use in Past Month						
Alcohol						
White	45.7	57.4	65.7	42.2	51.9	61.5
Black	22.7	49.5	49.5	35.0	42.2	50.3
Hispanic	43.6	61.8	70.0	45.7	51.6	50.0
Marijuana						
White	24.2	31.4	35.1	19.1	24.9	24.7
Black	19.1	36.5	46.7	14.3	24.6	31.5
Hispanic	28.9	39.8	32.4	22.4	21.0	23.2
Cocaine or crack-cocaine						
White	3.6	6.8	4.1	1.7	3.4	3.5
Black	0.8	1.3	0.8	0.5	1.6	1.3
Hispanic	7.0	9.0	7.0	6.9	4.9	3.5

SOURCE: Youth Risk Behavior Surveillance System, Centers for Disease Control and Prevention, 1999.

Table 21. Estimated Percentage of American Indian 7th–12th Graders Living on Reservations Who Reported Lifetime Use of Drugs: 1975–1998

Drug/Activity	1975	1977–78 1978–79	1980–81 1981–82	1982–83 1983–84	1984–85 1985–86	1986–87 1987–88	1988–89 1989–90	1990–91 1991–92	1992–93 1993–94	1996–97 1997–98	1992–94 Corrected
Alcohol	76	79	85	81	79	81	75	75	68	68	71
Get drunk	N/A	N/A	N/A	N/A	46	49	55	62	51	52	55
Marijuana	41	53	74	70	57	61	55	56	50	69	54
Inhalants	16	26	30	31	21	24	24	25	21	15	25
Cocaine	6	7	11	6	7	8	9	12	9	13	12
Stimulants*	10	15	24	22	21	25	17	18	13	18	17
Legal stimulants	N/A	N/A	N/A	N/A	14	15	13	15	14	18	12
Sedatives*	6	10	9	7	10	11	7	6	4	5	5
Heroin	3	4	5	2	5	5	4	3	3	4	4
Psychedelics	7	9	9	6	9	10	13	22	19	21	21
Tranquilizers*	N/A	9	6	3	7	7	3	2	2	2	3
PCP	N/A	N/A	N/A	N/A	10	10	7	3	3	5	6
Cigarettes	N/A	N/A	N/A	N/A	79	78	71	74	71	76	73
Smokeless tobacco	N/A	N/A	N/A	N/A	N/A	58	56	52	45	39	43
Sample size	**1,235**	**3,105**	**2,159**	**1,411**	**1,510**	**2,683**	**5,300**	**1,710**	**2,096**	**1,848**	**2,096**

*Only illicit or nonprescribed use is included.

N/A: Not applicable.

SOURCE: Tri-Ethnic Center for Prevention Research, Colorado State University, 2001, unpublished data.

Table 22. Estimated Lifetime Prevalence of Drug Use for American Indian and Non-Indian 8th-, 10th-, and 12th-Graders (by percent): 1997–1998

Drug	8th-Graders		10th-Graders		12th-Graders	
	Indian	Non-Indian	Indian	Non-Indian	Indian	Non-Indian
Alcohol	65	54	84	72	83	82
Alcohol intoxication	46	25	71	49	68	64
Marijuana	67	23	82	42	74	50
Inhalants	14	21	22	18	10	16
Cocaine	8	4	19	7	20	9
Stimulants	15	12	26	17	20	17
Sedatives	3	N/A	5	N/A	2	8
Heroin	4	2	4	2	5	2
Psychedelics	19	5	26	11	27	15
Tranquilizers	1	5	4	7	21	9
PCP	4	N/A	4	N/A	6	4
Cigarettes	79	47	87	60	75	65
Smokeless tobacco	45	17	41	26	41	25
Sample size	**431**	**18,700**	**244**	**15,400**	**196**	**15,800**

N/A: Not available.

SOURCES: Tri-Ethnic Center for Prevention Research, Colorado State University; Monitoring the Future Study, University of Michigan; Johnston et al., 2001d-e.

Table 23. Estimated Percentage of American Indian 4th–6th Graders Who Reported Lifetime Use of Drugs: Selected Years

Drug	1980–81	1987–88	1989–90	1990–91	1992–94
Alcohol	33	22	21	18	17
Marijuana	23	16	10	8	7
Inhalants	14	14	15	12	10
Cigarettes	34	33	32	30	31

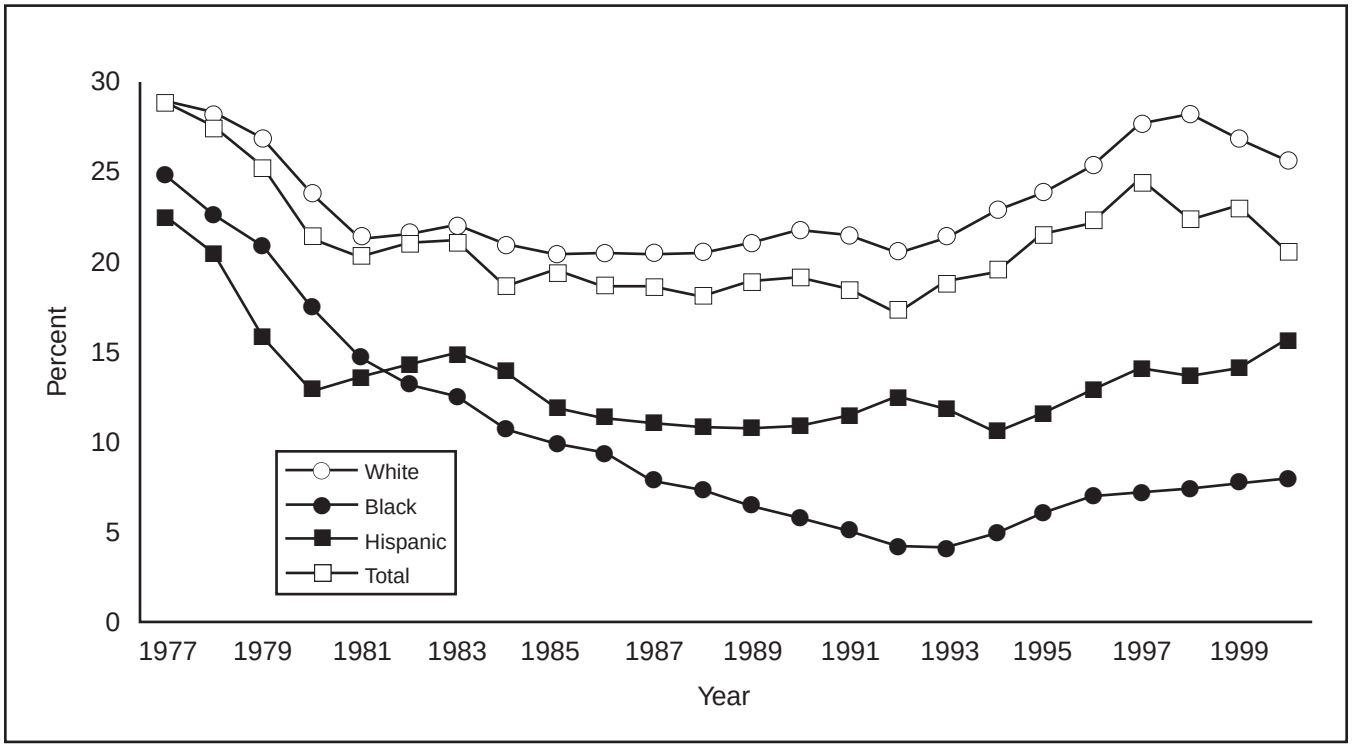
SOURCE: Tri-Ethnic Center for Prevention Research, Colorado State University, 1995, unpublished data.

Table 24. Estimated Percentage of National Longitudinal Survey of Youth Cohorts Who Admitted Using Marijuana and Cocaine, by Race/Ethnicity and Year

Drug by Race/Ethnicity	1984			1988		1992		1994		
	Lifetime	Past Year	Past Month	Past Year	Past Month	Past Year	Past Month	Lifetime	Past Year	Past Month
Marijuana										
White, non-Hispanic	66.5	33.8	19.5	23.3	12.7	14.1	8.3	77.9	12.8	5.4
Black, non-Hispanic	57.7	31.5	21.0	20.4	11.4	10.5	4.9	75.0	11.5	4.4
Other	53.8	29.5	17.5	16.0	9.0	11.2	6.9	68.9	9.5	4.7
Cocaine										
White, non-Hispanic	19.5	12.1	4.8	10.8	3.2	3.8	1.2	39.9	6.3	2.1
Black, non-Hispanic	10.2	6.8	2.8	8.2	3.5	4.8	1.9	32.7	7.4	3.1
Other	17.4	10.6	4.7	9.4	3.3	4.4	1.7	36.5	7.4	2.2

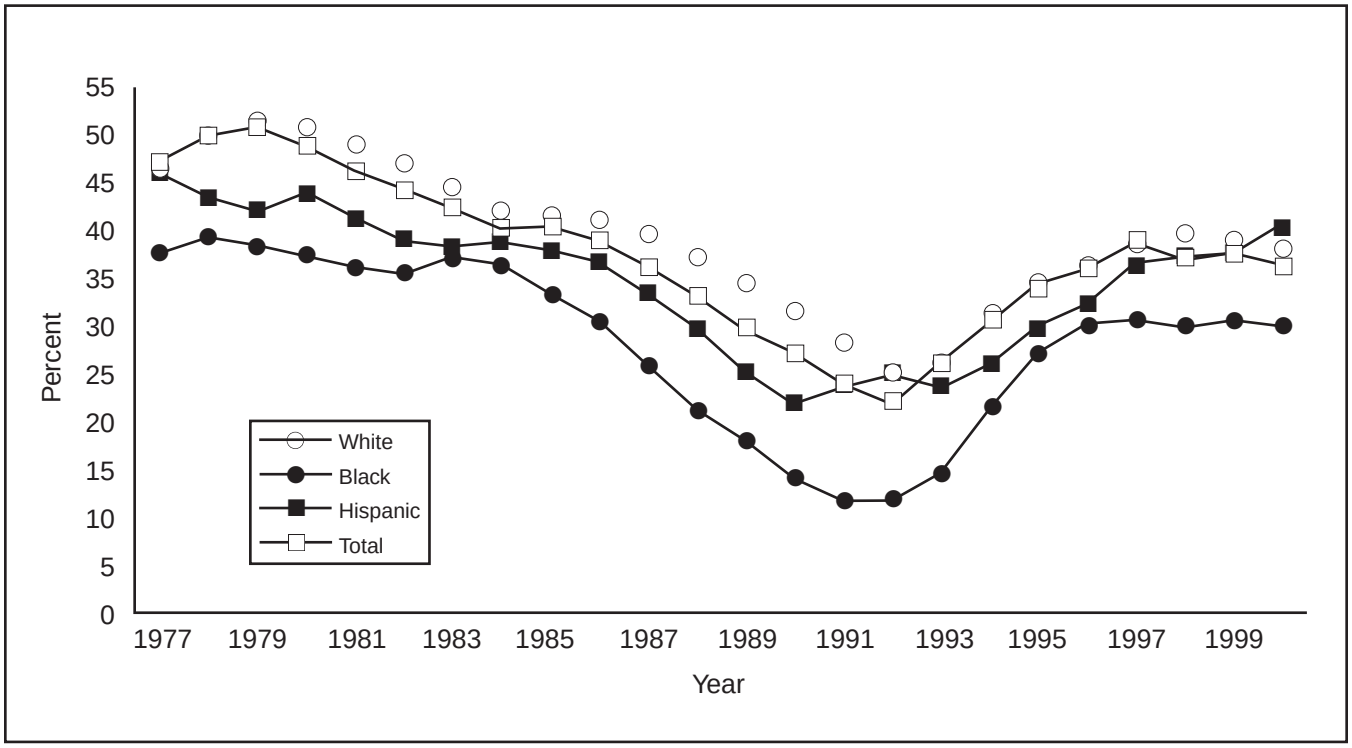
SOURCE: National Longitudinal Survey of Youth, Bureau of Labor Statistics, 1996.

Figure 5. Trends in Prevalence of Daily Cigarette Use Among 12th-Graders, by Race/Ethnicity: 1977–2000



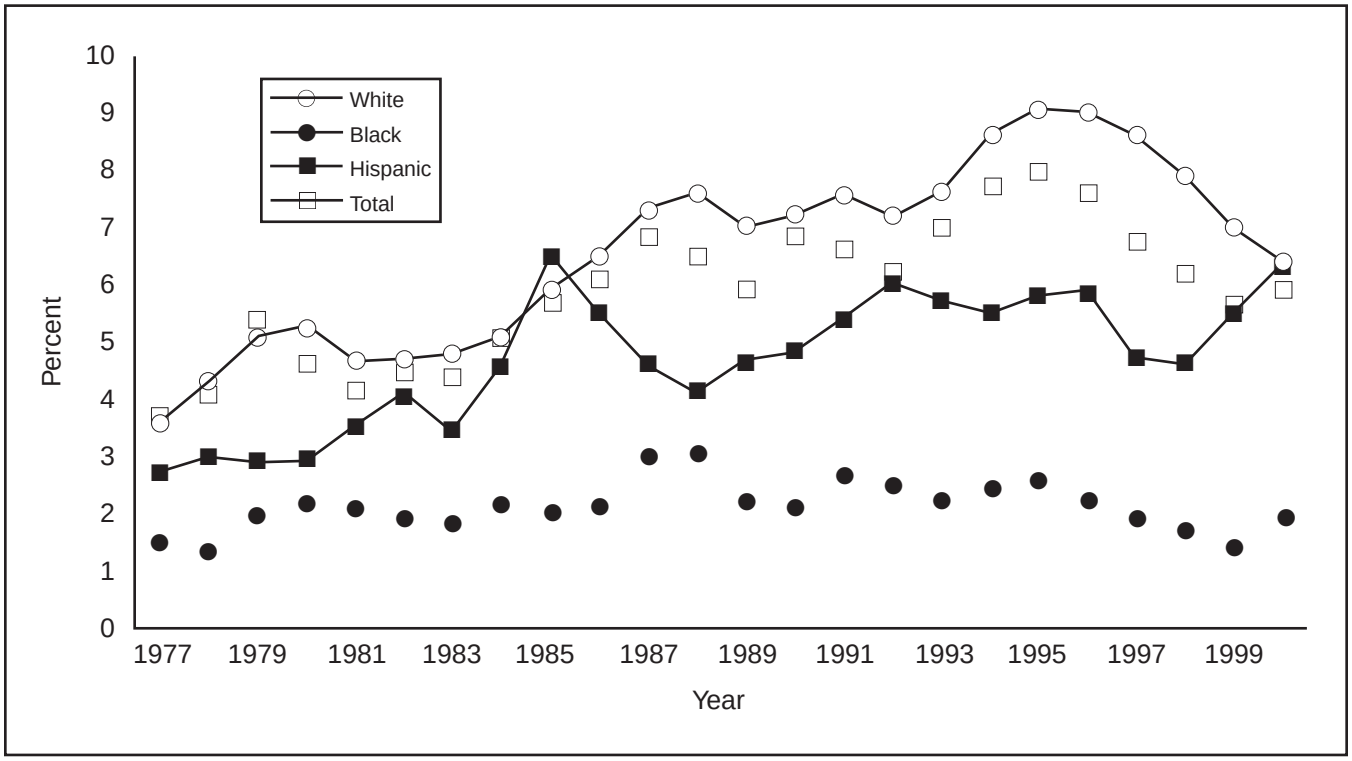
SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnston et al., 2001d.

Figure 6. Trends in Prevalence of Marijuana Use Among 12th-Graders, by Race/Ethnicity: 1977–2000



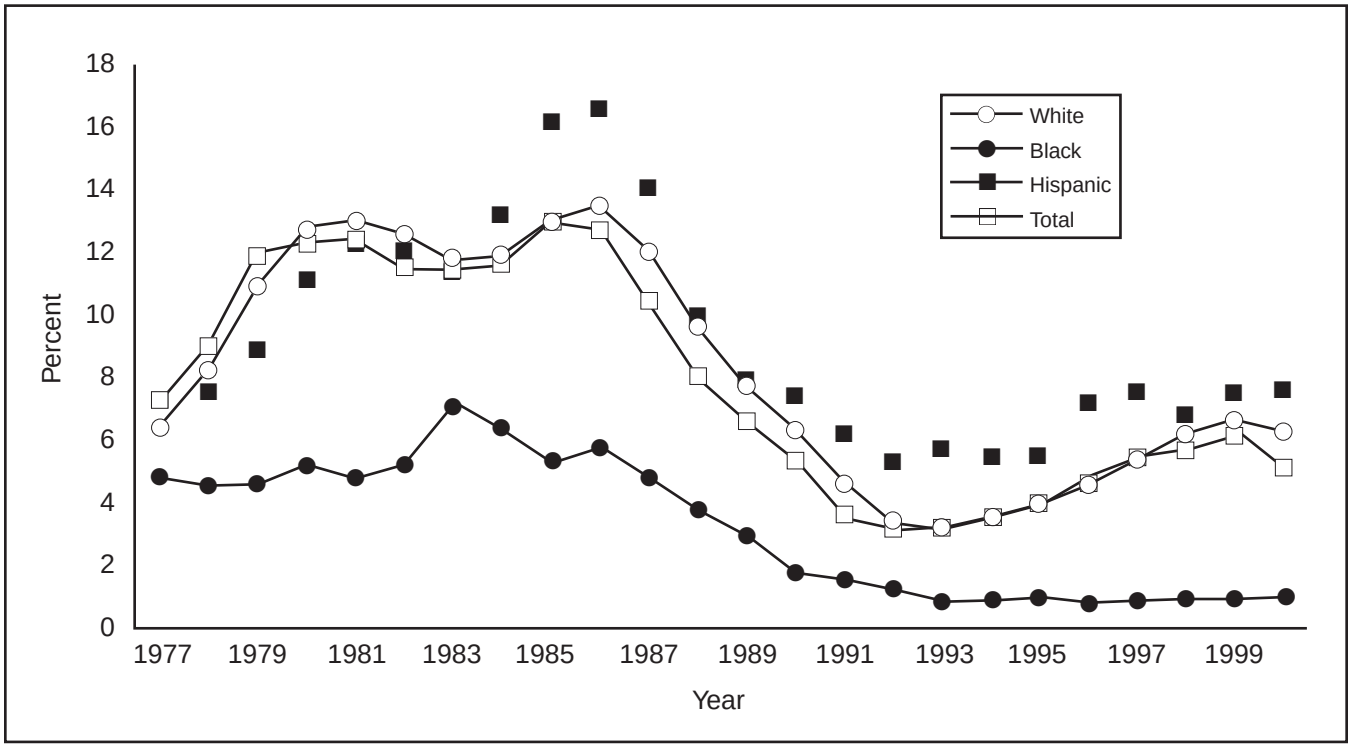
SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnston et al., 2001d.

Figure 7. Trends in Prevalence of Inhalant Use Among 12th-Graders, by Race/Ethnicity: 1977–2000



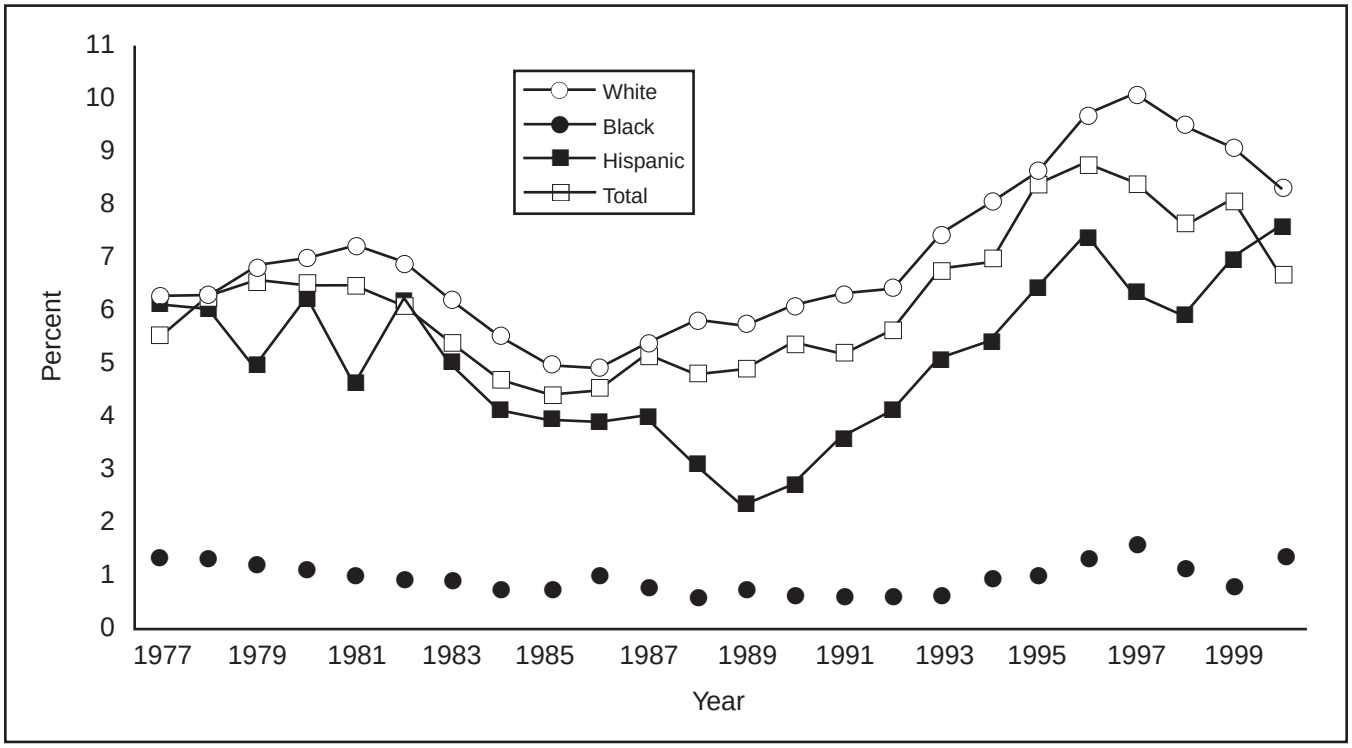
SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnston et al., 2001d.

Figure 8. Trends in Prevalence of Cocaine Use Among 12th-Graders, by Race/Ethnicity: 1977–2000



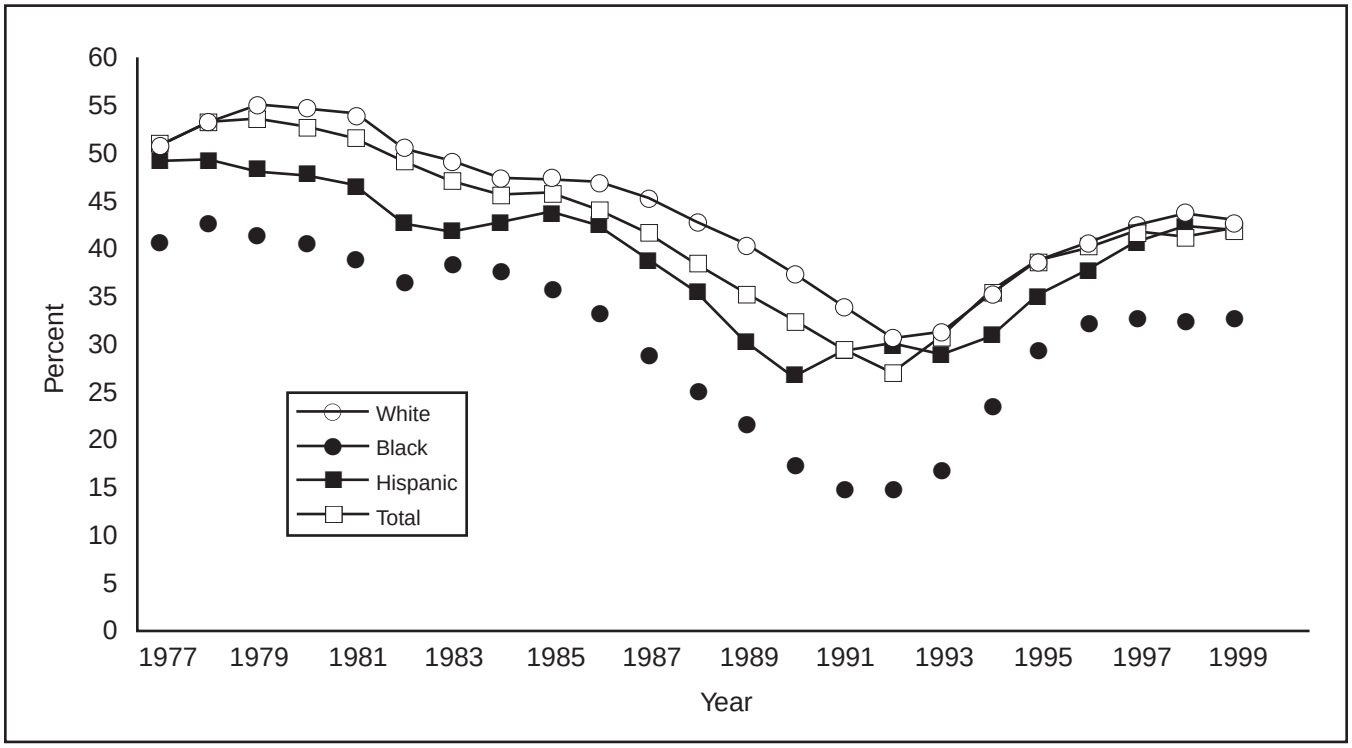
SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnston et al., 2001d.

Figure 9. Trends in Prevalence of LSD Use Among 12th-Graders, by Race/Ethnicity: 1977–2000



SOURCE: Monitoring the Future Study, University of Michigan, 2000; Johnston et al., 2001d.

Figure 10. Trends in Prevalence of Any Illicit Drug Use Among 12th-Graders, by Race/Ethnicity: 1977–1999



NOTES: Use of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers, not under a doctor's order.

Beginning in 1982, the MTF survey question about amphetamine use was revised to reduce inappropriate reporting of nonprescription amphetamine use. The prevalence estimates dropped slightly as a result of this methodological change.

SOURCE: Monitoring the Future Study, University of Michigan, 1999; Johnston et al., 2001d.

Chapter 5. YOUTH DRUG USE AND RISK BEHAVIORS

This chapter provides data from the U.S. Department of Education on school dropout trends and data from the Youth Risk Behavior Survey (YRBS) on risk behaviors such as fighting, carrying a weapon, and engaging in sexual activity. The use of alcohol and other drugs by youth is associated with many social and health problems. The leading causes of death among adolescents are accidents, homicides, and suicides, all of which are linked to use of alcohol and other drugs. Alcohol use is mentioned as a factor in approximately one-half of homicides, suicides, and deaths from motor vehicle crashes, (Kolbe et al. 1993; National Institute on Alcoholism and Alcohol Abuse 2000). Alcohol and other drug use are associated with increased risk of dropping out of school, contracting sexually transmitted diseases, and getting into trouble with law enforcement officials.

In many studies, risk-taking and deviant behaviors cluster more than is expected by random co-occurrence of these behaviors (Kokatailo 1995; Jessor 1998). In some studies, the temporal ordering of these behaviors is clear. For example, failing to complete high school is associated with increased later risk of becoming alcohol dependent, even when drinking starts after age 18 (Crum et al. 1992); dropping out of school may precede many life problems, including unemployment, poverty, poor health, and greater complications arising from alcohol or other drug abuse (Jillson-Boostrom 1993).

These interrelationships between alcohol, other drug use, delinquency, and risk-taking behaviors have been observed in many cross-sectional and longitudinal studies. Even so, no study has produced definitive evidence on the causal origins of this observed covariation of risk behaviors. What seems most likely is that in some instances one risk behavior is a direct consequence of another risk behavior—the link between alcohol intoxication and unprotected or otherwise unsafe sex comes to mind as an example. In other instances, two risk behaviors may be a manifestation of some underlying shared vulnerability, as exemplified by youth living and growing up in socially disadvantaged neighborhoods with negligent parents who fail to provide adequate supervision and monitoring in the primary school years and beyond. In still other instances, the risk behaviors may combine artifactually—a prominent concern when questionnaires on multiple risk behaviors fail to take into account the shared methods covariation, whereby similar questions can induce response tendencies that yield substantive covariation even when there is no substantive covariation (Ryan and Irwin 1992; Anthony et al. 2000).

SCHOOL DROPOUT TRENDS

Because of this Nation's history of compulsory education for children, individuals who drop out of school have long been a concern and an area of interest for researchers. In the last decades of the 20th century, the dropout issue became particularly important because of increasing awareness of the exceptionally high dropout rates among inner city and Hispanic youth (Dryfoos 1990; U.S. Department of Education 2000). This issue is of particular interest to drug use researchers because the relationship between dropping out of school and using drugs has been well documented (National Institute on Drug Abuse, 1993; Substance Abuse and Mental Health Administration 2001b).

In the study of dropout rates, it can be useful to compare and contrast different indicators, each with its own strengths and weaknesses. Three prominent dropout indicators are (1) the event dropout rate, (2) the status dropout rate, and (3) the cohort dropout rate. The event dropout rate measures the number of students dropping out of school during any given year as a function of time and the total number of enrolled students. This rate

calculates only the number of students leaving a given school district and may not take into account students who enroll in other school districts or students who leave school, return, and leave again. The status dropout rate attempts to evaluate through surveys the proportion of individuals in a given age group who have completed school or are enrolled in school at one time. Because of its increased sensitivity to the cumulative annual event rate, the status dropout rate always appears higher than the event rate. The cohort dropout rate is obtained by following a single group of students across time and evaluating their school completion rates (Chavez 1993).

Status dropout rates for youth from various races/ethnicities and selected demographic characteristics are presented in Table 25. Based on 1999 data, this indicator suggests that Hispanic youth are substantially more likely to have dropped out of school than youth in other groups such as non-Hispanic Whites (7.3 percent), non-Hispanic Blacks (12.6 percent), and Asian/Pacific Islanders (4.3 percent, the lowest dropout rate) (Table 25, column 1).

Far in excess of their 14.8-percent representation in the general population of young people (Table 25, column 5), Hispanic youth account for almost 40 percent of all dropouts. By comparison, non-Hispanic Whites and Asian/Pacific Islanders are underrepresented among dropouts (Table 25, column 4).

The interpretation of these statistics is complicated by imbalances in recency of immigration, regional distribution of various racial/ethnic groups, and the distribution of material wealth and social capital, which also are related to success in schooling. Regarding recency of immigration, both first- and second-generation Hispanic youth have status dropout rates that are not as extreme as the mean value for Hispanic youths in general, as shown in the lower rows of column 1 of Table 25. Among Hispanic youth born outside of the United States, for example, the risk of having dropped out of school is 44.2 percent. Comparison values for first- and second-generation Hispanic youth are 16.1 percent and 16.0 percent, respectively. Nonetheless, in comparing recent immigrants and first- and second-generation youth, Hispanic youth are more likely to have dropped out (See Table 25, column 1).

Table 25 also shows considerable regional variation in status dropout rates. Youth are most likely to have dropped out of school in the West and South. By comparison, youth in the Northeast and Midwest are about 66 percent as likely to have dropped out.

Based on data from 1996, Table 26 clarifies that socioeconomic status also can be an important determinant of success in school (Table 26, column 1) and is associated not only with recent immigration status, but also with race and ethnicity (e.g., Diez-Roux 2001). Nonetheless, when examined within socioeconomic levels, Hispanic youth remain more likely to have dropped out of school than non-Hispanic Black and White youth. Even within the lowest income level, Hispanic youth are more likely to have dropped out (42.4 percent) than are non-Hispanic Whites (13.9 percent) and non-Hispanic Blacks (21.9 percent).

Table 27 presents trend data on the event dropout rates for youth in grades 10–12 from October 1972 through October 1999 by sex and race/ethnicity. These values reflect the percentages of students who had not graduated from high school, among those who had been enrolled at the beginning of a new school year. As with the data on status dropout rates, Hispanic youth consistently show the highest dropout rates among the three subgroups, followed next by African-American youth. Year-to-year variation indicates that event dropout rates fluctuated somewhat from 1972 to the mid-1990s for Hispanic youth, with values of 7.8 percent to 9.5 percent between 1996 and 1999. Declines also are seen for non-Hispanic Whites and Blacks, but the most recent data indicate

persisting imbalances: 4.0 percent for non-Hispanic Whites, 6.5 percent for non-Hispanic Blacks, and 7.8 percent for Hispanic students (Table 27, last row).

Students drop out of school for a variety of reasons, as illustrated in Table 28, based on self-report survey data from the National Center for Education Statistics. Based on students' answers to the survey questions, a large percentage of all students who dropped out of school said they did not like school and were failing their classes (42.9 and 38.7 percent, respectively). More African-American students reported being suspended or expelled from school (24.4 percent) than did Whites (15.4 percent) and Hispanics (10.1 percent). African-American and Hispanic students were more likely than White students to cite not feeling safe at school as an explanation for dropping out (8.5 and 8.3 percent for African-American and Hispanic students, respectively, versus 4.8 percent for White students). White students were more likely than African-American and Hispanic students to report a drug or alcohol problem as their reason for dropping out (5.9 percent for Whites, compared with 2.1 and 1.8 percent for African Americans and Hispanics, respectively). A large percentage of female dropouts reported pregnancy as the reason (26.8 percent). The distribution of pregnancy by race/ethnicity indicated that African Americans (34.5 percent) and Hispanics (30.6 percent) said they dropped out more frequently due to pregnancy than did White students (25.6 percent).

Table 29 shows high-school completion rates and method completion by race/ethnicity for the 1995–1999 period. These data indicate that throughout this period, about 85 to 86 percent of youth ages 18–24 years completed high school, and 74 to 78 percent received their high-school diploma (Table 29, rows 1 and 2). The number of youth reporting receiving some alternative to the diploma (e.g., GED certificate) has increased slightly. In the most recent years (e.g., 1999), non-Hispanic Whites were most likely to have graduated from high school and to have received a diploma, followed by non-Hispanic Blacks. Hispanics were least likely to graduate, to receive the high-school diploma, and to receive an alternative such as the GED certificate.

Trend data on completion rates and status dropout by race/ethnicity for 1972 through 1999 are plotted in Figures 11 and 12. The trends in status dropout and completion rates by race/ethnicity showed minor fluctuations during this span of over two decades. Of greatest note is the persistent difference in the levels of status dropout rates for Whites, African Americans, and Hispanics. In addition, the gap between the rates for African Americans and Whites was closing for the first decade, but has not changed much since the mid-1980s.

RISK BEHAVIOR TRENDS

The use of alcohol and other drugs by youth can threaten their physical and mental health and can alter social development. The YRBSS data describe student drug use and patterns of other behaviors that may place them at greater risk of motor vehicle crash injury, other unintentional injury, homicide, suicide, heart disease, and cancer (Kann et al. 1993). Transmission of HIV and other sexually transmitted diseases also can occur indirectly as a consequence of alcohol and other drug use, which can impair judgment and reduce inhibitions about engaging in sexual intercourse (Blanken 1993).

Comparison of YRBSS data for students who have used marijuana, cocaine, or crack-cocaine and youth who have never used these drugs shows a consistent pattern of association with other risky behaviors. As illustrated in Table 30, YRBSS data from 1999 indicate that youth who reported a past or recently active history of smoking marijuana are generally more likely to have reported engaging in other recent risk-related behaviors, such as fighting, carrying a weapon, and not wearing a seat belt. This general pattern holds for White, Black, and

Hispanic youth. For example, among White students reporting a history of marijuana use, about 43 to 44 percent reported recent fighting, 21 to 22 percent carried a weapon, and 23 percent reported rarely wearing a seat belt. Among White students with no reported history of marijuana use, the corresponding estimates are 23 to 24 percent for fighting, 11 to 12 percent for carrying weapons, and 9 to 10 percent for rarely wearing seat belts (Table 30, rows 1 and 5). The estimates are somewhat higher for youth who had been recently active users of marijuana, and intermediate for youth with past but no recently active marijuana use (Table 30, rows 9 and 13). A similar pattern of associations between marijuana use and other risky behaviors holds for Black and Hispanic students who participated in YRBSS (Table 30).

Similar patterns of association can be seen in the prevalence of risk-related behaviors for students who reported past, recently active (past-month), and no use of crack-cocaine (Table 31). For example, among White youth reporting recently active crack or other cocaine use, an estimated 20 to 21 percent reported having multiple sex partners in the 3 months before assessment (Table 30, second page, row 9), as compared with 7 to 8 percent of White students with recently active marijuana use (Table 30, first page), and 1 to 2 percent of White youth who never had used crack or other cocaine (Table 30, second page, row 5). Corresponding values for Black youth are 50 to 51 percent, 28 to 29 percent and 14 to 15 percent, showing a similar pattern of association. The same type of pattern of associations holds for Hispanic students who reported cocaine-crack use (17 percent), recently active marijuana use (10 to 11 percent), and never having used crack or other cocaine (3 to 4 percent).

This pattern of association extends to use of condoms during most recent sexual encounters. For example, as shown in Table 31, among White students who reported having used crack or other cocaine, an estimated 41 to 42 percent said they had used no condom in the most recent sexual encounter. Corresponding values for Black and Hispanic cocaine-using students are 57 to 58 percent and 44 to 45 percent (Table 30, second page). At the other extreme, students with no history of trying crack or other cocaine were more likely to have used condoms; the prevalence of failing to use a condom was 24 to 25 percent for Whites, 51 percent for Blacks, and 28 to 29 percent for Hispanics (Table 30, second page).

SUMMARY

In this chapter, the statistics help clarify the social disadvantage experienced by African-American and especially Hispanic youth in the United States, as seen in dropout rates and failure to receive diplomas or GED certificates. The statistics also clarify patterns of association linking lifetime and recently active use of illegal drugs like marijuana and cocaine to risk-related behaviors such as not wearing seat belts, having multiple sex partners, and not using condoms

YRBSS data provide clear evidence of the patterns of association between risk-related behaviors, but fail to take into account a possibility of a shared methods covariation that induces the patterns of association. Namely, students willing to report on their illegal drug use may also be more willing to report on their engagement in other risky behaviors. As such, these statistics create new research questions that will need to be addressed if we are to translate these initial observations into effective public health intervention strategies. This new research on methodological and substantive sources of variation in the observed rates of risk-related behaviors represents an important element of future research on health disparities affecting our Nation's racial and ethnic minorities.

Table 25. Rate, Number, and Distribution of Status Dropouts, by Sex, Race/Ethnicity, Age, Region, and Recency of Immigration: 1999

Characteristics	Status Dropout Rate (percent)	Number of Status Dropouts (thousands)	Population (thousands)	All Dropouts (percent)	Population (percent)
Total*	11.2	3,829	34,173	100.0	100.0
Sex					
Male	11.9	2,032	17,106	53.1	50.1
Female	10.5	1,797	17,066	46.9	49.9
Race/Ethnicity					
White, non-Hispanic	7.3	1,636	22,408	42.7	65.6
Black, non-Hispanic	12.6	621	4,94	16.2	14.5
Hispanic	28.6	1,445	5,060	37.7	14.8
Asian/Pacific Islander	4.3	65	1,515	1.7	4.4
Age					
16	3.5	139	3,995	3.6	11.7
17	6.7	278	4,137	7.3	12.1
18	12.6	489	3,870	12.8	11.3
19	13.6	559	4,121	14.6	12.1
20–24	13.1	2,366	18,050	61.8	52.8
Recency of Immigration Born Outside the 50 States and the District of Columbia					
Hispanic	44.2	994	2,250	26.0	6.6
Non-Hispanic	7.0	133	1,909	3.5	5.6
First generation					
Hispanic	16.1	240	1,494	6.3	4.4
Non-Hispanic	5.0	94	1,893	2.5	5.5
Second generation or more					
Hispanic	16.0	211	1,316	5.5	3.9
Non-Hispanic	8.5	2,156	25,130	56.3	74.1
Region					
Northeast	8.7	531	6,133	13.9	17.9
Midwest	8.3	676	8,177	17.7	23.8
South	12.7	1,516	11,902	39.6	34.8
West	13.8	1,106	8,021	28.9	23.5

*Due to relatively small sample sizes, American Indians/Alaska Natives are included in the total but are not shown separately.

SOURCE: U. S. Department of Education, National Center for Education Statistics, Dropout Rates in the United States: 1999 (based on the Current Population Survey), 2000.

Table 26. Status Dropout Rates for Persons Ages 16–24, by Family Income and Race/Ethnicity (by percent): 1990

Family Income	Total	Race/Ethnicity[a]		
		White, Non-Hispanic	Black, Non-Hispanic	Hispanic
Total	11.1	7.3	13.0	29.4
Family income[b]				
Low-income level	22.1	13.9	21.9	42.4
Middle-income level	10.8	8.3	9.0	24.9
High-income level	2.6	2.0	2.5	11.0

[a]Non-Hispanics who are neither Black nor White are not shown separately but are included in the total.
[b]Family income in current residence. Low income is defined as the bottom 20 percent of all family incomes for 1994; middle income is between 20 and 80 percent of all family incomes; and high incomes is the top 20 percent of all family incomes.

SOURCE: U.S. Bureau of the Census, Current Population Survey, October 1994, unpublished data.

Table 27. Event Dropout Rates[a] for Persons Ages 15–24 Who Dropped Out of Grades 10–12, by Sex and Race/Ethnicity (by percent): October 1972–October 1999

Year	Total	Sex		Race/Ethnicity[b]		
		Male	Female	White Non-Hispanic	Black Non-Hispanic	Hispanic
1972	6.1	5.9	6.3	5.3	9.5	11.2
1973	6.3	6.8	5.7	5.5	9.9	10.0
1974	6.7	7.4	6.0	5.8	11.6	9.9
1975	5.8	5.4	6.1	5.0	8.7	10.9
1976	5.9	6.6	5.2	5.6	7.4	7.3
1977	6.5	6.9	6.1	6.1	8.6	7.8
1978	6.7	7.5	5.9	5.8	0.2	12.3
1979	6.7	6.8	6.7	6.0	9.9	9.8
1980	6.1	6.7	5.5	5.2	8.2	11.7
1981	5.9	6.0	5.8	4.8	9.7	10.7
1982	5.5	5.8	5.1	4.7	7.8	9.2
1983	5.2	5.8	4.7	4.4	7.0	10.1
1984	5.1	5.4	4.8	4.4	5.7	11.1
1985	5.2	5.4	5.0	4.3	7.8	9.8
1986	4.7	4.7	4.7	3.7	5.4	11.9
1987	4.1	4.3	3.8	3.5	6.4	5.4
1988	4.8	5.1	4.4	4.2	5.9	10.4
1989	4.5	4.5	4.5	3.5	7.8	7.8
1990	4.0	4.0	3.9	3.3	5.0	7.9
1991	4.1	3.8	4.2	3.2	6.0	7.3
1992	4.4	3.9	4.9	3.7	5.0	8.2
1993	4.5	4.6	4.3	3.9	5.8	6.7
1994	5.3	5.2	5.4	4.2	6.6	10.0
1995	5.7	6.2	5.3	4.5	6.4	12.4
1996	5.0	5.0	5.1	4.1	6.7	9.0
1997	4.6	5.0	4.1	3.6	5.0	9.5
1998	4.8	4.6	4.9	3.9	5.2	9.4
1999	5.0	4.6	5.4	4.0	6.5	7.8

[a]The event dropout rate is the percentage of those in grades 10–12, ages 15–24 who were enrolled in the previous October but were not enrolled and had not graduated the following October.
[b]Due to relatively small sample sizes, American Indians/Alaska Natives and Asian/Pacific Islanders are included in the total but are not shown separately.

SOURCE: U. S. Department of Education, National Center for Education Statistics, Dropout Rates in the United States: 1999 (based on the Current Population Survey), 2000.

Table 28. Reasons for Dropping Out of School, by Sex and Race/Ethnicity (by percent): 1992

Reason for Dropping Out	Total	Sex		Race/Ethnicity		
		Male	Female	Hispanic	Black, Non-Hispanic	White, Non-Hispanic
School-related						
Did not like school	42.9	43.6	42.2	48.0	28.8	45.5
Could not get along with teachers	22.8	24.6	21.1	24.6	27.8	21.5
Could not get along with students	14.5	17.7	11.6	15.6	18.4	13.6
Did not feel safe at school	6.0	7.0	5.1	8.3	8.5	4.8
Felt did not belong	24.2	25.8	22.7	16.0	25.9	26.6
Could not keep up with schoolwork	31.3	32.7	29.9	35.0	25.6	30.3
Was failing school	38.7	43.4	34.5	40.6	39.6	36.6
Changed school and did not like new school	10.6	10.5	10.7	12.3	9.1	10.2
Was suspended/expelled from school	10.5	21.6	10.0	10.1	24.4	15.4
Job-related						
Could not work and go to school at same time	22.8	26.9	19.1	20.4	15.4	24.6
Found a job	28.5	35.9	21.8	34.1	19.1	27.5
Family-related:						
Had to support family	11.2	10.4	11.9	15.8	11.8	9.9
Wanted to have family	7.5	6.4	8.4	9.1	4.6	8.2
Was pregnant	26.8	N/A	26.8	30.6	34.5	25.6
Became parent	14.7	7.7	21.0	13.4	2.0	15.1
Got married	12.1	3.7	19.7	13.4	2.0	15.1
Had to care for family member	11.9	9.5	14.0	8.5	14.7	10.7
Other						
Wanted to travel	8.1	8.2	8.0	6.6	7.3	7.1
Friends dropped out	8.0	8.5	7.5	7.6	6.7	8.6
Had a drug and/or alcohol problem	4.4	6.1	2.8	1.8	2.1	5.9

N/A: Not applicable.

SOURCE: National Educational Longitudinal Study of 1988 Second Followup Survey, National Center for Education Statistics, 1992, unpublished data.

Table 29. High-School Completion Rates and Method of Completion for Persons Ages 18–24 Years, by Race/Ethnicity and Year (by percent): October 1995–October 1999

Race/Ethnicity and Completion Rate	1995	1996	1997	1998	1999
Total					
Completed	85.3	86.2	85.9	84.8	85.9
Diploma	77.9	76.4	76.7	74.7	76.8
Alternative*	7.4	7.4	9.1	10.1	9.2
White, non-Hispanic					
Completed	90.7	91.5	90.5	90.2	91.2
Diploma	82.9	81.0	81.1	80.2	82.0
Alternative	6.9	10.5	9.4	10.0	9.2
Black, non-Hispanic					
Completed	84.5	83.0	82.0	81.4	83.5
Diploma	75.9	73.0	72.2	71.7	72.9
Alternative	8.5	10.0	9.7	9.6	10.7
Hispanic					
Completed	62.8	61.9	66.7	62.8	63.4
Diploma	54.2	55.2	59.1	52.1	54.9
Alternative	8.6	6.7	7.7	10.7	8.5

*Completed high school by means of an equivalent test, such as a General Educational Development (GED) exam.

NOTE: Because of rounding, details may not add to totals.

SOURCE: U. S. Bureau of the Census, Current Population Survey, October 1999; U.S. Department of Education, 2000.

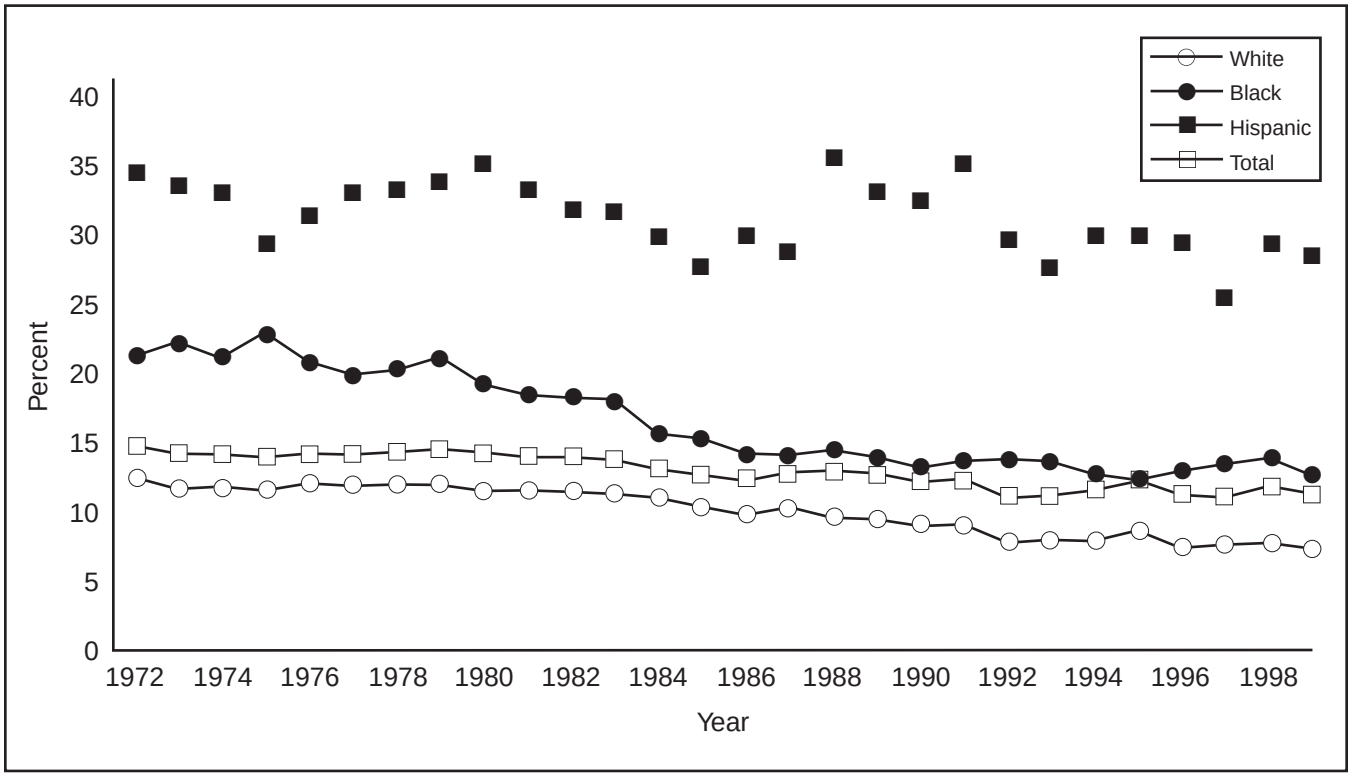
Table 30. Estimated Percentage of Youth Engaging in Risk Behaviors, by Drug Users and Nonusers and Race/Ethnicity: 1999

Drug, Type of Use, and Race/Ethnicity	Fight in Last 12 Months	Carried a Weapon in Last 30 Days	Rarely Wears a Seat Belt	Multiple Sex Partners During Last 3 Months[a]	Ridden in Car While Driver Was Drinking	Used Drugs or Alcohol Before Last Sexual Encounter	Used No Condom During Last Sexual Encounter
Marijuana							
Lifetime use							
White	43.6	21.8	23.0	5.7	48.4	22.6	37.2
Black	50.0	26.7	26.6	23.8	43.9	21.8	63.9
Hispanic[b]	54.7	29.9	17.8	8.4	53.7	21.2	43.0
Other[c]	52.3	27.9	21.7	6.4	45.7	20.8	37.1
No lifetime use							
White	23.7	11.9	9.1	0.6	18.8	2.4	15.6
Black	33.3	8.0	18.6	7.6	24.7	1.1	39.1
Hispanic	24.3	6.8	10.5	1.5	24.6	0.7	18.0
Other	23.9	13.1	7.3	1.1	12.8	1.8	15.2
Used last 30 days							
White	48.5	24.8	27.1	7.7	60.2	30.0	39.0
Black	57.3	40.5	34.1	28.7	52.9	33.8	66.0
Hispanic	64.8	37.9	22.5	10.6	65.1	30.5	51.9
Other	64.2	41.2	23.9	9.7	54.2	27.2	40.9
No use last 30 days							
White	27.5	13.4	11.4	1.2	22.3	5.0	21.0
Black	35.5	8.7	18.3	10.8	27.8	3.0	45.6
Hispanic	29.8	10.8	11.0	2.6	29.1	3.4	22.4
Other	27.8	12.7	10.6	1.5	19.1	5.0	20.2
Cocaine or crack							
Lifetime use							
White	53.9	34.6	31.6	12.8	62.4	43.8	41.3
Black	77.4	63.2	48.2	45.0	69.0	43.2	57.2
Hispanic[b]	71.3	43.5	25.9	17.0	67.6	32.3	44.1
Other[c]	59.1	51.6	29.3	18.9	47.1	40.8	47.5
No lifetime use							
White	30.8	14.4	13.8	1.9	29.2	8.3	24.2
Black	40.3	16.3	21.8	14.9	33.6	10.7	51.0
Hispanic	34.4	14.4	12.5	3.1	34.5	7.3	28.5
Other	34.9	16.1	12.4	1.8	26.5	7.4	23.3
Used last 30 days							
White	59.9	47.2	40.8	20.5	72.9	49.5	38.4
Black	80.3	74.6	41.3	50.3	63.3	58.4	31.9
Hispanic	82.1	54.6	37.8	23.7	77.3	44.3	44.8
Other	77.0	69.2	42.1	28.4	67.9	52.1	31.4
No use last 30 days							
White	31.9	15.1	14.5	2.3	30.7	10.3	25.4
Black	40.7	16.6	22.2	15.1	34.1	10.9	51.3
Hispanic	37.1	16.3	12.9	3.9	36.8	8.8	29.8
Other	35.4	17.3	12.9	2.5	26.8	9.0	25.5

[a]Had sex with four or more partners during 3 months preceding the survey.
[b]Included Hispanic or Latino and Multiple-Hispanic.
[c]Included American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islanders, and Multiple non-Hispanic.

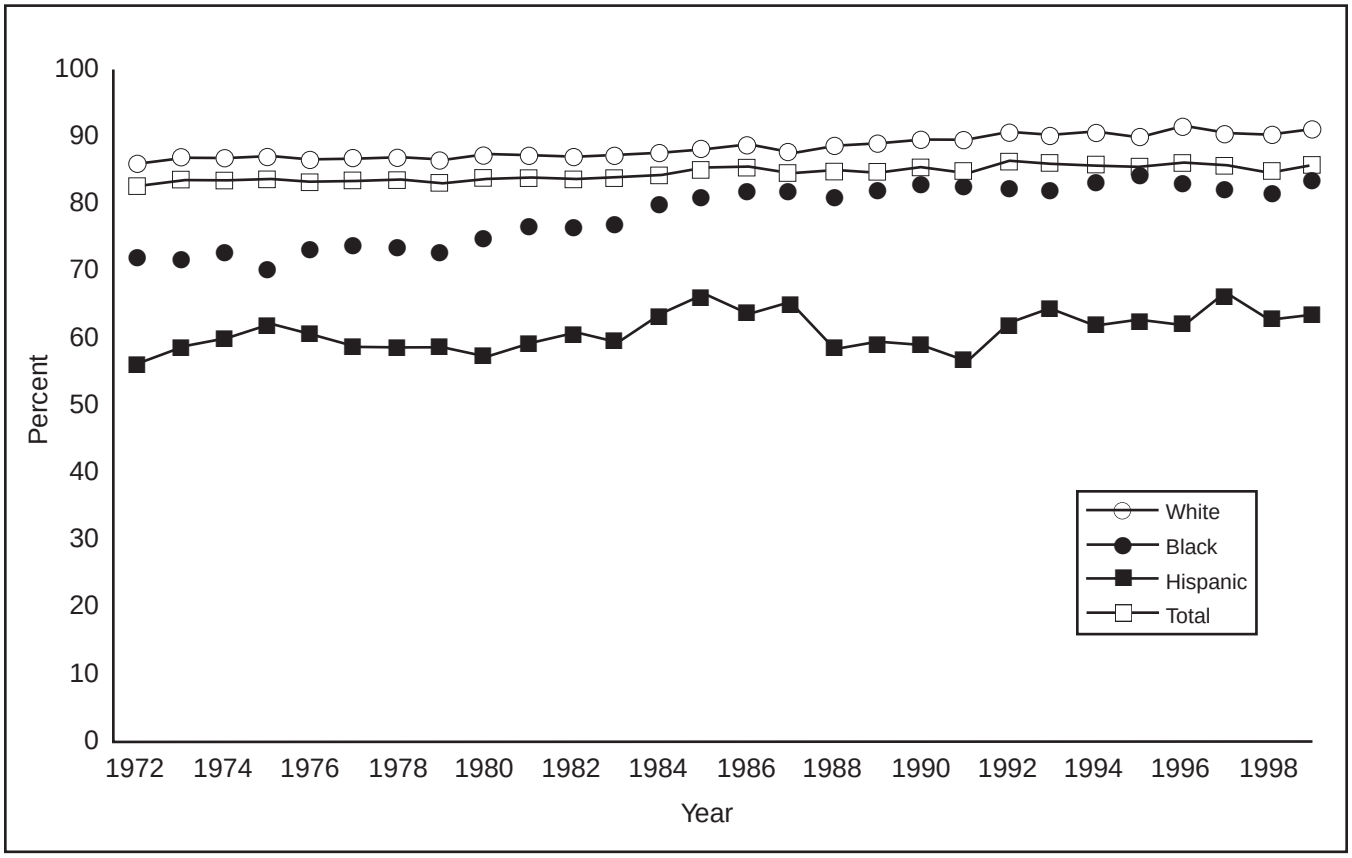
SOURCE: Youth Risk Behavior Surveillance System, Centers for Disease Control and Prevention, 1999.

Figure 11. Status Dropout Rates for Persons Ages 16–24, by Race/Ethnicity: October 1972–October 1999



SOURCE: U. S. Bureau of the Census, Current Population Survey, October 1972–1999.

Figure 12. Completion Rates for Persons Ages 18–24 Not Currently Enrolled in High School or Below, by Race/Ethnicity: October 1972–October 1999



SOURCE: U. S. Bureau of the Census, Current Population Survey, October 1972–1999.

Chapter 6. ADVERSE SOCIAL, BEHAVIORAL, AND HEALTH CONSEQUENCES

This chapter presents data from three data sources: (1) the registry of cases of AIDS maintained by the Centers for Disease Control and Prevention (CDC), (2) the panel of emergency rooms (ER) that provide information about drug-related casualties as part of the national Drug Abuse Warning Network (DAWN), and (3) the panel of medical examiner (ME) offices that report drug-related deaths to DAWN. These three data sources offer epidemiological observations on an important subset of the Nation's total experience with drug-related morbidity and mortality. These are important sources of data on health disparities that affect racial and ethnic minority groups within the United States. As described in the *Strategic Plan on Reducing Health Disparities* (National Institute on Drug Abuse 2001b; included as Appendix 2 in this report), a portion of these health disparities can be traced directly or indirectly to illegal drug-using behaviors. Accordingly, the NIDA definition for health disparities research is as follows: "Basic, clinical, and behavioral research that addresses the magnitude and/or impact of drug use within racial/ethnic minority populations, where the goal of the study is to determine differential use and/or effects of drugs on the racial/ethnic minority groups included in the study. Health disparities research addresses issues related to epidemiology, prevention, services, and treatment outcomes within and across racial and ethnic populations" (NIDA 2001b).

There now is a broad profile of adverse social, behavioral, and health consequences attributed to illegal drug-using behaviors, in part due to a well-recognized association between illegal drug use, smoking of tobacco cigarettes and cigars, and heavy drinking of alcoholic beverages (e.g., see U.S. Department of Health and Human Services 1998; Furr et al. 2000; Substance Abuse and Mental Health Administration 2001a-b). Within the domain of brain diseases and mental health, the spectrum of adverse health consequences extends from relatively time-limited and circumscribed acute panic attacks and transient delusion-like experiences to more severe and chronic syndromes associated with lesions to aminergic pathways in brain (Tien and Anthony 1990; Anthony and Petronis 1991; Johannessen and Markey 1984; McCann et al. 2000). In the domain of more general medical conditions, there is an equally broad range from acute palpitations and stroke to lung cancer and chronic conditions such as hepatitis and liver cirrhosis, as well as infections and infectious diseases—hepatitis, HIV, and AIDS, to mention just a few (e.g., see Petronis and Anthony 1989; Vlahov et al. 1990; Ford et al. 2000).

At one end of the life span, the spectrum of drug-associated adverse health effects begins with fetal distress, low birthweight, deficits in fetal growth, and other complications of pregnancy (e.g., see Bandstra et al. 2001). In the adolescent and young adult years, self-inflicted injuries and homicides become more prominent in this spectrum (e.g., see Petronis et al. 1990; Tardiff et al. 1997). Excess deaths also are associated with illegal drug use and drug dependence, even in middle age and late life (e.g., see Neumark et al. 2000; Rosenberg and Anthony 2001). In addition, illegal drug use has a prominent rank order among causes of the global burden of disease and disability (Murray and Lopez 1996). Globally, some population projections indicate an increase in this rank ordering over the next several decades, coupled with an increasing number of adolescents and young adults in many parts of the world (Anthony and Helzer 1995).

For most of the 20th century, claims of association between illegal drug use and many of these negative consequences were based primarily on case studies and anecdotes. During the past 25 years, clinical and epidemiological research supported by NIDA and other agencies often has substantiated these claims (e.g., see National Institute on Drug Abuse 1998), although it sometimes has challenged firmly held beliefs about drug-related harm (e.g., see Frank et al. 2001).

Socioeconomic imbalances across race/ethnicity groups of the U.S. population represent a plausible source of variation when comparisons are made for differences across historically disadvantaged minority group members. To some extent, health disparities faced by racial/ethnic minority groups in the United States might be traced back to illegal drug-using behaviors. These health disparities are not necessarily *due* to excess in illegal drug use in these groups, but they may be *associated with* illegal drug use and associated conditions, such as delays in medical recognition or inefficiencies in the care and management of the conditions once the conditions are detected. Some of the observed health disparities also may be associated with a disproportionate representation of minority group members among street-level lieutenants for drug trafficking, which may have substantial income-related benefits as well as injury-related costs and risks (e.g., see MacCoun and Reuter 1992).

Disproportionate or not, the involvement of African-American young people in drug trafficking within dynamically changing drug markets must be considered as a plausible partial explanation for an otherwise unexpected excess in homicide death rates that affect this minority subgroup. For example, among White males ages 15–24, the national death statistics in 1997–1999 indicated 10 to 13 homicides per 100,000 persons; the corresponding values for African-American males in the same age group are 85 to 113 homicides per 100,000 persons. Moreover, origins of the seven- to eightfold excess observed for males ages 15–24 in this particular contrast can be seen in a three- to fivefold excess when this comparison is made for males ages 1–14, and an approximate fivefold excess among males ages 25–44 (National Center for Health Statistics 2000; also see Chapter 7).

The observed African-American excess in homicide rates is not restricted to males. Compared with White female homicide rates of 2.8 to 3.2 homicides per 100,000 persons in the 15–44 age group during 1997–1999, the corresponding values for African-American females in this same age group range from 11.5 to 14.5 homicides per 100,000 persons. An excess also can be seen for younger females ages 1–14: recent values of about 1 homicide per 100,000 persons are seen for White girls in this age group, versus recent values of 3.0 to 3.4 homicides per 100,000 persons for African-American girls of the same age (National Center for Health Statistics 2000).

Notwithstanding the importance of drug trafficking and homicides among African Americans, other drug-related sources of mortality also emerge when examining comparative mortality statistics. For example, the U.S. Department of Health and Human Services Task Force on African American and Minority Health found that among African Americans, mortality rates for chronic disease and cirrhosis have been nearly twice as high as the rates among Whites; in the 1980s, cocaine-related deaths tripled among African Americans but only doubled among Whites. This excess in cocaine-related deaths may reflect inaccuracy in estimates of the prevalence of cocaine use, which in general show roughly comparable values for African Americans versus Whites, or may reflect excess risk of cocaine-related harm once cocaine use begins—a topic of continuing inquiry (Flewelling et al. 1992).

Analyses of variation in mortality also highlight excess mortality rates for some of the drug-related causes of death among certain subgroups of the American Indian/Alaska Native populations in the United States. For example, between 1997 and 1999, the suicide mortality rates experienced by American Indian/Alaska Native males ages 15–24 ranged from 36 to 42 suicides per 100,000 persons. Corresponding values for White males in this age group are just 23 to 26 suicides per 100,000 persons (National Center for Health Statistics 2000). No excess of similar magnitude is seen for American Indian/Alaska Native females in this age group. One is left to speculate whether the observed excess in male suicide is attributable to heavy drinking, illegal drug use, or other life circumstances or processes that have a different effect on young male American Indians/Alaska Natives.

Noteworthy in comparing age-adjusted death rates for Whites versus Asian/Pacific Islander and Hispanic citizens in recent years is that Whites generally have higher rates across the categories of causes of death. One exception is homicide death rates, for which the Whites and Asian/Pacific Islanders have values that are not appreciably different (3.8 per 100,000 persons versus 3.2 per 100,000 persons, respectively, in 1999). This exception is noteworthy because Whites experienced excess mortality rates in virtually all other categories of causes of death (National Center for Health Statistics 2001).

AIDS

AIDS surveillance data are gathered by CDC, which uses information collected by health departments in each State, U.S. territory, and the District of Columbia. Between 1987 and 1995, the age-adjusted death rate for AIDS and HIV disease more than doubled, from 5.6 to 16.3 deaths per 100,000 population. AIDS and HIV disease remain high among leading causes of death for persons ages 25–44. However, since 1995, there generally have been declines in mortality due to AIDS and HIV-related disease (16.3 deaths per 100,000 persons in 1995 to a projected 5.4 deaths per 100,000 persons for 1999).

Through December 2000, State and local health departments reported between 750,000 and 800,000 adolescent and adult AIDS cases to CDC. Table 31 presents information reported through December 2000 for 130,104 female adolescent/adult AIDS cases, and Table 32 presents information about 635,451 male AIDS cases. Among the over 130,000 female cases, just over 70,000 were Black, non-Hispanic, and roughly 25,000 were Hispanic. Among the more than 635,000 male cases, just over 210,000 were non-Hispanic Blacks and 114,000 were Hispanics. As gauged against the relative sizes of these groups in the U.S. population, these numbers show disproportionate overrepresentation of these racial/ethnic minorities among AIDS cases.

As shown in the cumulative total panel of Table 31, about two of five female AIDS cases have been traced to injecting drug use (41 percent). This value is roughly comparable across all of the racial/ethnic minority groups depicted in Table 31; Asian/Pacific Islanders are a noteworthy exception (16 percent). Heterosexual contact also is a prevalent exposure category, representing 40 percent of female AIDS cases overall. As shown in the cumulative total panel of Table 32, injecting drug use generally is less prominent as an exposure category for male AIDS cases (22 percent), where men having sex with men accounts for almost three of five cases overall (56 percent).

Noteworthy racial/ethnic variation appears in the prevalence of these exposure categories. For example, among men with AIDS, only 9 percent of White non-Hispanic cases are traced to injecting drug use and 74 percent are traced to men having sex with men. The corresponding values are 34 percent versus 37 percent for non-Hispanic Black men with AIDS, 35 percent versus 42 percent for Hispanic men with AIDS, 5 percent versus 72 percent for Asian/Pacific Islander men with AIDS, and 16 percent versus 57 percent for American Indian/Alaska Native men with AIDS (Table 32). Summing across the two tables, about one-quarter or roughly 193,000 of the 766,000 adolescent/adult AIDS cases reported through December 2000 might be traced to injecting drug use.

The estimated number of AIDS deaths in 1999 was 8 percent smaller than the value observed in 1998. The number of AIDS deaths declined most among American Indians/Alaska Natives (16 percent), followed next by non-Hispanic Whites (15 percent), Asian/Pacific Islanders (11 percent), and Hispanics (7 percent). Non-Hispanic African Americans showed the smallest decline in death rate due to AIDS (3 percent) across that same time span (Centers for Disease Control and Prevention 2001).

DRUG-RELATED EMERGENCY ROOM EPISODES

Year-to-year variation in drug-related hospital ER statistics serves as one important manifestation of underlying health risks associated with illegal drug use. Data on the occurrence rates for drug overdoses and other ER casualties associated with illegal drug use are important to the Nation's surveillance and monitoring of its drug problems. However, year-to-year variation of these ER statistics can be determined by factors other than variations in the underlying risk of becoming a drug user or of developing drug problems. Over time, this variation also depends on complex conditions and processes, including diverse life circumstances and dynamic social conditions, and the relative street-level availability of toxic drugs and the introduction of new products, such as OxyContin® (sustained-release oxycodone).

The example of heroin overdose serves a useful illustrative purpose. On one hand, a city with a shortfall in funds for emergency medical services may show an increase in heroin overdose deaths, even when no change has occurred in the underlying dynamics of the heroin-using population of the city. On the other hand, active programs to distribute Narcan® (naloxone) or to use other harm-reduction methods may reduce or increase the number of heroin overdose cases seen in the city's ERs, depending on whether the victim survives to be taken to the ER or dies and is taken directly to the morgue. Over time, and from place to place, variation in the number of drug overdose cases also has depended on administrative counting procedures. For example, in many places, a heroin overdose case has been counted as an ER admission even when the victim is dead on arrival (DOA) and cannot be resuscitated by ER staff. In other jurisdictions, this type of DOA heroin overdose victim is recorded as an ER admission only if the resuscitation efforts are successful; in all other cases, the "admission" is to the hospital morgue.

As such, the range of sources of variation in number of DAWN episodes by time and place is crucial. This range encompasses not only changes in prevalence of illegal drug use, but also changes in dosages used, potency, frequency of use, routes of administration, aging of drug users and other vulnerability characteristics of existing users, and the combined use of two or more drugs (e.g., with alcoholic beverages). As noted above, there are "threshold" factors, associated with decisions about whether to bring a DOA victim to the ER for resuscitation attempts and whether the DOA victim will be recorded in the ER statistics before transfer to the morgue. There also are "nosocomial" factors, relating to the quality of care provided in the ER, and other conditions and processes under the control of ER personnel, supervisors, and hospital administrators. Research on these threshold and nosocomial factors has been prominent in the epidemiology generally and in psychiatric epidemiology specifically, but has not been prominent in discussions of statistics from DAWN surveillance activities or research on drug overdoses generally.

DAWN, now operated by the Substance Abuse and Mental Health Services Administration (SAMHSA) Office of Applied Studies, originated as a pilot project of the Bureau of Narcotics and Dangerous Drugs and the Drug Enforcement Administration in the early 1970s. NIDA assumed responsibility for DAWN during the mid-1970s and transferred this responsibility to SAMHSA more than 10 years ago. Over the years, DAWN's profile as an instrument of drug surveillance has changed considerably. Currently, DAWN may be described as a large-scale, ongoing surveillance system that monitors potential adverse consequences of illegal drug use and other drug-related emergencies, as abstracted from records of participating hospital ERs and selected ME offices throughout the country. For the first decade or more of DAWN's existence, the sample of ER and ME offices represented a nonsystematic sampling of these facilities; there also was participation by other facilities, such as youth emergency crisis services and telephone hotlines for callers with concerns about illegal drug use and

drug-related problems. Thereafter, the network was constrained to include only ER and ME facilities, and a more systematic effort was made to derive a nationally representative sample suitable for projections to the entire Nation.

A DAWN report is supposed to be generated at the participating facility each time a patient or deceased individual is found to have a drug-related problem or to have died a drug-related death. By design, a DAWN episode report is submitted for each incident of this type. Data for each episode report, abstracted from medical records, generally include demographic information about the patient (alive or deceased), circumstances about the episode that prompted emergency care or an ME's attention, and information about the drug and judgments about the circumstances of drug use (e.g., whether the drug had been taken as an effort to commit suicide).

DAWN counts events rather than individuals. Individual drug users may contribute multiple ER episodes and generate multiple drug mentions in any given year. Of course, an ME mention is an "absorbing" event—once an individual drug user has appeared in the ME statistics, there is no subsequent reappearance in either ER or ME statistics.

Interpretation of DAWN statistics requires attention to DAWN administrative decisions about drugs used in combination. These administrative decisions can be appreciated best by considering specific cases. Consider a hypothetical overdose victim brought to the ER with signs and symptoms of acute cocaine toxicity. Combining information obtained through interviews with the victim and his friends with results from drug-screening tests, the ER staff may be able to confirm that the victim had smoked a small amount of marijuana in a pipe early in the evening and then had injected cocaine just before losing consciousness. This single ER episode will generate a DAWN overdose report that mentions both cocaine and marijuana. If the victim had consumed a single can of beer, this episode also would generate an "alcohol-in-combination" mention on top of the marijuana and cocaine mentions just described. That is, a DAWN drug mention does not require causal attribution or any sorting of drugs into refined categories of "proximal cause," "precipitating cause," "non-causal concomitant," or other groups that might indicate which drug or drugs actually prompted the ER visit. However, alcohol-related episodes are reported to DAWN only when alcohol is used in combination with another drug. For example, a car crash victim who drank a six-pack of beer and then crashed his car will not appear in the DAWN statistics if alcohol is the only drug involved. A different car crash victim who drank a six-pack of beer and is discovered to have taken one puff on a marijuana cigarette will appear in the DAWN statistics, even if the car crash is judged by the police or ER staff to be due to the alcohol intoxication. Hence, a DAWN "mention" or "drug-related episode" does not imply causal attribution. It simply means that recent use of the drug was identified either through interviews with the victim or acquaintances or through toxicological screening or formal drug testing. This difference between a "DAWN drug-related ER mention" and a "drug-caused ER event" is crucial in the interpretation of DAWN statistics. The relative frequency of individual drugs within the DAWN statistics depends heavily on the prevalence of use of each drug in the population and is not necessarily a reflection of the causal importance of each drug. Frequently used drugs appear often in DAWN statistics, even if they have not caused an overdose and even if they have a noncausal peripheral involvement in the drug-related ER episode (e.g., see Anthony and Trinkoff 1986).

Subject to these issues of interpretation, DAWN projections for the coterminous United States in 2000 indicate almost 250 drug-related ER episodes per 100,000 residents age 6 and older (243.4 cases per 100,000 residents, as shown in the first row of Table 33). Sorted into categories by whether cocaine, marijuana, and either heroin or morphine were mentioned in the DAWN ER report, data reveal 70.7 cocaine-related ER mentions per

100,000 residents, almost 40 heroin/morphine-related ER mentions per 100,000 residents, and almost 40 marijuana-related ER mentions per 100,000 residents. (As described in the prior paragraph, the terms "marijuana-related" or "cocaine-related" do not mean that the marijuana use or the cocaine use caused the ER casualty, but that these drugs were mentioned as concomitant circumstances in relation to the ER visit.)

There is slight male excess in the projected occurrence of the ER episodes. Males accounted for almost 260 ER episodes per 100,000 persons, compared with about 220 ER episodes per 100,000 females (Table 33, first column).

Substantial age-related variation emerges in the occurrence rates for ER episodes, with very low rates for children ages 6–11, and the highest rates observed for young adults ages 18–25 (Table 33, first column). Studied drug-by-drug, somewhat different age-related patterns emerge. For example, the highest rates of cocaine-related and heroin-related mentions are observed for males ages 26–34 years of age, with females of this age having somewhat lower rates. Peak values for marijuana mentions are observed for individuals ages 18–25 (Table 33).

The youngest and oldest age categories merit special mention. Changes in demographic structure and drug experience within the United States soon will necessitate respecification of these age categories. There no longer is homogeneity of drug experience within the 6–11 age group, nor among adults age 35 and older. For example, illegal drug-using behavior in the preadolescent years of childhood formerly was an extremely rare occurrence; it now is more prevalent in the later primary school grades (e.g., see Johnson et al. 2001). Moreover, in comparing individuals ages 26–34 with adults age 35 and older, there is an apparent sharp drop in the occurrence of ER episodes, perhaps leading the reader to believe that those ages 30–34 are at substantially higher risk of being an ER casualty than individuals ages 35–39. However, the apparent drop in occurrence rates in the older age group mainly is a consequence of grouping people ages 35–39 with the increasing numbers of U.S. residents who are age 50 and older and for whom illegal drug use rates are quite low. The single "average" summary statistics for children under age 12 and for adults age 35 and older no longer serve well in this context, given what we now know about age-specific prevalence of illegal drug use and the "aging" of the U.S. population. This attention to more refined age categories will become a topic of greater importance in comparisons across racial/ethnic minority groups because the demographic structure and age composition of these subgroups differ substantially.

Interesting male-female differences and racial/ethnic variations appear in the relative frequency of different drugs mentioned in the DAWN statistics. In general, because alcohol use is a relatively frequent behavior for many Americans and often is concomitant with other drug use in the United States, the most frequently mentioned drug in the DAWN statistics is "alcohol-in-combination" with other drugs. Alcohol-in-combination appears in almost two in five of the DAWN ER episodes involving male patients (39 percent, as shown in Table 34) and in just over one-fourth of DAWN ER episodes involving female patients (28.7 percent, also in Table 34). However, this ranking of alcohol-in-combination is not the case for DAWN ER episodes involving non-Hispanic Black patients and Hispanic patients, for whom cocaine is the most frequently mentioned drug (Table 34). Furthermore, heroin/morphine is the third-ranked drug group in the statistics for non-Hispanic Blacks and Hispanic patients. Heroin/morphine also is prominent for all male patients, but not for all female patients, among whom marijuana/hashish is in the third rank (Table 34).

Table 35 presents trends in the estimated numbers of drug-related ER episodes by race/ethnicity and age from 1994 to 2000. The total number of drug-related episodes was highest in 2000, increasing from almost 900,000 episodes in 1994 to almost 1.1 million episodes in 2000.

By stratifying episodes in relation to race/ethnicity, it is possible to see that the percentage increase in total number of drug-related episodes from 1999 to 2000 was 12 to 13 percent for Whites, more than 20 percent for Hispanics, and almost negligible for Blacks (Table 35). Between 1999 and 2000, all age groups shown in Table 35 exhibit increases in drug-related ER episodes, except for Blacks and the "Other" category, which most likely is a result of a change in administrative coding practices.

In 1994, the total number of cocaine mentions in ER visits was 143,000 (Table 36). Cocaine mentions decreased to 135,700 in 1995, but they have increased to nearly 175,000 mentions in 2000. In the ER cocaine statistics for all race/ethnicity groups combined, there has been a demographic shift since 1998, when there were more ER cocaine mentions for individuals ages 6–34 than for adults age 35 and older. Thereafter, the greater number of ER cocaine mentions involved older adults, mainly as a consequence of greater occurrence of cocaine-related ER visits (Table 36). African Americans are disproportionately represented among the ER victims in these cocaine mentions for every age group except youth ages 12–17. During 2000, non-Hispanic Whites and Blacks in the 26–34 age group had roughly equivalent numbers of ER victims in the cocaine mention category (about 19,000 to 20,000 victims), compared with 7,500 for Hispanics and smaller numbers for other race-ethnicity groups. After yearly increases between 1994 through 1998 in the total number of Black Americans mentioned in the DAWN cocaine statistics, there were declines in subsequent years. In contrast, there were continuing increases for Whites and Hispanics. Among Americans age 35 and older, virtually all race-ethnicity groups represented in the table showed increased numbers for 2000 versus 1999, consistent with the previously described aging of the population in general and of active cocaine users within the U.S. population.

As with cocaine mentions, total mentions for heroin/morphine also increased, from 63,158 mentions in 1994 (Substance Abuse Mental Health Services Administration, 1999a) to 94,804 mentions in 2000 (see Table 37). There were recent increases in the late 1990s for virtually all racial/ethnic groups represented in the table. Scanning across age groups in 2000 (Table 37), the largest number of heroin/morphine ER mentions was observed for adults age 35 and older (over 51,000 mentions). Reflecting the increased survivorship of the U.S. population, and the aging of heroin/morphine users within this population, a substantial number of ER mentions for the heroin/morphine drug group now involve older adults in virtually all racial/ethnicity groups within the population.

Table 38 shows DAWN ER statistics for the methamphetamine/speed drug group, which increased during the 1980s and were at plateau levels during most of the 1990s, with large increases observed between 1993 and 1994. Total methamphetamine/speed mentions increased to 17,557 mentions in 1994 and then ranged between 10,000 and 18,000 mentions from 1994 to 2000.

Among racial/ethnic groups, a large increase between 1994 and 2000 occurred among Hispanics (201 percent), but there were no appreciable increases during the last decades of the 20th century except for American Indians/Alaska Natives and the "Other" subgroup (Table 38). Whereas the absolute number of methamphetamine/speed cases recently has been increasing among Hispanics ages 12–17, this increase generally has paralleled increases in the size of this Hispanic subgroup. Whether there also are increases in the risk of becoming a methamphetamine/speed user or developing associated problems is unknown.

DAWN ER mentions for marijuana/hashish (Table 39) have been increasing since 1994, and this trend sustains increases observed since the late 1980s (National Institute on Drug Abuse 1998). For example, scanning all groups combined, there were slightly over 40,000 mentions of marijuana/hashish in 1994. By 2000, the

number of the DAWN ER mentions had increased steadily to almost 100,000, more than doubling. This dramatic increase between 1994 and 2000 can be seen for each racial/ethnic subgroup represented in Table 39, except for Black Americans. Among Blacks, there were steady increases in the number of DAWN ER mentions for marijuana/hashish, from almost 15,000 in 1994 to more than 26,000 in 2000, but the number did not double over that period.

Table 40 provides information about drugs used in combination, as well as patient dispositions, based on DAWN statistics for 2000, the most recent year for which total statistics are available. Detection of multiple drugs was modestly more likely for men represented in DAWN statistics than for women, but no appreciable variation emerged across racial/ethnic groups represented in the table. Episodes were most likely to be associated with an admission for White females (almost 60 percent) and were least likely to be associated with an admission for Hispanic males (about 40 percent). Other subgroups were intermediate, with females generally somewhat more likely to be admitted than males in each of the three racial/ethnic groups represented in the table. The sources of the observed variation remain open questions and may be due to differential prominence of suicide and suicide-related behavior when women are seen in DAWN facilities for drug-related episodes; or the sources of this variation might be traced back to race-related differentials in hospitalization coverage or third-party payment for health care.

Apportioned into four groups, the U.S. population age 12 and older is roughly 70 to 75 percent White, about 10 to 12 percent Black, approximately 10 percent Hispanic, and about 4 percent for other racial/ethnic subgroups, as depicted in Chapter 1 of this report. According to Table 41, the distribution of racial/ethnic groups in DAWN ER mentions for 2000 does not follow this pattern. In that year, about 57 to 58 percent of the DAWN ER mentions involved White patients, just over 21 percent involved Black patients, and nearly 11 percent involved Hispanic patients. The reasons for overrepresentation of Blacks in these statistics is unknown and do not seem to involve greater prevalence of illegal drug use among Blacks in the United States (see Chapter 3).

Table 41 also compares the racial/ethnic distributions, drug group by drug group, with some interesting patterns. For example, the racial/ethnic distribution of LSD is of note. Here, we see White patients represented among LSD casualties roughly in proportion to their population representation, whereas Blacks appear to be underrepresented among these victims (72.6 percent versus 6.3 percent). At the other extreme, Whites are underrepresented among victims of DAWN cocaine-related and marijuana-related casualties, whereas Blacks are overrepresented (roughly 34 percent versus 43 percent for cocaine, and 51 percent versus 27 percent for marijuana). With mentions for amphetamines and for methamphetamine/speed, Hispanics are overrepresented (15 to 16 percent) whereas Blacks are underrepresented (under 6 percent). These patterns merit more detailed scrutiny in advanced epidemiological analyses that take into account local area variations in drug-taking behaviors, as well as life circumstances, conditions, and process of the type mentioned early in this chapter.

DRUG-RELATED DEATHS AND INTENTIONAL AND UNINTENTIONAL INJURIES

ME data presented in DAWN reports are collected from a nonrandom sample and should not be evaluated as if they were statistically representative of the Nation or of the respective metropolitan areas. As has been discussed in relation to nonfatal DAWN ER mentions and episodes, DAWN defines a drug-related death as any death in which drug use is a contributory factor but not necessarily the sole cause; alcohol-in-combination

is mentioned only when alcohol is mentioned concomitantly with some other controlled substance or related drug of abuse. In consequence, causation of death by the drug is not implied. Some MEs may include cases based on circumstantial evidence; others may report drug-related deaths confirmed only through toxicological analyses. These circumstances necessitate caution before definitive interpretation of the DAWN data on drug-related deaths.

The heroin/morphine drug group, cocaine, and alcohol-in-combination rank at the top of the drugs mentioned in connection with DAWN statistics for drug-related deaths (Table 42). For example, among male decedents, heroin/morphine was mentioned in association with about 45 percent of deaths judged to be drug-related; the corresponding value for female decedents was just over 33 percent. Cocaine was mentioned in association with almost 45 percent of drug-related deaths for males and nearly 31 percent for female decedents. Alcohol-in-combination was implicated in slightly over 37 percent of reports on male decedents, versus nearly 24 percent for female decedents (Table 42).

The prominence of acetaminophen among drug mentions associated with female decedents represents an epidemiological puzzle, partly because it is a widely available and oft-used over-the-counter pharmaceutical product. Acetaminophen may appear on this list of the top-10 ranked drugs or drug groups in the DAWN ME statistics simply because acetaminophen is a commonly used drug in the United States—used often not only by drug-dependent females who die from drug-related causes, but also used frequently by females who do not die from drug-related causes and who do not engage in illegal drug use (e.g., see Anthony and Trinkoff 1986). Acetaminophen can be used in drug overdose attempts. Or, its presence in connection with a drug-related death might be implicated via toxicological analysis or other forensic investigation (e.g., psychological autopsy or post-mortem interview), even when the acetaminophen played no contributing causal role in the occurrence of death.

The prominence of marijuana/hashish among the top-10 ranked drugs also may be explained in this fashion. It certainly is possible for marijuana and hashish to be implicated in drug-related deaths (e.g., driving while intoxicated). However, the potential for a "fatal drug overdose" is substantially more likely for heroin, morphine, and cocaine than for marijuana and hashish. It is possible that the appearance of marijuana/hashish in Table 42 can be traced back to the general prevalence of marijuana/hashish use in U.S. populations, with no implication that this drug has caused the death observed in the DAWN statistics.

For racial/ethnic variations in relation to the DAWN ME mentions, the prominence of cocaine is noteworthy in relation to Black and Hispanic decedents. Whereas cocaine is ranked third and is mentioned in connection with 32 percent of White decedents, it is first-ranked and mentioned in connection with almost two-thirds of Black decedents and second-ranked and mentioned in connection with more than 45 percent of Hispanic decedents. It is possible that the toxicity of cocaine accounts for this prominence, but we cannot rule out the possibility that MEs are more likely to test for cocaine metabolites when the decedent is a minority; we also cannot rule out the "prevalence" circumstances described above. That is, in some populations, recently active cocaine use is more common among African Americans and Hispanic Americans. To the extent that DAWN ME statistics draw more heavily on these populations, the overrepresentation of cocaine mentions in DAWN ME statistics may correspond with this greater prevalence of recently active cocaine use within these minority populations.

The prominence of lidocaine and quinine detected among Black decedents may reflect greater occurrence of narcotics overdose in this subgroup of the population (Table 42). Alternately, this prominence may simply be an artifact of administrative procedures in ME offices, such as greater surveillance for lidocaine and quinine among young adult Black decedents dying from other causes.

Figure 13 is based on DAWN ME statistics for 2000 and examines the manner of drug-related deaths by race/ethnicity. Arranged in sequence, the columns within each racial/ethnicity subgroup pertain to so-called "accidental" deaths, suicides, and deaths due to unknown or other causes. This arrangement yields an ogive (or "backwards J") pattern for all three racial/ethnic subgroups represented in the figure, with the accidental deaths being most common, the suicide deaths being least common, and the other/unknown deaths being intermediate in frequency. Among DAWN ME statistics, Hispanics are overrepresented among accidental deaths, and Whites are overrepresented among suicide deaths. There is a disproportionate representation of Blacks among deaths assigned to the "other/unknown" category, which may be a manifestation of race-related administrative practices within ME offices.

SUMMARY

Data from CDC on HIV/AIDS cases indicate disproportionate representation of African Americans and Hispanics among AIDS cases. Most striking is the finding that although African Americans and Hispanics collectively comprise about no more than 25 percent of the U.S. population, they now account for more than 50 percent of the reported AIDS cases.

Many men and women in the United States with HIV/AIDS have contracted the disease through injecting drug use or via homosexual or heterosexual contact with injecting drug users. Through December 2000, among adolescent and adult women with AIDS, it was possible to trace the HIV infection back to injecting drug use for 40 to 45 percent of the estimated 130,000 AIDS cases—about two in five cases. Women of Asian/Pacific Islander heritage were an exception, with only 16 percent traced back to injecting drug use. The corresponding value for the estimated 635,000 male AIDS cases is 22 percent—about one in five.

DAWN ER and ME statistics prompt new research questions about the overrepresentation of racial/ethnic minority groups in certain categories. For example, with cocaine-related ER and ME mentions, we now cannot say whether the apparent overrepresentation of Blacks is due to an excess risk of drug-related morbidity. It might be due to other conditions or processes such as an excess in frequency or form of recently active illegal drug use or to associated life circumstances. Social conditions and processes are likely to be important, including access and availability to primary care services, nature of health benefits available to drug users, or a variety of other factors. We cannot rule out the possibility that patients of African heritage are more likely to be asked about their use of cocaine or are more likely to be tested for cocaine through toxicological methods.

At present, drug surveillance statistics such as these can help us raise questions about health disparities affecting racial and ethnic minority groups. Nevertheless, by themselves, these surveillance statistics are unsatisfactory. In general, they open new research questions, but they do not settle the questions with definitive or compelling evidence. The CDC Web site (www.cdc.gov) provides useful surveillance data on this topic and related topics.

Table 31. Female Adult/Adolescent AIDS Cases, by Exposure Category and Race/Ethnicity: Cumulative Totals Through December 2000

Exposure Category	White, Non-Hispanic		Black, Non-Hispanic		Hispanic		Asian/Pacific Islander		American Indian/ Alaska Native		Cumulative Total*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Injecting drug use	11,714	42	30,745	41	10,171	40	110	16	190	45	52,991	41
Hemophilia/coagulation disorder	105	0	112	0	55	0	6	1	3	1	283	0
Heterosexual contact	11,280	40	28,608	38	12,085	47	346	49	157	37	52,520	40
Receipt of blood transfusion, blood component, or tissue	1,828	6	1,307	2	554	2	100	14	14	3	3,806	3
Risk not reported or identified	3,226	11	14,225	19	2,778	11	145	21	62	15	20,504	16
Total	28,151	100	74,997	100	25,643	100	707	100	426	100	130,104	100

*Includes 179 women whose race/ethnicity is unknown.

SOURCE: Center for Disease Control and Prevention, HIV/AIDS Surveillance Report (Volume 12, Number 2), 2001.

Table 32. Male Adult/Adolescent AIDS Cases, by Exposure Category and Race/Ethnicity: Cumulative Totals Through December 2000

Exposure Category	White, Non-Hispanic		Black, Non-Hispanic		Hispanic		Asian/Pacific Islander		American Indian/ Alaska Native		Cumulative Total*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Men who have sex with men	223,470	74	78,651	37	48,287	42	3,562	72	1,067	57	355,409	56
Injecting drug use	28,050	9	71,747	34	40,025	35	258	5	296	16	140,536	22
Men who have sex with men and inject drug	24,958	8	15,848	7	7,673	7	184	4	308	16	48,989	8
Hemophilia/coagulation disorder	3,793	1	571	0	437	0	70	1	30	2	4,907	1
Heterosexual contact	5,586	2	16,993	8	6,598	6	198	4	54	3	29,460	5
Receipt of blood transfusion, blood component, or tissue	3,173	1	1,077	1	592	1	112	2	9	0	4,971	1
Risk not reported or identified	12,428	4	27,407	13	10,407	9	586	12	115	6	51,179	8
Total	301,458	100	212,294	100	114,019	100	4,970	100	1,879	100	635,451	100

*Includes 831 men whose race/ethnicity is unknown.

SOURCE: Center for Disease Control and Prevention, HIV/AIDS Surveillance Report (Volume 12, Number 2), 2001.

Table 33. Estimated Rates of Emergency Department Drug Abuse Episodes and Mentions of Selected Drugs per 100,000 Population in the Coterminous United States, by Sex and Age: 2000

Sex and Age		Total Episodes	Cocaine Mentions	Heroin/Morphine Mentions	Marijuana/Hashish Mentions	Total Population[a]
Total[b]	(6 years & up)	243.4	70.7	39.3	39.0	247,279,858
	6–11 years	4.3	0.0	0.0	*	24,062,996
	12–17 years	271.6	18.8	4.6	67.1	23,362,981
	18–25 years	426.0	88.9	63.5	105.0	28,977,842
	26–34 years	410.7	154.6	73.2	66.2	32,997,576
	35 years & up	201.1	67.7	38.7	20.5	137,878,463
Male	(6 years & up)	258.9	94.8	53.5	51.5	119,580,672
	6–11 years	4.4	*	0.0	0.3	12,314,419
	12–17 years	185.3	16.7	4.4	76.1	11,956,318
	18–25 years	454.9	118.5	78.8	47.7	14,245,527
	26–34 years	442.1	193.9	91.2	86.1	16,147,206
	35 years & up	231.5	97.1	57.5	26.9	64,917,202
Female	(6 years & up)	220.8	46.4	24.5	26.1	127,699,187
	6–11 years	4.1	0.1	0.0	*	11,748,577
	12–17 years	350.1	20.9	4.2	55.9	11,406,663
	18–25 years	381.4	58.2	44.5	59.8	14,732,315
	26–34 years	367.7	112.9	52.5	45.3	16,850,371
	35 years & up	168.8	40.1	21.1	14.3	72,961,261

[a]Average 2000 civilian noninstitutional population estimated by the Substance Abuse and Mental Health Services Administration based on a procedure using three Census Bureau data files.
[b]Total includes patients whose gender was unknown or not reported.
*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 34. Drug Mentioned Most Frequently by Hospital Emergency Departments, by Sex and Race/Ethnicity of Patients: 2000

Rank	Drug Name	Percentage of Total Episodes	Rank	Drug Name	Percentage of Total Episodes
Male Patients			**Female Patients**		
1	Alcohol-in-Combination	39.0	1	Alcohol-in-Combination	28.7
2	Cocaine	36.6	2	Cocaine	21.0
3	Heroin/Morphine	20.7	3	Marijuana/Hashish	11.8
4	Marijuana/Hashish	19.9	4	Heroin/Morphine	11.1
5	Unspec. Benzodiazepine	4.2	5	Acetaminophen	8.3
6	Acetaminophen	3.1	6	Unspec. Benzodiazepine	5.3
7	Amphetamine*	2.9	7	Alprazolam	5.1
8	Methamphetamine/Speed	2.7	8	Ibuprofen	4.7
9	Hydrocodone	2.5	9	Aspirin	4.1
10	Alprazolam	2.4	10	Clonazepam	4.1
White Patients			**Black patients**		
1	Alcohol-in-Combination	32.7	1	Cocaine	56.7
2	Cocaine	17.9	2	Alcohol-in-Combination	40.2
3	Marijuana/Hashish	14.6	3	Heroin/Morphine	23.3
4	Heroin/Morphine	12.1	4	Marijuana/Hashish	19.8
5	Acetaminophen	6.4	5	Acetaminophen	2.6
6	Unspec. Benzodiazepine	5.7	6	Unspec. Benzodiazepine	2.3
7	Alprazolam	5.4	7	Ibuprofen	1.9
8	Hydrocodone	4.5	8	PCP/PCP Combinations	1.7
9	Clonazepam	4.4	9	Aspirin	1.0
10	Ibuprofen	3.2	10	Hydrocodone	1.0
Hispanic Patients					
1	Cocaine	34.8	6	Unspec. Benzodiazepine	4.6
2	Alcohol-in-Combination	32.4	7	Amphetamine*	3.7
3	Heroin/Morphine	22.0	8	Methamphetamine/Speed	3.2
4	Marijuana/Hashish	17.2	9	Ibuprofen	3.0
5	Acetaminophen	6.4	10	Aspirin	2.5

*Does not include methamphetamine or other unspecified amphetamine.

NOTES: These estimates are based on a representative sample of non-Federal hospitals with 24-hour emergency departments in the coterminous United States.

Percentages are based on weighted emergency room episode estimates of 309,619 for male patients; 281,994 for female patients; 334,985 white patients; 133,776 black patients; and 68,282 Hispanic patients.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 35. Estimated Number of DAWN Hospital Emergency Department Visits, by Race/Ethnicity and Age: 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
Total	899,601	900,287	906,367	942,382	981,764	1,014,243	1,099,306
6–34	554,587	532,307	524,444	538,831	535,728	530,376	577,750
12–17	93,039	92,847	96,544	98,442	95,193	82,976	102,874
18–25	191,104	178,480	170,983	185,402	184,230	198,285	221,228
26–34	269,252	259,152	255,373	252,629	255,226	247,566	252,389
35+	340,555	365,720	380,313	400,671	443,449	482,463	519,890
Unknown	4,458	2,261	1,609	2,879	2,587	1,404	1,666
White	499,194	503,778	496,036	524,359	555,379	589,670	632,313
6–34	310,786	300,488	293,298	309,107	313,082	318,011	342,196
12–17	62,292	62,374	65,770	68,424	65,526	55,116	67,789
18–25	108,303	101,319	96,364	106,847	112,381	124,954	136,423
26–34	139,432	135,590	130,183	132,701	134,353	136,981	137,292
35+	187,143	201,983	202,407	214,004	240,792	270,895	289,347
Unknown	1,265	1,307	332	1,248	1,505	765	770
Black	240,582	240,266	233,643	236,437	238,955	234,742	235,083
6–34	139,445	132,698	117,298	116,157	108,120	101,488	97,012
2–17	11,936	12,015	8,909	8,629	6,462	7,322	7,991
18–25	43,635	40,070	31,101	33,449	29,526	30,890	30,755
26–34	83,733	80,337	77,009	73,676	72,034	62,948	57,921
35+	100,691	107,272	115,510	119,613	130,501	132,985	137,728
Unknown	445	296	836	667	334	268	343
Hispanic	80,359	74,942	93,221	91,315	98,715	97,518	120,126
6–34	53,679	48,866	63,448	60,812	63,317	60,453	75,046
12–17	9,990	8,546	13,371	12,107	13,805	11,454	14,997
18–25	19,823	18,917	23,768	25,342	24,127	23,456	30,565
26–34	23,778	21,271	26,210	23,125	25,336	25,498	29,388
35+	26,576	26,005	29,693	30,418	35,228	36,927	44,851
Unknown	104	71	80	85	170	138	229

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Table 35 (continued). Estimated Number of DAWN Hospital Emergency Department Visits, by Race/Ethnicity and Age: 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
American Indian/ Alaska Natives	2,427	1,619	3,047	1,685	1,669	1,280	1,980
6–34	1,438	756	2,276	935	1,397	810	910
12–17	217	102	690	146	208	110	58
18–25	577	189	832	362	313	268	419
26–34	643	466	750	423	875	433	434
35+	989	861	771	750	272	469	1,063
Unknown	*	2	*	1	*	*	8
Asian/Pacific Islanders	5,774	5,637	5,527	5,823	4,922	5,391	6,227
6–34	4,131	4,208	4,097	4,503	3,258	3,714	4,345
12–17	658	1,026	787	847	697	934	670
18–25	1,873	2,042	2,038	2,079	1,377	1,287	2,209
26–34	1,449	1,130	1,269	1,573	1,184	1,492	1,463
35+	1,633	1,425	1,416	1,320	1,656	1,675	1,875
Unknown	9	5	14	*	7	2	7
Unknown	69,682	72,344	72,491	80,429	79,331	83,054	103,496
6–34	44,048	43,968	42,488	45,949	44,553	44,371	58,197
12–17	7,759	8,664	6,878	7,898	8,286	7,850	11,352
18–25	16,475	15,226	16,061	16,692	15,576	16,552	20,843
26–34	19,765	19,873	19,370	20,784	20,582	19,814	25,878
35+	23,012	27,801	29,655	33,605	34,213	38,453	44,990
Unknown	2,622	575	348	875	565	230	310
Other	1,583	1,701	2,402	2,334	2,793	2,588	81
6–34	1,059	1,323	1,540	1,370	2,002	1,529	45
12–17	186	121	139	391	209	191	17
18–25	419	717	819	632	929	877	15
26–34	454	484	582	347	863	400	13
35+	511	372	862	960	786	1,058	36
Unknown	12	5	*	4	6	1	*

*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 36. Estimated Number of DAWN Emergency Department Visits With Mention of Cocaine, by Race/Ethnicity and Age: 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
Total	143,336	135,712	152,420	161,082	172,011	168,752	174,882
6–34	88,194	78,042	83,383	86,003	87,877	82,621	81,162
12–17	2,064	2,044	2,581	3,630	4,308	3,214	4,394
18–25	25,430	21,110	22,060	25,218	24,507	25,264	25,753
26–34	60,686	54,881	58,729	57,143	59,008	54,058	51,007
35+	54,463	57,341	68,717	74,600	83,730	85,869	93,357
Unknown	680	328	319	480	403	261	362
White	40,813	39,950	44,715	50,867	52,954	56,724	59,820
6–34	28,038	26,278	27,715	31,016	31,121	33,045	32,795
12–17	771	990	1,158	1,925	2,380	1,465	2,114
18–25	9,309	8,544	8,413	10,490	10,477	11,930	11,655
26–34	17,959	16,744	18,145	18,598	18,212	19,607	19,025
35+	12,732	13,636	16,960	19,756	21,738	23,637	26,856
Unknown	43	36	41	96	95	42	169
Black	77,106	73,414	77,984	82,260	84,556	78,017	75,889
6–34	43,756	38,298	37,097	37,996	35,767	30,144	26,027
12–17	378	456	433	489	315	489	407
18–25	10,625	8,090	6,778	8,203	6,425	6,099	5,865
26–34	32,751	29,745	29,880	29,300	29,023	23,515	19,752
35+	33,178	35,017	40,699	43,980	48,660	47,782	49,729
Unknown	173	99	189	285	129	91	134
Hispanic	13,355	11,495	17,737	16,760	21,209	20,456	23,728
6–34	9,097	7,343	12,231	11,130	13,737	12,964	15,114
12–17	667	318	680	1,076	1,354	1,049	1,514
18–25	3,134	2,820	5,038	4,762	5,390	5,220	6,063
26–34	5,290	4,205	6,508	5,290	6,994	6,695	7,534
35+	4,238	4,135	5,481	5,609	7,394	7,418	8,594
Unknown	19	17	26	21	78	74	20

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Table 36 (continued). Estimated Number of DAWN Emergency Department Visits With Mention of Cocaine, by Race/Ethnicity and Age: 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
American Indian/ Alaska Natives	273	139	159	93	103	72	140
6–34	60	73	104	59	52	44	67
12–17	7	3	2	6	1	3	3
18–25	14	28	16	21	16	14	23
26–34	38	41	86	32	35	26	41
35+	213	66	55	34	51	28	69
Unknown	*	*	*	*	*	*	3
Asian/Pacific Island	483	296	339	494	476	503	699
6–34	385	189	226	309	374	327	466
12–17	16	10	9	1	4	3	12
18–25	88	73	79	98	125	62	127
26–34	281	106	138	210	245	262	327
35+	98	106	111	186	102	175	228
Unknown	*	1	1	*	*	*	5
Unknown	11,163	10,311	11,183	10,371	12,472	12,846	14,594
6–34	6,780	5,796	5,821	5,345	6,666	6,027	6,686
12–17	219	264	299	131	249	204	342
18–25	2,234	1,524	1,645	1,564	2,037	1,914	2,016
26–34	4,321	4,009	3,872	3,648	4,380	3,909	4,326
35+	3,942	4,341	5,299	4,948	5,705	6,764	7,878
Unknown	441	173	63	77	101	55	30
Other	143	107	303	237	241	134	12
6–34	77	66	189	150	161	70	7
12–17	5	3	*	3	4	1	2
18–25	26	31	91	81	37	24	4
26–34	47	31	99	66	120	44	1
35+	62	40	114	86	79	65	4
Unknown	4	1	*	1	*	*	*

*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 37. Estimated Number of DAWN Emergency Department Visits With Mention of Heroin/Morphine, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
Total	63,159	69,557	72,981	70,712	75,689	82,193	94,805
6–34	30,115	31,318	31,544	31,357	33,224	35,730	42,859
12–17	365	396	492	1,365	896	675	1,052
18–25	8,336	8,376	9,166	9,703	11,251	14,901	18,065
26–34	21,413	22,544	21,886	20,289	21,075	20,153	23,742
35+	32,887	38,145	41,328	39,259	42,351	46,356	51,698
Unknown	157	93	108	96	113	106	247
White	22,516	26,113	24,696	25,895	28,041	31,827	38,426
6–34	12,216	13,249	12,729	14,018	15,089	17,441	22,235
12–17	250	225	247	1,090	489	398	701
18–25	3,570	3,680	4,532	5,062	6,705	9,461	11,606
26–34	8,395	9,344	7,950	7,865	7,895	7,582	9,929
35+	10,285	12,849	11,947	11,859	12,919	14,355	16,075
Unknown	15	14	21	19	33	31	115
Black	25,996	27,047	28,295	26,490	27,616	28,646	30,934
6–34	10,566	10,733	9,941	9,393	9,070	9,343	8,986
12–17	29	97	41	46	42	148	50
18–25	2,989	2,904	1,969	2,172	1,696	1,901	1,716
26–34	7,547	7,730	7,932	7,176	7,330	7,293	7,219
35+	15,381	16,274	18,295	17,053	18,503	19,266	21,913
Unknown	49	40	59	44	42	38	36
Hispanic	9,423	9,814	11,739	9,145	11,448	11,779	14,944
6–34	5,012	4,518	5,036	4,023	4,957	4,726	7,251
12–17	43	35	49	120	168	87	106
18–25	1,146	1,040	1,486	1,211	1,514	1,834	3,200
26–34	3,823	3,443	3,501	2,691	3,274	2,806	3,946
35+	4,404	5,287	6,693	5,120	6,481	7,046	7,672
Unknown	6	8	9	2	11	7	20

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Table 37 (continued). Estimated Number of DAWN Emergency Department Visits With Mention of Heroin/Morphine, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
American Indian/ Alaska Natives	83	87	78	128	58	40	76
6–34	35	32	30	22	22	16	36
12–17	*	*	1	*	*	1	1
18–25	9	12	15	4	6	10	12
26–34	25	20	15	18	16	5	23
35+	48	55	47	106	36	23	39
Unknown	*	*	*	*	*	*	1
Asian/Pacific Island	127	223	178	248	358	175	290
6–34	66	94	99	104	220	106	202
12–17	1	2	8	9	*	1	60
18–25	20	34	34	47	110	61	86
26–34	44	58	57	47	111	43	56
35+	61	129	78	144	137	69	88
Unknown	*	*	*	*	*	*	*
Unknown	4,938	6,217	7,781	8,522	7,946	9,501	10,125
6–34	2,183	2,670	3,687	3,732	3,764	4,059	4,147
12–17	41	36	146	97	197	40	134
18–25	589	699	1,120	1,183	1,199	1,616	1,444
26–34	1,553	1,935	2,420	2,452	2,368	2,403	2,569
35+	2,669	3,517	4,075	4,759	4,158	5,412	5,903
Unknown	86	30	20	31	24	30	75
Other	76	56	214	284	222	225	10
6–34	37	22	22	65	102	40	1
12–17	*	*	*	3	*	*	*
18–25	12	7	10	22	21	17	*
26–34	26	16	12	40	81	22	1
35+	38	33	192	219	117	185	9
Unknown	*	*	*	*	2	*	*

*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 38. Estimated Number of DAWN Emergency Department Visits With Mention of Methamphetamine/Speed, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
Total	17,537	15,934	11,002	17,155	11,485	10,448	13,506
6–34	13,199	11,706	7,828	12,451	8,250	7,121	9,044
12–17	1,960	1,438	1,028	1,810	1,081	808	1,120
18–25	5,432	4,787	3,728	4,718	3,482	3,289	3,711
26–34	5,804	5,481	3,004	5,924	3,686	2,988	4,211
35+	4,327	4,221	3,165	4,696	3,230	3,316	4,456
Unknown	11	7	9	7	6	10	4
White	12,223	10,259	6,779	11,802	8,449	7,180	8,600
6–34	9,294	7,383	4,907	8,199	6,051	4,865	5,548
12–17	1,609	758	752	1,371	974	529	754
18–25	3,730	2,858	2,407	2,655	2,558	2,202	2,333
26–34	3,952	3,767	1,679	4,172	2,520	2,134	2,462
35+	2,924	2,871	1,870	3,596	2,398	2,308	3,050
Unknown	6	4	2	7	*	6	2
Black	983	927	800	866	490	637	837
6–34	444	675	339	555	266	327	606
12–17	15	17	15	7	8	14	8
18–25	80	176	90	218	71	110	201
26–34	350	483	235	330	187	166	397
35+	539	251	461	311	223	309	229
Unknown	*	1	*	*	1	1	3
Hispanic	2,607	2,865	1,674	2,553	1,479	1,489	2,177
6–34	2,122	2,230	1,382	2,245	1,161	1,117	1,731
12–17	279	428	203	287	58	175	237
18–25	1,018	1,156	670	1,237	565	578	688
26–34	825	646	509	721	537	364	804
35+	483	635	292	309	318	370	446
Unknown	2	*	*	*	*	1	*

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Table 38 (continued). Estimated Number of DAWN Emergency Department Visits With Mention of Methamphetamine/Speed, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
American Indian/ Alaska Natives	22	157	86	14	9	9	136
6–34	21	23	9	14	3	6	5
12–17	2	2	1	1	*	1	*
18–25	10	15	4	8	*	4	3
26–34	8	6	3	5	3	1	1
35+	1	133	77	*	7	3	131
Unknown	*	*	*	*	*	*	*
Asian/Pacific Island	79	243	68	105	65	104	183
6–34	65	222	59	86	49	86	155
12–17	16	116	6	10	9	3	41
18–25	32	84	29	36	23	67	77
26–34	17	22	24	40	17	16	38
35+	14	21	9	19	16	18	27
Unknown	*	*	*	*	*		*
Unknown	1,612	1,473	1,428	1,680	985	982	1,573
6–34	1,248	1,164	1,042	1,223	716	711	1,000
12–17	37	117	49	67	32	85	81
18–25	560	489	520	503	264	320	409
26–34	651	557	472	653	420	306	509
35+	360	308	379	457	265	270	573
Unknown	4	1	7	*	5	1	*
Other	11	10	167	135	8	47	*
6–34	5	9	90	130	4	9	*
12–17	2	*	2	67	*	*	*
18–25	1	9	7	61	2	8	*
26–34	1	*	82	2	3	1	*
35+	6	1	76	4	4	38	*
Unknown	*	*	*	*	*	*	*

*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 39. Estimated Number of DAWN Emergency Department Visits With Mention of Marijuana/Hashish, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
Total	40,035	45,259	53,770	64,721	76,841	87,067	96,426
6–34	31,681	35,269	41,308	47,485	55,815	61,605	68,047
12–17	6,513	7,972	9,980	11,057	13,137	12,730	15,678
18–25	13,671	14,798	15,722	19,385	22,895	27,266	30,413
26–34	11,489	12,473	15,433	16,912	19,760	21,410	21,841
35+	8,308	9,877	12,387	17,039	20,789	25,387	28,271
Unknown	46	113	75	196	237	75	108
White	18,810	20,883	24,503	31,892	38,432	45,395	49,015
6–34	15,330	16,863	19,582	24,141	29,656	33,665	34,604
12–17	3,955	4,579	5,537	6,988	8,400	7,505	8,909
18–25	6,421	7,211	7,398	9,276	11,588	14,840	15,441
26–34	4,953	5,061	6,496	7,874	9,658	11,156	10,174
35+	3,465	3,944	4,906	7,669	8,709	11,707	14,374
Unknown	15	76	16	82	67	23	36
Black	14,896	16,895	18,936	21,056	24,430	25,607	26,446
6–34	11,113	12,297	13,068	14,296	15,396	15,889	16,903
12–17	1,148	1,753	1,962	1,536	1,553	1,749	2,167
18–25	4,913	4,780	4,899	5,986	6,444	7,239	7,895
26–34	5,045	5,752	6,196	6,763	7,391	6,875	6,817
35+	3,770	4,575	5,837	6,668	9,005	9,697	9,508
Unknown	13	22	32	92	29	21	35
Hispanic	3,100	3,743	6,301	6,735	7,666	9,064	11,739
6–34	2,607	3,046	5,439	5,252	6,063	6,886	9,544
12–17	850	701	1,551	1,722	2,020	2,135	2,801
18–25	1,051	1,540	1,981	2,260	2,525	3,038	4,193
26–34	706	804	1,899	1,155	1,514	1,709	2,539
35+	491	691	855	1,470	1,548	2,169	2,177
Unknown	3	7	7	13	55	9	17

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Table 39 (continued). Estimated Number of DAWN Emergency Department Visits With Mention of Marijuana/Hashish, by Race/Ethnicity and Age, 1994–2000

Race/Ethnicity and Age	1994	1995	1996	1997	1998	1999	2000
American Indian/ Alaska Natives	55	136	63	58	112	66	123
6–34	42	57	36	47	95	52	37
12–17	9	13	8	16	54	13	15
18–25	9	26	16	10	21	21	8
26–34	24	18	11	21	20	18	13
35+	13	77	27	11	17	13	86
Unknown	*	1	*	*	*	*	*
Asian/Pacific Island	206	196	267	297	280	461	468
6–34	190	177	234	277	171	421	391
12–17	27	53	59	50	37	125	79
18–25	140	79	139	163	82	154	235
26–34	23	45	36	62	51	142	78
35+	16	19	28	20	109	40	76
Unknown	*	*	4	*	*	*	1
Unknown	2,924	3,337	3,647	4,514	5,817	6,285	8,624
6–34	2,371	2,773	2,910	3,323	4,352	4,559	6,558
12–17	512	859	858	720	1,061	1,189	1,703
18–25	1,121	1,137	1,265	1,591	2,196	1,880	2,636
26–34	736	775	787	1,013	1,093	1,489	2,218
35+	542	558	720	1,182	1,378	1,704	2,049
Unknown	11	6	17	9	86	22	18
Other	44	69	53	169	104	189	11
6–34	29	57	38	149	81	132	10
12–17	12	14	6	24	11	15	4
18–25	16	25	23	100	38	94	4
26–34	1	18	9	25	33	22	2
35+	11	13	15	19	23	57	1
Unknown	4	*	*	*	*	*	*

*Low precision, no estimate reported.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 40. Percentage of DAWN Hospital Emergency Department Drug Abuse Episodes, by Selected Episode Characteristics, Sex, and Race/Ethnicity: 2000

Episode Characteristics[1]	Males			Females		
	White	Black	Hispanic	White	Black	Hispanic
Drug concomitance						
Single-drug episodes	40.1	40.3	42.9	45.0	46.4	48.3
Multi-drug episodes	59.9	59.7	57.1	55.0	53.6	51.7
Patient disposition						
Treated and released	44.9	54.1	55.9	37.6	52.0	48.3
Admitted to hospital	50.9	42.9	39.8	59.5	45.0	49.2
Other	4.2	3.0	4.3	2.9	3.0	2.5

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 41. Comparison of Race/Ethnicity Distribution for Total DAWN Hospital Emergency Episodes With Race/Ethnicity Distribution for Selected Drug Mentions: 2000

Selected Drug Mention	Race/Ethnicity		
	White	Black	Hispanic
Percentage of Total DAWN ER episodes	57.5	21.4	10.9
Percentage of ER drug mention			
Heroin/morphine	40.5	32.6	15.8
Methadone	67.9	10.4	8.6
LSD	72.6	6.3	9.7
PCP/PCP combinations	42.1	35.1	12.5
Cocaine	34.2	43.4	13.6
Marijuana/hashish	50.8	27.4	12.2
Amphetamine	63.9	5.6	15.4
Methamphetamine/speed	63.7	6.2	16.1

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Drug Abuse Warning Network, 2001a.

Table 42. Drugs Mentioned Most Frequently by Medical Examiners, by Sex and Race/Ethnicity of Decedents: 1999

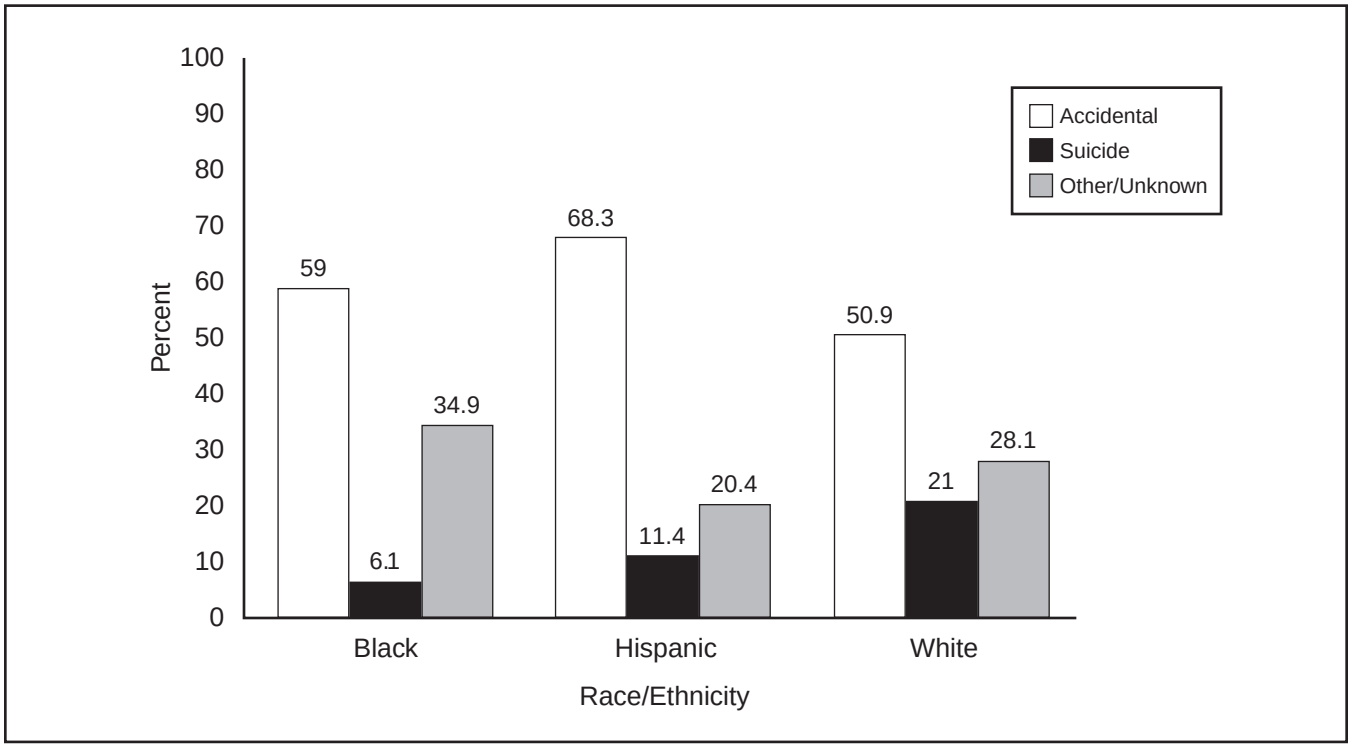
Rank	Drug Name	Percentage of Total Episodes[a]	Rank	Drug Name	Percentage of Total Episodes[a]
Male Patients			**Female Patients**		
1	Heroin/Morphine[b]	45.3	1	Cocaine	33.3
2	Cocaine	44.8	2	Heroin/Morphine[b]	30.6
3	Alcohol-in-Combination	37.2	3	Alcohol-in-Combination	23.6
4	Codeine	12.4	4	Codeine	10.7
5	Diazepam	6.7	5	Diphenhydramine	8.6
6	Marijuana/Hashish	6.5	6	Diazepam	7.6
7	Methamphetamine/Speed	6.3	7	Amitriptyline	7.3
8	Methadone	5.1	8	d-Propoxyphene	6.8
9	Diphenhydramine	4.4	9	Methadone	6.7
10	Amphetamine[c]	4.1	10	Acetaminophen	6.5
White Patients			**Black patients**		
1	Heroin/Morphine[b]	41.4	1	Cocaine	64.1
2	Alcohol-in-Combination	33.0	2	Heroin/Morphine[b]	39.5
3	Cocaine	32.1	3	Alcohol-in-Combination	31.2
4	Codeine	12.4	4	Codeine	11.4
5	Diazepam	9.3	5	Marijuana/Hashish	4.7
6	Methamphetamine/Speed	7.9	6	Diphenhydramine	4.6
7	Marijuana/Hashish	6.6	7	Lidocaine	4.5
8	Methadone	6.4	8	Quinine	4.1
9	Diphenhydramine	6.3	9	Methadone	3.9
10	d-Propoxyphene	5.6	10	Diazepam	2.9
Hispanic Patients					
1	Heroin/Morphine[b]	46.7	6	Methadone	4.9
2	Cocaine	45.2	7	Lidocaine	4.7
3	Alcohol-in-Combination	42.9	8	Marijuana/Hashish	4.0
4	Codeine	11.8	9	Diazepam	3.6
5	Methamphetamine/Speed	5.4	10	Amphetamine[c]	3.3

[a]Excludes data on homicides, deaths in which AIDS was reported, and deaths in which "drug unknown" was the only substance mentioned.
[b]Includes opiates not specified as to type.
[c]Does not include methamphetamine or other unspecified amphetamines.

NOTES: Percentages are based on raw medical examiner drug abuse cases counts of 8,516 male decedents and 3,083 female decedents. Percentages are based on total raw medical examiner drug abuse case counts of 7,042 white decedents, 3,023 black decedents, and 1,286 Hispanic decedents.

SOURCE: Substance Abuse and Mental Health Service Administration, Drug Abuse Warning Network, 1999 Annual Report.

Figure 13. Manner of Drug-Related Death, by Race/Ethnicity, DAWN Medical Examiner Data: 1999



SOURCE: Drug Abuse Warning Network, Substance Abuse and Mental Health Services Administration, 1999 (July 2000 update).

Chapter 7. DRUGS AND CRIME

Drug-related crime is considered one of the major problems facing the United States today. This problem encompasses concern about public safety and crime-related injuries suffered by our citizens, as well as the high cost of law enforcement to control drug-related crime (Miller 1992, Harrison and Backenheimer 1998). Much has been learned from recent efforts to evaluate different approaches to reduce drug-related crime. Nonetheless, as reported recently by a committee of the National Research Council, much remains to be learned before we can be certain about the policy instruments chosen to control drug-related crime (Manski et al. 2001).

A casual visit to local drug courts provides convincing evidence that drug use is linked to criminal offending such as theft and assault. Perpetrators testify that the use of methamphetamine, cocaine, heroin, and alcohol is at the root of their crimes and caused them to violate the law. Victims often explain that they were intoxicated and made vulnerable to attack by virtue of their own drug use. However, this abundance of testimonial evidence must be counterbalanced by an appreciation that many of the perpetrators were prone to criminal offending and might have committed the crime even if drugs never had been used. Many perpetrators have a history of aggressive misbehavior, social maladaptation, and delinquency that stretches back well before their drug use ever started.

Several lines of research are shedding new light on the link between drugs and crime. Goldstein and Brownstein proposed and refined a tripartite descriptive framework that has inspired one of these lines of research within criminology (Goldstein 1985; Brownstein and Goldstein 1990). Although their conceptualization drew primarily from experience during the late 1970s and early 1980s cocaine epidemic, the tripartite framework also has been applied to other drugs. In brief, they sorted drug-related crimes into offenses that may be understood as a consequence of acute drug intoxication per se, those of a more economic-compulsive nature arising from longer term neuroadaptation that follows repeated drug use, and those that are more systemic and interlinked with social context and individual propensities that promote criminal activity, even when the perpetrators are not drug users (e.g., with respect to high-level drug trafficking). Crimes of the first "pharmacological" type include assaults that might be precipitated by paranoia or delusions caused by the use of phencyclidine (PCP), sustained methamphetamine use (e.g., "ice smoking"), or cocaine self-administration. Examples of crimes of the second "economic-compulsive" type include shoplifting, theft, and robbery with a goal of securing enough money to buy enough heroin to stave off withdrawal symptoms. Crimes of the "systemic" type include intergang violence such as drive-by shootings intended to intimidate or kill street-level drug dealers who have crossed boundaries of local market control. This type of crime also includes the criminal activity of drug users who would have been committing crimes even if they never had used drugs (e.g., due to predisposing liabilities and susceptibilities of complex origin—history of child abuse, incomplete socialization, difficult temperament, and antisocial personality disorder).

Evidence from highly controlled laboratory studies and epidemiological field research has clarified the importance of acute pharmacological effects with respect to aggression. Nonetheless, it is important to note that drug self-administration does not always produce aggression or aggressive behavior. The link between drug use and aggression, if any, is heavily dependent on factors such as the specific drug being studied, the setting and conditions of drug use, and other explanatory conditions and processes.

In many respects, the evidence to date is most compelling with alcoholic beverages; it is less compelling with drugs like marijuana, LSD, and ecstasy (methylenedioxymethamphetamine). With cocaine and other psychostimulant drugs, there is mixed evidence: Under some circumstances and with some species of laboratory animals, there appears to be a release of aggression or aggressive behavior after drug exposure, but not under all circumstances and not with all species. The category of pharmacologically induced crimes encompasses the role of intoxication as a predisposing vulnerability for victims of crime (e.g., see Coker et al. 2000).

Evidence from ethnographic, criminal justice, clinical, and social survey research has clarified the importance of the economic-compulsive type of drug crimes described by Goldstein and Brownstein. In this respect, fine-grained investigations of day-to-day behavior of street-level drug users have been important and have disclosed cycles of drug-taking behavior followed by drug withdrawal states and drug-seeking behavior, followed by more drug use (e.g., Grapendaal 1992; Nurco et al. 1991; Nurco 1998; Lipton et al. 1998; Britton 1998; Conroy 1999). As observed, this cycle sometimes includes gainful employment to secure income for drug purchases and sometimes involves shoplifting, petty theft, robbery and assault, procurement, or prostitution.

Observational studies of the criminal behavior of drug users before, during, and after treatment and incarceration also have helped illuminate possible links between drug withdrawal symptoms and criminal activity. At least during the initial periods of treatment and unless there is relapse to drug use, there are reductions in criminal offending. There is some evidence that individuals using drugs several times a day are more likely to be involved in criminal activity than are those who are less regular in their drug use. In one study, heavily dependent drug users were found to commit four to six times more crime during periods of heavy drug use than during periods when they were relatively drug free. These links between drug use and crime seem to have been exacerbated during the late 20th-century epidemic of crack-cocaine smoking. Whereas most of the evidence on these relationships has been derived from nonexperimental observational studies, a few randomized clinical trials have tended to confirm these findings from observational research, with reductions in criminal activity being observed even within the more highly standardized and controlled confines of experimental research, especially when social and psychological services have been provided in addition to pharmacological treatments (Hunt et al. 1984; Nurco et al. 1989; Brecht et al. 1990-91; Miller 1992; Bureau of Justice Statistics 1996; Bell et al 1997; Lipton et al. 1998; Nurco 1998; Wexler et al. 1998; McClellan et al. 1998; MacDonald et al. 1999; Harwood et al. 2001).

There is a small but growing base of evidence on the more systemic form of drug-related crime. Recent studies on the neighborhood and gang contexts of drug use and drug trafficking are informative, and some studies provide suggestions for community action to reduce drug and crime problems (e.g., Fagan and Chin 1990; Hillenbrand and Davis 1993; Waldorf 1993; Clapp 1995; Popkin et al. 1995; Surratt 1995; Curtis 1998; Fleisher 1998; Van Nostrand and Tewksbury 1999; Barton 1999). Several pioneering investigators have probed the generally neglected world of high-level drug traffickers (Natarajan and Belanger 1998).

During the late 20th century, it became virtually impossible to study interrelationships between drugs and crime in the United States without paying attention to the life circumstances of U.S. citizens who are members of racial/ethnic minority groups. The recent surge in arrests, convictions, and incarcerations across the United States has been fueled mainly by increases in drug-related law enforcement, prosecution, and judicial activity. For example, Federal prison drug-related sentences increased by 290 percent between 1980 and 1995; more than one-half of all Federal offenders sentenced to prison in 1996 were convicted of drug offences (Bureau of

Justice Statistics 1996). In general, members of racial/ethnic minorities are more likely to be arrested, more likely to be convicted once arrested, and more likely to be incarcerated once convicted; the disproportionate representation of minority group members is especially true for drug-related offenses of virtually all types (e.g., Blumstein and Beck 1999; A. Blumstein, personal communication). Processes of selection that yield disproportionate representation of minority group members, including police practices such as racial profiling, must be taken into account when examining and drawing interpretations from administrative and social statistics on drugs and drug-related crimes (e.g., see Bush-Baskette 1998; Leiber and Stairs 1994; Kalunta-Crumpton 1999).

The manifestations of links between drugs and crime also appear in medical statistics from hospital emergency rooms (ERs) and medical examiners. For example, in a 1991 review of hospital ER records for individuals treated for violence-related injuries, about 14 percent of the records indicated the victim or someone else involved in the incident had been drinking alcohol or using drugs (Bureau of Justice Statistics 1996).

Research on causes of homicide in three metropolitan areas indicates that about 25 percent to 50 percent of all homicides are drug related (Bureau of Justice Statistics 1996). Homicide in general and drug-related homicides disproportionately affect African Americans. For example, the National Center for Health Statistics has reported a range of age-adjusted homicide death rates that indicates 20 to 30 homicide deaths per 100,000 non-Hispanic Blacks for each year between 1995 and 1999 (National Center for Health Statistics 2000). During that same period, the corresponding values were much lower for American Indian/Alaska Natives (9–11 homicide deaths per 100,000), Hispanics (8 to 13 homicide deaths per 100,000), non-Hispanic Whites (3–5 homicide deaths per 100,000), and Asian/Pacific Islanders (3 to 5 homicide deaths per 100,000).

The other administrative statistics on drugs and crime reported in this chapter come from two sources: the Arrestee Drug Abuse Monitoring (ADAM) Program of the National Institute of Justice (NIJ) and Bureau of Justice Assistance (BJA), which represents a refinement and more rigorous form of the former NIJ/BJA Drug Use Forecasting (DUF) system, and the National Household Survey on Drug Abuse (NHSDA). Co-funded by NIJ and BJA, the ADAM Program measures recently active drug use among booked arrestees at multiple selected sites in major metropolitan areas across the United States. The primary purpose of ADAM is to monitor illegal drug use among booked arrestees in major U.S. cities. It provides information about the effectiveness of local drug policies and practices and provides a solid basis for resource allocation decisions. By collecting urine samples and periodically interviewing arrestees, ADAM has become a consistent tool for tracking drug use trends among this difficult-to-study population of users. In reports on these statistics, ADAM administrators urge cautious interpretation because ADAM sites do not constitute a nationally representative sample and because of other methodological reasons. Nonetheless, the ADAM statistics now provide our most complete view of drug experiences among booked arrestees in the United States. Methodological limitations of the NHSDA data (e.g., reliance on self-report) have been described in Chapter 1 of this report and elsewhere (e.g., see Anthony et al. 2000; Manski et al. 2001).

DRUG USE AMONG BOOKED ARRESTEES

The following information is from a standardized data set and reports based upon all DUF and ADAM urinalysis tests from 1987 to 1999 (see Table 43). The data show interesting trends in marijuana use across races and through time, as indicated by tests to screen for recently active marijuana use (i.e., use within the 2 to 4 weeks before testing).

In the table's first column, rows 1–13 show time trends for Whites. This range of values is relatively stable, with positive marijuana test values between 23 and 40 percent. The lowest values (25 percent and 23 percent) occurred in 1990 and 1991. By 1998–1999, the percentage was 36 percent, almost as large as the largest values in the series, 39 to 40 percent, which were observed in 1987 and 1988. Similar trends and values were observed for Blacks and Hispanics, also with relatively low values in 1990–1991, and with values of 33 to 42 percent observed in 1998–1999.

Due to sample size limitations, DUF and ADAM provide much less information about American Indian/Alaska Native and Asian/Pacific Islander groups; the precision of these estimates is constrained, as is their capacity for national projections. Nonetheless, the observed values for the final years of the 20th century indicate values for American Indian/Alaska Native arrestees that are not too distant from values observed for the above-listed groups; that is, the recent drug-taking experience of American Indian/Alaska Native arrestees seems not to differ substantially from the recent drug-taking experience of nonminority arrestees. Values for Asian/Pacific Islanders are generally lower than values observed for the other groups (Table 43). Whether this difference is an artifact of sampling or methodology is unknown. There is a firmly established site-to-site variation in the prevalence of positive marijuana urinalysis test results and in the trends over time (Golub and Johnson 2001), and there is no ADAM site in Hawaii, where marijuana experience may be substantially different from what is observed on the U.S. mainland (National Institute on Drug Abuse 2001a). Whether the observed trends are artifacts of changes in the DUF/ADAM methodologies is an item on the agenda for future research; some investigators believe that the methodologies of recent years are stable enough to warrant discussion of an emerging marijuana use epidemic among arrestees in many (but not all) of the areas with ADAM coverage (Golub and Johnson 2001).

The DUF/ADAM values for cocaine urinalysis results reflect the experience of booked arrestees not only for cocaine hydrochloride powder (whether insufflated, injected, or taken by mouth), but also for other forms of cocaine, such as crack, freebase, and coca paste; this bioassay cannot discriminate one route of administration or dosage form from another. It also is noteworthy that the sensitivity of the test for cocaine metabolites in urine is high for the first 24 hours after cocaine use, but then declines. Whereas the urinalysis test for marijuana might detect marijuana used up to 1 month or so before arrest, the corresponding urine test for cocaine will have a detection window of less than 1 week, and often has sensitivity for no more than 1 to 3 days, depending on individual circumstances and conditions of use, metabolism, biotransformation, and excretion.

With respect to cocaine of all forms, the African-American arrestees were more likely to test positive in every year under study, with higher values in the first DUF years (e.g., 56 to 63 percent) and with tangibly lower values in the most recent years (e.g., 41 to 45 percent). In these recent years, corresponding values for Whites and Hispanics have been somewhat lower (25 to 26 percent and 31 to 32 percent, respectively), but the lowest values have been observed for Asian/Pacific Islander and American Indian/Alaska Native arrestees (18 to 19 percent and 12 to 15 percent, respectively). Whether these differences reflect true between-group variations in the prevalence of actual cocaine use in the U.S. population is unknown. For example, the White-Black difference is not observed in self-report data on cocaine use from the NHSDA and the Monitoring the Future (MTF) surveys, and the magnitude of the observed differences might well be due to race-biased selection processes that lead an individual to be identified, apprehended, booked, and sent to an arrest facility with ADAM coverage. That is, cocaine-using African Americans may be more likely to be apprehended and booked for arrest than are cocaine-using individuals of other racial/ethnic subgroups (e.g., see pertinent discussion by Manski et al. 2001).

The third column of values in Table 43 shows DUF/ADAM evidence on the arrestees' experience with heroin, methadone, morphine, oxycodone, codeine, and other opiate or opioid drugs, whether administered for legitimate medical reasons (e.g., methadone maintenance, pain relief, and cough suppression) or for extramedical reasons (e.g., to get high). Note that in recent years White, Black, and Hispanic arrestees all are equally likely to test positive for the opiate/opioid drugs. Values for the other two racial/ethnic minority groups are somewhat smaller.

NIJ began testing arrestees for methamphetamine use in 1991. The two racial/ethnic arrestee groups with the highest values are Whites and Asian/Pacific Islanders. By comparison, African-American arrestees are extremely unlikely to test positive for methamphetamines (e.g., 0.8 percent in 1999); Hispanics are intermediate (6 percent).

DRIVING UNDER THE INFLUENCE OF ALCOHOL OR ILLEGAL DRUGS

NIDA has made a concerted effort to support research projects on links between drug use, delinquency, and crime, including highly controlled experimental research in laboratory settings, clinical studies, epidemiological studies, ethnographies, and anthropological investigations. In the 1970s, NIDA initiated a line of NHSDA research on drugs and criminal activities, which has been sustained and elaborated by the Substance Abuse and Mental Health Services Administration.

In recent years, NHSDA assessments have included questions on various illegal activities. One question asked of respondents is whether, during the 12 months before being interviewed they had driven any kind of vehicle while they were under the influence (DUI) of alcohol or illegal drugs. Table 44 presents data on driving under the influence by age, sex, and two broad race/ethnicity groups (White/Black), based on estimates from NHSDA 1998. Within the noninstitutionalized population surveyed for NHSDA (age 12 and older), an estimated 10.3 percent reported DUI behavior, but this estimate is heavily influenced by a large number of youth ages 12–15 who do not drive. A more informative value is presented for people ages 18–25, among whom about one-fifth reported DUI episodes (21.7 percent), with males ages 18–25 almost twice as likely to be DUI drivers than females in the same age group. Estimates for adults age 26–34 and for those age 35 and older are somewhat lower than the observed values for those ages 18–25, but the male-female differences are maintained even in the older age groups.

DUI driving is substantially more likely among Whites, both male and female, than among African Americans. For example, about one in three White males ages 18–25 were DUI drivers (31.1 percent); the corresponding value is 13.3 percent for African-American males ages 18–25. Whereas the occurrence of DUI driving generally shows a marked decline across the three older age groups depicted in Table 44, this is not the case for African-American males and females younger than age 35. Among African Americans ages 18–25 and 25–34, the estimated prevalence values for DUI driving are 9.3 percent and 8.9 percent, respectively (Table 44).

Males are more likely to drive under the influence of alcohol or illegal drugs across all age and racial groupings, with the exception of the 12–17 age group. In this youngest age group, adolescent girls are just as likely as adolescent boys to have been DUI drivers. Given the level of precision of these DUI estimates, the male-female differences for youth ages 12–17 are so small as to be negligible.

SUMMARY

Links between drugs, delinquency, and crime continue to inspire investigators from a broad range of disciplines—from the bench and laboratory sciences such as pharmacology to the clinical and field research sciences such as epidemiology, criminology, and ethnography (e.g., see Anthony and Forman 2002). Studies on these links have special policy implications and warrant continuing public scrutiny (e.g., see Manski et al. 2001).

Criminal justice and medical statistics are sufficient to draw our attention to disparities in how drugs and crimes affect U.S. racial/ethnic minority groups. African Americans, especially, exhibit excess rates of arrest, conviction, and incarceration for drug-related crimes and of homicide in general and drug-related homicide in particular. These observed excess rates of criminal justice incidents and medical casualties are not consistent with other evidence on the drug experiences of African Americans in the United States (e.g., from NHSDA and MTF). As such, this is a topic that deserves special focus in research on the social and health disparities affecting our African-American citizens.

Subject to the methodological constraints already discussed, data from the DUF/ADAM Program are used to examine the drug experiences of booked arrestees in selected sites across the United States. In recent years, the percentage of White arrestees testing positive for marijuana (34 to 36 percent) has been approaching the percentage of African-American arrestees testing positive (39 to 42 percent), and the percentage of African-American arrestees testing positive for opiate/opioid drugs (6 to 8 percent) has been approaching the percentage of White arrestees testing positive for these drugs (9 percent). Corresponding values for other racial/ethnic minority groups are generally not too distant from the values observed for Whites; or are lower (e.g. for the Asian/Pacific Islander arrestees.)

Data for cocaine and for methamphetamine present the most noteworthy variation across booked arrestee subgroups. African-American arrestees are most likely to test positive for cocaine after booking, whereas they are extremely unlikely to test positive for methamphetamine. In recent years, Asian/Pacific Islander arrestees are observed to have the lowest test-positive values for cocaine, among all subgroups studied, but 11–14 percent are testing positive for methamphetamine, which is close to the observed value for Whites (13–15 percent). The ADAM data on methamphetamine experiences of Asian/Pacific Islander Americans is convergent with other data sources, especially where these other data sources represent the experience of Hawaiians and other Pacific Islanders specifically (e.g., see Furr et al. 2000; Substance Abuse Mental Health Services Administration 1997, 1998, 1999b, 2000a, 2000b, 2001a).

Data from NHSDA illuminate the experience of Americans driving under the influence of alcohol or illegal drugs. Overall, in 1998, nearly twice as many Whites had driven under the influence as had African Americans. This disparity is even more pronounced among White youth, who are two to three times more likely to have driven under the influence during that 12-month interval. A general male excess in the occurrence of DUI driving appears for both White and African-American subgroups of the population, but it is not present for adolescents (ages 12–17). This is a pattern of DUI findings that merits future research, especially if the absence of a male-female difference among adolescents is a signal of a future increasing trend for DUI driving in birth cohorts born within the past two decades.

The DUF/ADAM data provide a reminder of the heterogeneity within the broad "minority" category that often is used to designate members of African-American, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native groups. Without attention to this heterogeneity, we would not be able to discover the disparate experience of African-American arrestees with cocaine, nor the excess burden of Asian/Pacific Islanders with methamphetamine.

This chapter does not speak to the heterogeneity within the major racial/ethnic minority categories, due to sample size constraints. In future revisions of this report, it should be possible to take advantage of the continued growth in ADAM and NHSDA samples to shed new light on variations within minority groups, such as we have illustrated in Chapter 3. In addition, new data from the Centers from Disease Control and Prevention, the National Longitudinal Study of Youth, and other sources can be tapped to provide a more complete picture of the relationships between drugs and crime, within and between the important racial/ethnic minority groups of the U.S. population.

Table 43. Estimated Prevalence of Positive Urinalysis Tests from the Arrestee Drug Abuse Monitoring Program: 1987–1999

Race/Ethnicity and Year	Marijuana	Cocaine	Opiates	Methamphetamine*
White				
1987	39	26	13	N/A
1988	40	31	13	N/A
1989	30	32	11	N/A
1990	25	26	10	N/A
1991	23	29	9	7
1992	27	32	9	7
1993	29	31	10	14
1994	27	30	9	17
1995	28	29	10	14
1996	35	28	9	10
1997	34	26	9	13
1998	36	25	9	14
1999	36	26	9	15
Black				
1987	36	56	10	N/A
1988	35	63	10	N/A
1989	21	61	8	N/A
1990	16	53	8	N/A
1991	15	56	6	0.3
1992	22	55	6	0.3
1993	26	54	7	0.6
1994	28	53	7	0.8
1995	30	50	7	0.8
1996	40	43	6	0.3
1997	39	41	6	0.7
1998	40	42	7	0.7
1999	42	45	8	0.8

(continued on next page)

Table 43 (continued). Estimated Prevalence of Positive Urinalysis Tests from the Arrestee Drug Abuse Monitoring Program: 1987–1999

Race/Ethnicity and Year	Marijuana	Cocaine	Opiates	Methamphetamine*
Hispanic				
1987	34	43	22	N/A
1988	34	51	21	N/A
1989	25	43	18	N/A
1990	21	36	15	N/A
1991	20	38	13	2
1992	23	39	12	3
1993	25	37	13	5
1994	25	36	12	6
1995	25	33	11	7
1996	34	29	9	5
1997	33	26	8	8
1998	34	32	8	5
1999	33	31	9	6
American Indian/ Alaska Native				
1995	37	19	7	4
1996	29	23	9	6
1997	36	14	5	6
1998	37	19	5	4
1999	34	18	4	3
Asian/Pacific Islander				
1995	9	20	5	7
1996	14	11	2	9
1997	17	9	3	14
1998	17	12	2	13
1999	22	15	1	11

*The denominator of prevalence includes all the arrestees.

N/A: Not applicable.

SOURCE: National Institute of Justice, Arrestee Drug Abuse Monitoring Program, 2001a-c.

Table 44. Estimated Percentage of People Having Driven a Vehicle Under the Influence of Alcohol or Illegal Drugs in the Past 12 Months, by Race, Sex, and Age: 1998

Race and Sex	Age Group				
	12 and Older	12–17	18–25	26–34	35+
All races					
Both sexes	10.3	3.5	21.71	4.3	8.0
Male	14.6	3.7	27.9	19.4	12.3
Female	6.3	3.2	15.4	9.4	4.3
White					
Both sexes	11.2	3.9	24.6	15.7	8.7
Male	15.7	4.1	31.1	20.8	13.1
Female	7.0	3.7	17.7	10.5	4.8
Black					
Both sexes	5.4	1.7	9.3	8.9	3.9
Male	8.3	1.8	13.3	14.1	6.4
Female	3.0	1.6	5.5	4.6	2.1

SOURCE: National Household Survey on Drug Abuse, Substance Abuse and Mental Health Services Administration. Office of Applied Studies, 2000a.

Chapter 8. SUMMARY AND FUTURE DRUG ABUSE PROGRAM NEEDS AND RESEARCH NEEDS

This report examines issues linked to health disparities now experienced by members of racial and ethnic minority groups within the United States, with specific attention to the drugs of primary focus in the mission statement of the National Institute on Drug Abuse (NIDA). Available information indicates that use of these drugs may be harming the health and social well-being of these population groups disproportionately, based on their reported use of these drugs. Adverse consequences suffered by some of our racial/ethnic minority populations include excess risks of arrest, conviction, and incarceration for drug-related crimes, against a background of statistics that suggest no excess involvement in illegal drug use. These adverse consequences extend to overrepresentation in statistics of drug-related morbidity and mortality, disruption of educational achievement (e.g., greater failure to earn the regular high-school diploma), and social disadvantage.

The report draws attention to some of the open research questions that must be pursued as elements in a future agenda of research on drug use and health disparities. For example, it has been suggested, without strong evidence, that African Americans may be at greater risk than Whites to fatal and nonfatal health consequences of drug taking due to a greater preference for injecting drug use, more frequent choice of drugs such as crack-cocaine, or to differences in access to health care opportunities. At present, there is no good evidence to settle these questions. For example, we can state that African Americans are overrepresented among decedents found to have used cocaine, but we do not know whether this overrepresentation is artifactual and due to a greater likelihood of testing for cocaine when the decedent is African in heritage. Furthermore, we can note that White women seen in hospital emergency rooms for drug-related reasons are more likely to be admitted to the hospital than all other subgroups examined, but we do not know whether this difference is attributable to better hospitalization coverage by third-party payers—or whether it is explained by other reasons.

Currently available epidemiological data on drug use of racial/ethnic minorities disclose several important signs of differences in reported use. Among youth, Asian and Pacific Islanders often have been found to be less likely to report illegal drug use than other groups. This difference is pronounced for alcohol, possibly due to racial/ethnic variations in genetic susceptibility to toxic ethanol responses (e.g., the flushing syndrome) and does not appear to be present for methamphetamine, at least among Pacific Islanders. It also is of interest that African-American youth consistently report less involvement in drug use than do White youth, whereas Hispanic youth often have been found to have greater prevalence of drug use than African-American youth and only slightly less use than White youth. Patterns of illegal drug use among American Indian/Alaska Native youth have generally been neglected and merit greater scrutiny, both on and off reservations, with close attention to possible methodological explanations for observed excess drug involvement of this minority subgroup.

The just-described variation may have causal importance and may reflect true differences in the drug involvement of minority and nonminority populations in the United States. If so, this variation has important implications for public health interventions, with targeting to the individual needs of specific minority populations. On the other hand, it is possible that the observed variation is no more than methodological artifact, due to the incomplete resolving power of our available evidence on drug involvement across and within these populations. If the variation can be traced back to methodological artifacts, then there are different implications for public health action.

This report presents interesting findings for patterns of association linking illegal drug use to other risk-related behaviors among racial/ethnic groups. Data from the Youth Risk Behavior Survey indicate risky sexual practices were reported in connection with reports on illegal drug use. For example, youths who reported cocaine use were more likely to report multiple sex partners and failure to use condoms; this pattern was observed for each of the racial/ethnic minority groups under study, including White students. Data on AIDS cases, minority and nonminority alike, indicate that HIV infection often can be traced back to injecting drug use of the victim or to heterosexual or homosexual activities with an injecting drug user. Each of these findings may have useful implications for conceptualizing prevention, referral, and treatment programs that can effectively address drug use among racial/ethnic groups, even if the findings do not inform delivery of services directly.

The issues represented by AIDS, infectious diseases, drug use, and race/ethnicity are particularly important. The preponderance of African Americans and Hispanics among injecting drug users with AIDS is at least in part due to a failure of prevention programs at the local, State, and national levels, perhaps connected with insufficient funding for targeted prevention programs oriented toward the needs of minority populations. Other life circumstances, conditions, and processes merit attention, such as differences in drug use practices and general health status of minority groups, but at the end of the day, the observed excess in AIDS-related morbidity and mortality is a failure of our past and current public health and prevention programs.

Higher HIV seroprevalence and other infectious disease rates among African Americans and Hispanics support an argument for improving our current profile of interventions intended to reduce these infections and their consequences. More research is needed to identify the best intervention choices from among those presently available and to design new choices that represent real improvements over existing programs and techniques, with selections most appropriate to the minority group of interest. To be sure, the burdens of HIV and AIDS-related diseases, disabilities, and family suffering will continue to mount over the coming decades as we deal with the failure of our prevention and intervention programs to date.

Of course, there are limitations to our understanding of health disparities connected with alcohol and other drug use of American minority populations, just as there are limitations to our understanding of that for White and non-Hispanic Americans. Changing social and demographic characteristics of illegal drug users merit close scrutiny in future research, as more illegal drug users move into middle age and beyond. It is possible that there are developmental and social status delays in so-called "maturing out" of illegal drug use. Some of these delays may occur more frequently in association with minority group membership and they require greater attention among developmental scientists. At the same time, legitimate concern exists about the inadequacy of our current epidemiological statistics on these topics, giving good reason to improve our data. For example, known distortions will occur when there is a reliance on drug arrest and treatment data, due to race-related differentials in arrest rates and facility admission rates. To the extent that the U.S. Census and our social surveys fail to enumerate young minority group members, there are additional methodological sources of bias in our epidemiological estimates on the illegal drug-taking behavior of these subgroups, even if self-reports and other measurements had 100-percent validity.

An improved conceptual framework and better theoretical models for conditions and processes affecting risk and protection against illegal drug use also are needed. The most recent empirical research by Wallace and Muroff (2002) suggests that associations that link illegal drug use to suspected risk and protective factors are not necessarily the same for African-American children and teenagers as for nonminority youth.

Research on drug use among racial/ethnic minorities has not advanced to a stage that allows policymakers and program managers to make the intervention choices required to reduce drug-related health and social problems. To some degree, this inadequacy of past and current research may be understood as a consequence of the illegality and sensitivity of the behaviors and problems under study. It is not altogether clear that definitive evidence is possible when potential participants can decline to participate and often choose not to provide information that is essential for valid measurement of behavior or diagnosis of health-related and social disturbances. Nonetheless, improvements can be made and must be made if there are to be effective reductions in drug-related health disparities.

To date, we have an accumulation of data that might help a clinician choose between alternative interventions for drug-dependent individuals within different race-ethnic groups within the U.S. population. However, definitive evidence is lacking for these issues, such as knowing the extent to which special alternatives are essential to achieve mutually valued results with members of these groups when they are in target populations for prevention, early intervention, treatment, or long-term rehabilitation. Consensus exists that program efficacy and effectiveness might be increased with greater attention and sensitivity to race, culture, and ethnicity. Ignorance of or inattention to these issues may result in evidence that is misleading or wrong. At least as a working hypothesis, investigators must entertain the possibility that racial, ethnic, and cultural conditions and processes will influence virtually every arena of the NIDA research mission, ranging from the initial stages of drug involvement to serious drug dependence and fatal complications of drug use.

It is important to note that some progress has been made in research. For example, an increasing number of studies of illegal drug use among minorities have been completed over the past two decades. These studies have comprised general population studies and special investigations of presumed high-risk groups, such as school dropouts, runaways, or arrestees. Even so, for reasons discussed in this report, the current estimates of illegal drug use in minority populations may misrepresent the extent of the problem, and the magnitude of the misrepresentation is unknown or understudied. Available data suggest that research can both effectively assess and meet the needs of racial and ethnic minority groups and strengthen school-based drug prevention and intervention programs and those in the community at large. However, research on selection processes is needed in these contexts, including studies of (1) processes that influence who remains in school and can be influenced through school-based programs, (2) processes that help protect or increase the resilience of minority and nonminority students even when they drop out of school, and (3) the role that educational systems might play with public health systems to reduce, delay, or eliminate illegal drug use in the population at large.

Race and ethnicity are difficult concepts and much controversy remains about how best to sort individual members of a population into racial/ethnic minority groups. Current definitions of race/ethnicity tend to oversimplify a complex set of personal, social, and biological attributes or tend to neglect social context (e.g., marginality). Increasing immigration creates a dynamically changing set of circumstances. In consequence of immigration and different rates of acculturation or assimilation, tremendous diversity is found among individuals of the same racial or ethnic group.

Although considerable interest exists in having data on race and ethnicity, the breakdowns are often restricted to "White" "Black" and "Other." As introduced in Chapter 1 of this report, when information is collected on minority groups, the information rarely takes into account the heterogeneity of the population. We have data, for example, on drug abuse among American Indians in general, but there are more than 200 American Indian tribes for which we have almost no specific data. In addition, although some national-level data on drug use by

race and ethnicity are stratified by age and male-female differences, rarely are factors such as education or income status entered into the analysis. Data on Hispanic and Asian/Pacific Islander subgroups, illustrated in this report, indicate there are important distinctions in reported drug use within these populations. More research is needed to create a stronger base of evidence on these differences.

Limitations of the available data have been described throughout this report. To some extent, these limitations can be addressed as national statistics and surveillance systems implement the most recent recommendations and standards for classification of racial and ethnic groups. Nonetheless, challenges with reliability and validity of evidence will remain, even when improved classifications are in place. For example, concern continues about underenumeration of young minority group members in survey research and the possibility of underreporting of illegal drug involvement due to English language difficulties. These limitations merit attention in methodologically oriented research designed to yield lasting improvements in our national statistics and surveillance efforts, as well as more refined research in other domains of inquiry supported by NIDA and other Federal agencies.

Some additional improvements may result if there are deliberate efforts to:

- Include more minority researchers in leadership roles within the scientific community;
- Increase collaboration with people of color when plans are being laid for each new research agenda, with identification of funding priorities that are culturally appropriate and sensitive;
- Encourage meaningful analyses of existing databases on various stages of drug involvement across a range of racial/ethnic minority groups;
- Identify conceptually motivated constructs and theories in new research on health disparities as they are manifest across the various stages of drug involvement and in response to prevention and treatment interventions; and
- Develop and implement new lines of research on race- and ethnicity-related discrimination, quality of life, self-sufficiency, and other factors important to an understanding of the processes through which health disparities emerge.

In closing, NIDA is reconceptualizing its mission in addressing health disparities affecting racial and ethnic minority groups in the U.S. population, with an appreciation that the definition of "minority" will change during the 21st century. This reconceptualization process cuts across all NIDA divisions and branches, including basic laboratory science research in neuroscience and pharmacology, but may be most visible in epidemiological and clinical studies of racial, ethnic, and cultural factors associated with the causes and consequences of illegal drug use for all racial/ethnic groups. These studies include case-control as well as longitudinal studies and experiments that attend to the various characteristics of the populations under study. More research is needed to examine the natural history and clinical course of drug problems as experienced by the array of racial and ethnic populations of the country and the differential influences on and consequences of illegal drug use over time. These studies will help target the factors most important in the initiation and continuation of drug use among racial/ethnic populations and identify the culturally relevant factors associated with drug use. Further examination of cultural factors also may help shed light on the protective mechanisms among subpopulations, resiliency processes that help sustain susceptible populations, and contextual influences on risks associated with drug use.

To the extent that NIDA-supported investigators are successful in this research arena, our Nation's policymakers and program managers will be better able to respond to observed health disparities and to reduce these disparities through health-promoting intervention choices.

NIDA asks readers of this report to make suggestions that can be used to improve future revisions of the report. These comments and suggestions may be sent to Dr. Leslie Cooper at:

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Thank you!

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Appendix 1. NIDA POSITION STATEMENT HEALTH DISPARITIES: DEFINITIONS

Health disparities research within the context of programs conducted or supported by the National Institute on Drug Abuse (NIDA) refers to studies involving human subjects that focus on one or more minority population groups (e.g., African Americans, Asian/Pacific Islanders, Hispanics, and Native Americans). Racial/ethnic minority populations are adversely affected by the stigma of drug abuse and its effects leading to misperceptions about drug abuse and addiction in minority communities and the way in which prevention and treatment are delivered to them. The common perception is that minority groups, particularly Blacks and Hispanics, use drugs more than Whites—even though epidemiologic data show little difference in overall use by race/ethnicity. In fact, in some instances minority groups are less likely to use licit or illicit drugs.

While the prevalence of drug abuse is similar for minorities and Whites ages 12–17 with the progression of drug use into early adulthood, the adverse consequences tend to be greater for minorities than for Whites. This is evident in arrest, sentencing, and incarceration rates; school dropout rates, and the rates of drug-related hospital emergency room visits. Because of the extreme differences in the consequences of drug use for racial/ethnic minorities, there is an urgent need to better understand factors such as socioeconomic status, discrimination, culture, neighborhood/environmental conditions, access to health care, and employment status, which place minorities at risk for drug use and its adverse consequences. Disparities are readily apparent in the reported rates of HIV/AIDS infection, violence and victimization, incarceration, school dropout, and morbidity in ethnic minority communities. Science-based information is needed to inform prevention, treatment, and health services targeted at minorities and to reverse the effects of the stigma attached to drug addiction.

Health disparities and minority-related research have been defined as follows:

- Health Disparities Research—Basic, clinical, and behavioral research that addresses the magnitude and impact of drug use within racial/ethnic minority populations, where the goal of the study is to determine the differential **use and/or** effects of drugs **on the racial/ethnic minority groups included in the study**. Health disparities research addresses issues related to epidemiology, prevention, services, and treatment outcomes within and across racial and ethnic populations.
- Minority-Related Research—Research that includes racial/ethnic minorities as participants but where the **goals, aims, and hypotheses of the study do not specifically address drug use and/or its effects as they are experienced by racial/ethnic minority populations**.
- Coding—For coding purposes, 100 percent of the funded amount for projects that meet the definition for health disparities research should be included in NIDA's Health Disparities Research budget reporting.

Appendix 2. NIDA STRATEGIC PLAN ON REDUCING HEALTH DISPARITIES

Mission and Introduction

The mission of the National Institute on Drug Abuse (NIDA) is to lead the Nation in bringing the power of science to bear on drug abuse and addiction by (1) providing strategic support and conduct of research across a broad range of disciplines and (2) ensuring the rapid and effective dissemination and use of the results of that research to significantly improve drug abuse and addiction prevention, treatment, and policy.

Unlike other diseases, drug addiction poses many peculiar challenges to health researchers, providers, and public health officials in the search for effective prevention and treatment strategies and policies. These challenges emanate primarily from the fact that drug abuse and addiction are usually the result of illegal activity and drug abusers are often viewed as morally corrupt or weak-willed individuals who engage in not only voluntary self- and socially destructive behavior but also criminal activity. In short, despite the fact that we know unequivocally that addiction is a disease like any other medical disease, it remains a stigmatized disease. And this stigma spills over to all aspects of drug abuse research, prevention, and treatment (e.g., obtaining measures of use, addressing safety and legal concerns, and providing early intervention are compromised by efforts to hide the disease and denial of dependency).

Racial/ethnic minority populations are perhaps most adversely affected by this stigma and its effects, leading to misperceptions about drug abuse and addiction in minority communities and the way in which prevention and treatment is delivered to them. For example, the common perception is that minority groups, particularly Blacks and Hispanics, use drugs more than Whites even though epidemiologic data show little difference in overall use by race/ethnicity. In fact, in some instances minority groups are less likely to use licit or illicit drugs. There are, however, great differences in the consequences of drug use for racial/ethnic minorities, creating a great need to better understand the unique prevention, treatment, and health services needs of these communities.

NIDA has made a concerted effort, particularly over the last 6 years, to better understand and address the drug abuse and addiction research needs of racial/ethnic populations, focusing on research areas where there are significant gaps in knowledge and/or clear disparities in prevention and treatment. In 1993, NIDA established a Special Populations Office, which has two overall goals: (1) to encourage increased research on drug abuse in minority populations in NIDA divisions and (2) to encourage and enable increased minority participation in drug abuse research. Moreover, NIDA formed an institute-wide work group, the Consortium on Minority Concerns, which meets monthly to address research and research development issues of concern to minority populations. Each program division and office is represented on the Consortium.

Several institute-wide initiatives and policies were implemented, which has led to progress in research that addresses health disparities and the underrepresentation of minority scholars in drug abuse research. Some of these initiatives include:

- Historically Black Colleges and Universities (HBCU) Initiative. This was designed to encourage HBCUs to become involved in drug abuse research and to assist them in developing the capacity to conduct drug abuse research. Some selected outcomes of this initiative include increased support of HBCUs through the NIH competitive process (which has led to research on underresearched areas such as developing prevention

programs for rural African-American youth, understanding risk for drug abuse in African-American youth at developmental transition points), establishment of a center on drug abuse research at Howard University (which has since received a substance abuse grant from the Robert Wood Johnson Foundation), support of an established research scientist cooperative agreement program at four HBCUs in collaboration with the Office of Research on Minority Health (ORMH) (North Carolina Central has recruited a distinguished NIDA scientist with three independent awards—this has already led to collaborations for student and faculty research and training opportunities with Wake Forest University and the University of North Carolina, and increased activity on the campuses around substance abuse awareness and prevention.

- Enhancement of the Underrepresented Minority Supplement Program. NIDA instituted a new policy for the funding and receipt and review of minority supplement applications. In the last 5 years, NIDA has more than doubled its support of Minority Supplements in amount of funds allocated yearly to the program and nearly doubled the number of new awards made (from FY 1994 to FY 1999). NIDA also established a policy to include Asians and Pacific Islanders in behavioral and clinical work because they are underrepresented in these areas of drug abuse research. Former recipients are applying for and receiving independent research awards, and often these recipients focus on disparities research issues and/or intend to mentor other underrepresented students and scholars.

- Summer Research with NIDA. To address concerns about the insufficient pipeline of minority researchers, NIDA established a summer program to place minority high-school and undergraduate students with extramural scientists. Response has been very positive from students and investigators. This summer marks the fourth year of the program. Initially started with ORMH funds, NIDA completely supports the program now. Thirty-nine students were placed in 1999, some of them returning to the same investigators.

- Minority Recruitment and Training Program. This is an intramural summer research program for students and faculty. It accepts minority high-school, college, graduate and medical students, and faculty members. About 25 students are placed each summer. One of NIDA's HBCU principal investigators is a former participant in this program. A successful minority student development program at Temple University requested that some of their students be placed with NIDA's intramural program based on the reputation of this program and its director.

- Minority Work Groups. Work groups comprised of experts in substance abuse and addiction or health concerns of minority populations have been created. These Work Groups advise the NIDA Director on research and research development needs of the particular minority communities that will lead to effective prevention and treatment approaches for each group. Work groups exist for African-American, Hispanic, and Asian/Pacific Islander communities. A Native American work group meeting will be held in May 2000. Some outcomes of the work of these groups include new principle investigators, identification of candidates for the supplement program, new opportunities for NIDA to interact with professional and community groups, new ideas for research, new study section members, and increased mentoring and collaboration among group members.

- Development of public announcements (PAs) and requests for applications (RFAs). NIDA released a new program announcement, Minority Institution's Drug Abuse Research Program, to support minority institutions wishing to develop their capacity to conduct drug abuse research. Two new programs were funded under this PA last year. One will focus on Hispanic issues in drug abuse prevention. Another, in Puerto Rico, was recently approved for funding and it will focus on Hispanic populations. An RFA, the HBCU

Cooperative Agreement, was released in collaboration with ORMH. Four projects were funded under this RFA: One will focus on prevention interventions with urban African-American youth and one will focus on prevention issues and perinatal care in minority populations. All include research training opportunities for minority faculty and students.

- Research Development Technical Assistance Workshops. NIDA offers technical assistance to minority and women scholars in developing research studies on drug abuse and addiction. Participants are provided information on conceptual and methodological concerns in drug abuse and addiction research in addition to information on the NIH grants application and review processes. Many of the participants in this program have become NIDA/NIH grantees, NIH peer reviewers, and grantees of other agencies and foundations.

As a result of these activities and individual division activities, NIDA has experienced approximately a 97-percent growth in minority researchers since FY 1993. With this growth in minority researchers (although all are not involved in minority-focused research) and an intense focus on drug use and addiction in minority communities, we have observed an increase in applications and awards that focus on drug abuse disparities and needs in minority communities.

This proposed strategic plan reflects NIDA's insights and knowledge gained from our efforts to address health disparities among racial/ethnic groups over the last few years. In addition, the plan incorporates the recommendations made by the expert work groups described above and an extensive review of NIDA's research programs and activities conducted by staff.

Over the next 5 years, NIDA will strive to (1) improve our understanding of the incidence and causes of drug abuse and addiction in all racial/ethnic groups recognizing the diversity by gender, socioeconomic status, and other factors within racial/ethnic populations, (2) strengthen and expand the community and research infrastructure for conducting research within racial/ethnic populations, (3) improve prevention and treatment for racial/ethnic groups at highest risk for addiction and medical consequences of drug use and addiction, and (4) widely disseminate information on drug use and the disease of addiction in racial/ethnic communities identifying best approaches to prevention and treatment.

Area of Focus #1: Epidemiology of Drug Abuse, Health Consequences and Infectious Diseases among Minority Populations

Introduction/Background. Having a good knowledge base on the incidence and patterns of drug use, abuse, and addiction is critical to assessing the need for and shaping the content of prevention and treatment programs. Current surveys such as the NIDA-supported Monitoring the Future study (a national survey of 8th-, 10th-, and 12th-graders) and the Substance Abuse and Mental Health Services Administration (SAMHSA)-supported National Household Survey on Drug Abuse (NHSDA—a national survey of persons 12 and older residing in households) provide important information on drug use patterns and trends. However, they are limited in the extent to which they reveal indepth information about racial/ethnic groups. For example, neither survey has adequate representation of Native Americans, Alaska Natives, Asians, or Pacific Islanders. Although this may change beginning with the increased sample size in the 1999 NHSDA survey, there is still concern about obtaining adequate adolescent samples for these subgroups. African Americans and Hispanics are included, but their numbers are not sufficient to form reliable subgroups to investigate within group profiles (e.g., develop

separate profiles for Mexicans and Puerto Ricans). Moreover, there are selection biases that disproportionately affect minorities that may suppress their numbers in these general surveys. For example, Hispanics have a higher school dropout rate than other groups and therefore may be more likely to be excluded from the school surveys and may be difficult to reach in household surveys. Since dropout rates correlate with higher risk for deviant behavior, we may be missing information on a group with a high risk for drug abuse and addiction.

More work is needed to better understand the causes of drug use in minority communities. Promising studies are underway on risk and protective factors especially on the role of culture, religiosity, ethnic identity, family, peer, and environmental/community level factors in drug initiation. For example, minority youth tend to initiate drug use later than White youth. Yet, when African Americans start using, they seem to progress to addiction faster. Among Hispanic youth, drug use seems to increase with increased acculturation to U.S. norms and with years and generations in the United States. We know little about predictors of use in Pacific Islander and Asian subpopulations.

Better measures and designs are needed to appropriately assess drug abuse and addiction and related behaviors in racial/ethnic populations.

Minority populations are disproportionately affected by HIV/AIDS and other infectious diseases that are a consequence of using drugs and engaging in other risky behaviors. African Americans and Hispanics, especially women, comprised 54.7 percent of the AIDS cases reported to the Centers for Disease Control and Prevention (CDC) in 1998. This percentage is far greater than their representation in the general population. Other studies indicate a plethora of ways in which minorities may be adversely affected by drug abuse-related diseases:

- Women, particularly African-American women, are at higher, unique risk for HIV/AIDS;
- Injection drug users are at increased risk for mycobacterium tuberculosis infection (TB) and Hepatitis B and C infection (HBV and HCV, respectively);
- A possible association exists between vascular injury of the neonatal central nervous system and the level of prenatal cocaine exposure; and
- Hispanic homeless are more likely to share needles.

We know relatively little about the varying patterns of initiation of drug use and addiction among women of diverse racial and ethnic groups.

NIDA has continuously attempted to respond to the need to understand the patterns and causes of drug abuse in all populations through several activities, such as releasing PAs and RFAs and convening conferences and meetings. For example, in 1998 NIDA reissued its "Epidemiologic Research on Drug Abuse" PA, which encourages numerous epidemiologic strategies, including monitoring of trends over time of drugs of use/abuse, identification and measurement of health problems associated with drug abuse, and international epidemiology of drug abuse. Applications submitted in response to this PA are expected to guide the development of interventions; define subpopulations; identify groups at risk for various health conditions, such as HIV, TB, hepatitis, poor pregnancy outcomes, ADHD, mental disorder, and other conditions (predisposing and consequential to drug use/abuse); inform and influence local state and Federal health agencies; and provide guidance for public policy. Investigators have been strongly encouraged to conduct analyses by race/ethnicity.

NIDA staff has been working actively at numerous meetings to increase the number of grant applications in such areas as HIV in the African-American population, health care/primary care access and utilization among minority drug abusers with HIV infections, and epidemiology of HIV in the Caribbean.

Goal 1: Improve the knowledge base on the patterns and origins of drug abuse and addiction in all racial/ethnic populations including producing estimates of racial disparities on the incidence and prevalence of drug use and addiction within those populations, examining both risk and protective factors.

Action Plan

- Expand research to
  - Assess, within and across racial/ethnic groups, the magnitude, incidence, and prevalence of drug abuse, analyzing by gender;
  - Identify and assess both individual and community/environmental vulnerability, risk, and protective factors for drug use and abuse and related consequences in various racial/ethnic populations, analyzing by gender;
  - Develop better sampling methods for hard-to-reach minority populations and more effective ways to reduce survey nonresponse and increase the validity of self-reported drug use and associated behaviors; and
  - Support the secondary analysis of data obtained under NIH-supported research pertinent to understanding the epidemiology and etiology of drug abuse in racial/ethnic populations, including analyses by gender.

Goal 2: Identify and examine issues of health disparities in drug abuse and associated infectious diseases, particularly HIV/AIDS within racial/ethnic populations, including analyses by gender.

Action Plan

- Expand research to
  - Increase scientific knowledge about the medical and health consequences of HIV infections in women and men of racial/ethnic minority groups, including assessing the magnitude, incidence, and prevalence of HIV/AIDS and other sexually transmitted diseases, HBV, HCV, TB, and their impact on racial/minority populations; identifying the associated risk and protective factors for HIV/AIDS and other sexually transmitted diseases, HBV, HCV, TB, mental disorders and socioeconomic status among racial/minority populations; and identifying subgroups within racial/minority groups at greatest risk (e.g., homeless, homosexuals, and prison inmates). Develop and implement appropriate intervention strategies for reducing risk factors among women and men in these groups;
  - Increase access to, utilization of, and adherence to antiviral therapies by HIV-infected ethnic minority male and female drug users through identifying new, simplified, and innovative strategies/approaches and mechanisms to complement and improve traditional approaches for individuals in this population; and
  - Increase scientific knowledge on how gender and other factors such as community, culture, education, and socioeconomic status affect HIV transmission within racial/ethnic populations.

Goal 3: Identify both the short- and long-term effects of drug use, abuse, addiction, and violence and their interrelationships on the overall health (including physical, mental, and emotional health) of men, women, and children in racial/ethnic populations.

Action Plan

- Expand research to
  - Identify and assess issues of comorbidity across the age span for all racial/ethnic groups and the relationship between drug abuse, comorbid conditions, and health disparities within and across those groups and by gender within these groups;
  - Investigate health and developmental disparities across racial/ethnic groups for children and adolescents who have experienced prenatal drug exposure and/or early use of illicit drugs by gender within these groups;
  - Identify and review the state of knowledge and availability of data on the coexistence of substance abuse and mental/emotional disorders and the presence of health disparities across and within racial/ethnic groups, including analyses by gender;
  - Identify the impact of the drug-using environment on racial/ethnic women and men living under those conditions. Assess proposed strategies for interventions to reduce drug abuse in these groups;
  - Evaluate the role of stress (e.g., cultural adaptation) in initiating and escalating drug use/abuse and its impact on various male and female racial/ethnic populations. Sensitivity and responsiveness of the needs of the target audience must be considered in all instrument development, administration, analysis, and evaluation of the data; and
  - Explore the contextual relationships between drug use, violence, employability, school performance, family structure, and economic well-being of the community. Sponsor a series of workshops and meetings with grantees and others to explore the current state of the knowledge.

Area of Focus #2: Prevention of Drug Abuse and Addiction

Introduction/Background. NIDA has made great strides in the last few years in its prevention research program. The Institute has supported two long-term minority prevention research centers that focus on African Americans, Hispanics, and Native Americans, as well as several other research projects that include ethnic minorities. Results from these and other research studies suggest that racial/ethnic populations may have special prevention needs and that prevention strategies may have to be specific to their culture and circumstances to be successful. For example, research indicates that including culturally specific components in "generic" prevention programs enhances effectiveness with African Americans.

Epidemiologic data show that race/ethnic groups differ in patterns of drug use, preferences, and accessibility and risks requiring prevention programs that attend to these needs. For example, Hispanic youth are more likely to be school dropouts, making school-based prevention programs unlikely to reach Hispanic youth at greatest

risk. African Americans have late (or delayed) onset of drug use, suggesting that they may be more in need of prevention programs after high school, in their late adolescent/early adult years. Native Americans on reservations need prevention programs at an early age and such programs must be acceptable to tribal councils. Second-generation immigrants may be at higher risk for drug use than first-generation immigrants. Moreover, the heterogeneity or diversity within racial/ethnic groups must be acknowledged in prevention efforts (e.g., gender, socioeconomic status, education, cultural styles, rural-urban differences, and the specific risk factors for these subgroups need to be better understood to inform prevention efforts).

More prevention programs are needed to reach minority populations in high-risk settings and neglected, hard-to-reach areas or communities. This includes, for example, persons in correctional facilities (more likely to be African Americans and Hispanics), persons in rural areas, migrant workers/seasonal farm workers (often Hispanic and Haitian), children in drug-abusing families, and minority women addicts (who are at great risk for infectious diseases). More research is needed on prevention efforts with Asian/ Pacific Islanders and Native Americans/Alaska Natives and their subgroups.

Goal 1: Support prevention research targeting racial/ethnic minorities to (1) understand the drug abuse and HIV/AIDS prevention needs of minority populations across the life span, with specific attention to very early and late onset initiation of use and diversity in vulnerability to use across the life cycle (e.g., immigrant groups adapting to new environment, transition points, and stress); (2) understand how to develop culturally appropriate prevention interventions and how to adapt "generic" prevention models for specific minority populations; (3) examine the effectiveness of mass media prevention/education messages that target specific minority populations; (4) develop more prevention interventions that reach minority populations in contexts such as the family, church/faith community, and other community programs to ensure that prevention expertise becomes a permanent part of the community; (5) address the complexities and requirements of developing effective prevention programs for diverse groups within multiethnic, multicultural settings (e.g., schools with multiethnic student bodies and persons with multiple ethnic identification or affiliations); and (6) identify how cultural norms affect gender differences in drug use and risk factors.

Action Plan

- Develop research opportunities in the above areas.

Goal 2: Ensure that racial/ethnic minority populations are fully incorporated into the planning and implementation of NIDA's Next Generation of Prevention Research Initiative, designed to gain a better understanding of the factors that account for prevention program effectiveness.

Action Plan

- NIDA staff will review plans for the next generation studies to make certain that concerns of racial/ethnic minorities are adequately addressed.

Goal 3: Develop effective, culturally specific drug abuse prevention strategies for minority populations who are at increased risk for drug abuse, such as individuals in detention or correctional facilities, the homeless, and persons who have been abused or neglected, and those groups who are underserved, such as those living on Indian reservations or in rural areas, migrants or seasonal farmworkers, and youth in the early stages of cultural adaptation and acculturation.

Action Plan

- Expand research opportunities in this area.

Area of Focus #3: Addressing Disparities in Treatment and Health Services Research

Introduction/Background. NIDA currently supports several activities that focus on racial/ethnic groups and cultural factors in treatment for addiction. For example, the Behavioral Therapy Development Program supports several studies that are evaluating family-based treatment approaches for drug-using minority youth (based on research findings suggesting that family variables are more influential in substance use in certain minority youth). Some of these studies suggest that treatment engagement procedures may be different for Mexican-American and Cuban youth. Analyses will be conducted to ascertain whether outcome differences are due to cultural factors associated with Mexican-American and Cuban families or other factors. A study was recently funded that is evaluating the efficacy of adding a culturally relevant, community-based community reinforcement enhancement to an existing residential treatment program for homeless, crack-using, African-American women with children. This study is using the Black church as a vehicle for implementing the intervention. To advance the current knowledge base about potential ethnic differences in nicotine dependence, NIDA is supporting a study that will design and test the efficacy of smoking cessation programs in treating Chinese-American smokers.

NIDA's newly established National Drug Abuse Treatment Clinical Trials Network (CTN) will provide yet another vehicle for NIDA to ensure that minority populations are included in both NIDA's treatment research protocols and in conducting treatment research. The CTN will provide a much-needed national research and dissemination infrastructure to more rapidly and systematically bring new science-based addiction treatments into real-life treatment settings.

Considering the severe consequences of drug abuse and addiction on racial/ethnic populations, NIDA realizes that minority populations need to be more fully included in treatment research and clinical trials. Moreover, more attention needs to be directed at examining medical, social, and cultural factors that may influence adherence to treatment and treatment outcomes. For example, some minority populations are included in NIDA-supported clinical trials of pharmacotherapies and behavioral therapies; however, data are not completely analyzed by race/ethnicity to better understand behavior in treatment or outcomes of treatment. In some clinical research studies, there have been difficulties in enrolling and retaining adequate numbers of minorities in order to conduct meaningful data analyses. Other research indicates that race/ethnicity may be important in physiological responsiveness to drugs. For example, pharmacokinetic studies indicate that there are differences in some ethnic populations in their ability to metabolize different drugs.

Racial/ethnic minorities may experience more difficulties in obtaining the most appropriate health care services. Research suggests that they may be more vulnerable to gaps and lack of coordination in systems of care and that

they may encounter bias in treatment assignments. The need for services appears to differ by race/ethnicity (e.g., one study suggests that Latinos may require more intensive services).

Goal 1: Increase the number of treatment research studies that focus on racial/ethnic differences and improve dissemination of the study results.

Action Plan

- Ensure that all racial/ethnic minority populations are fully included in NIDA's newly established National Drug Abuse Treatment CTN as clients, advisors, and research staff. Ensure that a sufficiently large sample is recruited in each study to allow for analyses by specific racial/ethnic groups;
- Develop a strategy to obtain more input from minority populations for the NIDA research agenda;
- Encourage research to develop and test behavioral treatments that are culturally and gender sensitive and relevant for racial/ethnic minorities; encourage studies of behavioral treatments, alone and in combination with pharmacological treatments, for racial and ethnic minority drug abusers, including adolescents, women, and those involved with the criminal justice system;
- Develop systems to encourage NIDA grantees to include sufficient numbers of minority populations, analyze the data that are collected on racial/ethnic minorities, and publish the results;
- Encourage research to develop validated, reliable clinical screening and assessment instruments in languages other than English for use in clinical research with non-English speaking subjects;
- Expand NIDA's intramural clinical research to address treatment issues by race/ethnicity, and further develop the program focusing on smoking cessation techniques with minority youth; and
- Sponsor a series of workshops and meetings with grantees and the minority advisory groups to explore the current state of knowledge, identify gaps in the research, and make recommendations for future research. The professional organizations representing different minority populations should also participate in this process.

Goal 2: Determine the factors that contribute to differences, if any, experienced by racial/ethnic minority populations in access to services and outcomes of treatment in managed care and other service systems. In addition, assess the impact of welfare reform on substance abuse services provided to ethnic minorities, especially minority women.

Action Plan

- Expand the treatment and prevention services research portfolio to better understand the organization, management, financing, and delivery of services and to enhance the integration of treatment and prevention strategies and programs into existing community level service delivery systems; and
- Sponsor workshops and meetings with grantees and the minority advisory groups to explore the current state of knowledge, identify gaps in the research, and make recommendations for future research. The professional organizations representing different minority populations should also participate in this process.

Area of Focus #4: Addressing Racial/Ethnic Disparities in Basic and Clinical Neurosciences

Introduction/Background. Research is needed to better understand racial/ethnic differences in genetic vulnerability and/or resilience to drug abuse and addiction; neurotoxicity; and neurobiological and behavioral processes underlying tolerance, dependence, and relapse. Pharmacokinetic studies have revealed distinct differences in some ethnic populations in the ability to metabolize different drugs, indicating a clear biological basis in response to drugs. Studies focusing on the interaction between racial/ethnic differences and the effects of drugs on underlying neural and behavioral processes will provide the basis for more targeted treatment and prevention approaches in different populations.

Goal 1: Increase the number of neuroscience, clinical neuroscience, and basic behavioral science studies that focus on racial/ethnic differences.

Action Plan

- Provide support to key investigators to over sample underrepresented groups in their studies.
- Require NIDA program staff to emphasize the importance of inclusion of minority subjects to all principal investigators conducting human subject research and to work closely with those who are deficient in their minority recruitment;
- Provide avenues for publication of basic research findings comparing subgroups, including NIDA sponsored publications such as NIDA monographs;
- Provide information on strategies for recruiting underrepresented groups into basic human subject based research; and
- Expand research that directly targets minorities in the basic and clinical neurosciences and behavioral sciences, with the intent of addressing minority health disparities.

Area of Focus #5: Infrastructure Development and Enhancement

Introduction/Background. NIDA recognizes that conducting scientifically valid health disparities research requires a research infrastructure that includes well-informed and trained scientists, knowledgeable and cooperative communities (e.g., community-based organizations, professional associations, faith communities, and tribal councils), and academic institutions with competency and interest in health disparities research. NIDA has made concerted efforts to build this critical infrastructure for health disparities research. We have worked to increase the number of underrepresented scholars involved in drug abuse research and to increase our support of useful and appropriate research on drug abuse in minority communities. Several initiatives, programs, and activities have been implemented to eliminate this underrepresentation; examples include establishing expert work groups on racial/ethnic populations, strengthening the Minority Supplement Program, developing an HBCU Initiative, providing technical assistance in grants development, and developing program announcements and RFAs to build the minority research infrastructure. NIDA plans to build on these already successful programs and expand them to increase training and career development opportunities for underrepresented minorities. In addition, NIDA plans to increase the numbers of researchers and research studies that focus on abuse and addiction in minority communities and to, in general, stimulate interest and enhance competency in conducting research for eliminating disparities experienced by racial/ethnic populations related to drug abuse and addiction.

Goal 1: Ensure proper resource requirements through training/career development.

Action Plan

Student Development and Support. NIDA will continue to support its current activities to increase the number of underrepresented students entering drug abuse research careers. This includes the Minority Recruitment and Training program sponsored by the intramural program, the extramural Summer Research with NIDA program for minority high-school and undergraduate students, and the Minority Supplement program. In addition:

- NIDA will encourage applications for short-term training grants (T35) from drug abuse and addiction programs particularly those involved in the National Drug Abuse CTN to offer summer research training experiences for promising undergraduate and graduate minority students.

Faculty and Investigator Development. NIDA will continue to support its current activities to increase the number of faculty and scholars conducting drug abuse and addiction research. This includes the Minority Supplement Program, the Research Development Technical Assistance program, and the online research grants development program. In addition, NIDA will:

- Develop a Visiting Scholar Program to recruit and train African-American, Hispanic, and other minority drug abuse researchers, with a special outreach to scholars from minority programs and institutions such as HBCUs, HSIs, and tribal colleges to spend time in selected research programs learning state-of-the-art methodology. The small grant mechanism (R03) could be used to support a period of training in laboratories using state-of-the-art technologies to examine a variety of aspects of drug abuse and addiction;
- Develop a Career Development Award (K01) for minority faculty interested in all areas of drug abuse and addiction research. This program would be aimed at faculty seeking a period of protected time to devote to developing drug abuse research projects at their institutions. Special efforts will be undertaken to increase the number of minority researchers in prevention and clinical research;
- Establish a Minority Clinical Research Scholars Program in the NIDA Intramural Research Program;
- Develop a plan with the Center for Substance Abuse Treatment to bring more minority scientists into drug abuse and addiction clinical research. Explore the possibility of supporting minority supplement grants on Center for Substance Abuse Treatment research and evaluation projects; and
- Establish a Minority Clinical Research Scholars Fellowship as part of NIDA's CTN program.

Academic Institution Development. NIDA will continue its efforts to increase the capacity of academic institutions, especially minority colleges and universities, to conduct drug abuse research. This includes the Minority Institutions Drug Abuse Research Program and the HBCU Initiative. In addition, NIDA will:

- Develop partnerships between institutions with well-established drug abuse research programs and minority institutions that are interested in developing capacity in this area. Collaborate with ORMH on plans to establish partnerships between drug abuse research centers and minority institutions;

- Establish a NIDA Minority Access to Drug Abuse Research Careers Program through the National Research Services Act (NRSA) to encourage and engage promising minority undergraduate scientists in drug abuse and addiction research; and
- Support or examine the possibility of establishing Training Centers (T32s) in the basic neurosciences and behavioral sciences, and clinical neurosciences at HBCUs and other minority education-oriented colleges and universities. Encourage the participation of minority students at already existing centers.

Professional and Community Development. NIDA will continue its efforts to involve the broader community in addressing health disparities in racial/ethnic communities caused by drug abuse and addiction. This includes the various expert work groups on African-American, Hispanic, Asian-American and Pacific Islander, and Native American and Alaska Native communities. In addition, NIDA will:

- Encourage clinical minority professional organizations to create and administer clinical minority research development programs through the K–12 mechanism. This can be modeled after the successful American Psychiatric Association and American Academy of Child and Adolescent Psychiatry programs to recruit and train minority clinicians interested in drug abuse and addiction research;
- Host writing workshops to facilitate publications in peer-reviewed journals by minority scholars;
- Develop opportunities (e.g., forums at professional meetings) to discuss drug abuse research needs, plans, and opportunities with key stakeholder groups to include practitioners and consumers; and
- Support workshops or programs to train investigators on conducting responsible drug abuse research in racial/ethnic minority communities. Consider creating guidelines for ensuring that such research is appropriate and sensitive.

Area of Focus #6: Public Information/Outreach/Education and Dissemination

Introduction/Background. There are special challenges and problems in creating culturally appropriate information for special populations. To meet these challenges, NIDA has organized and convened ethnic advisory panels for Latinos, Asian/Pacific Islanders, and African Americans to improve our outreach to these various ethnic and minority groups. Acting on the advice of these experts, NIDA has:

- Developed Spanish translations of two popular marijuana pamphlets, *Marijuana: Facts for Teens* and *Marijuana: Facts Parents Should Know*;
- Created a radio public service announcement (PSA) campaign on marijuana abuse for African-American males ages 13–25;
- Produced over 30 fact sheets about drug abuse and addiction in Spanish as part of our fax-back system, "INFOFAX";
- Marketed the "INFOFAX" series, as well as the NIDA Web site via a Spanish art card distributed to appropriate outlets nationally;

- Given financial and editorial support to *Pro Salud,* a national publication marketed to Hispanic communities; and
- Developed Spanish translations of the drug abuse Problem-Oriented Screening and Assessment Instrument for adolescents.

In addition to these efforts NIDA routinely distributes all of its press releases to media outlets designed to reach special populations.

Goal 1: Educate racial/ethnic minority populations about drug abuse and addiction prevention and treatment. Also, identify and improve mechanisms for dissemination of research findings within and across minority groups. NIDA is focusing on four key cultural minorities at present: Asians/Pacific Islanders, Hispanics, Native Americans, and African Americans. Based on discussions with members of our cultural minority advisory panels, we have also identified some subpopulations with special needs (e.g., Vietnamese, Cambodian, Filipino, and other Pacific Islanders).

Action Plan

- Develop a series of radio PSAs and educational videos targeting Hispanic women. Hispanic women have a strong influence in health and lifestyle decisions within the Hispanic community. In addition to PSAs, a Hispanic family-targeted brochure and video highlighting specific drugs of abuse known to be a problem in various Hispanic communities (as well as among mainstream youth) will be provided as collateral materials. A comprehensive marketing plan to get the PSAs aired and the brochure distributed includes forming partnerships with appropriate Hispanic organizations and persons of influence (such as journalists and entertainers etc.). NIDA will work closely with the NIH Hispanic Initiative Coordinator during the preparation of all related materials;
- Create a year 2001 calendar for Native Americans that will be used to provide information about drug abuse. It will be marketed broadly in the Fall 2000 via appropriate organizations, the media, and other venues (e.g., Native American-owned businesses and Indian Health Service clinics);
- Create television drug abuse PSAs and videos in Spanish, which will be distributed to appropriate Hispanic outlets. The PSAs and videos will follow the theme of NIDA's national campaign, "Addiction is a Brain Disease," in an effort to educate the Hispanic community about the disease of addiction;
- Translate and adapt other popular NIDA publications into Spanish, including *Principles of Drug Addiction Treatment.* When completed, these materials will be packaged as a comprehensive set and broadly distributed to Hispanic-oriented schools, health organizations, and community groups. Provide targeted training to Hispanic substance abuse treatment providers on effective treatment methods; and
- Enhance NIDA collaboration with minority professional organizations through forums such as the NIDA Constituent Conference and NIDA Town Meetings.

Goal 2: Put research into practice in minority communities by providing science-based prevention and treatment information to service providers serving these populations.

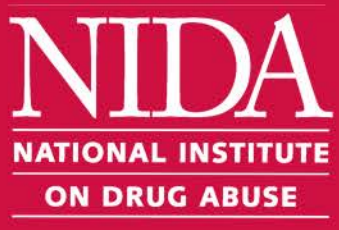
Action Plan

- Translate *Preventing Drug Use Among Children and Adolescents: A Research-Based Guide* and *Principles of Drug Addiction Treatment: A Research-Based Guide* into Spanish and distribute them to caregivers and service providers who work with Hispanic populations;
- Distribute the "NIDA Toolkit" to service providers working in minority communities. The toolkit is a national NIDA initiative to get the latest treatment information, including a set of NIDA treatment manuals, to service providers across the Nation;
- Develop an outreach program to community leaders of specific special populations groups that will enable them to help families understand drug abuse problems within their communities and give those families the culturally appropriate tools for prevention and treatment;
- Translate the NIDA treatment manuals into Spanish and distribute them to treatment providers who work with minority populations; and
- Develop a research-based prevention guide for persons working with racial/ethnic minority groups.

Goal 3. Educate the research and practice community about the state-of-the-art in drug abuse and addiction research with racial/ethnic minority populations.

Action Plan

- Sponsor a national conference on drug abuse and addiction research and racial/ethnic communities;
- Develop a guide and Web site that offers information on research with racial/ethnic populations. Information such as current research, research findings, and valid measures would be available;
- Provide guidelines and training on how to conduct research with racial/ethnic groups, including information on cultural styles and ethical issues; and
- Identify and improve mechanisms for dissemination of research findings within and across minority groups.



NIH Publication No. 03-3888
Printed 1995 • Revised September 1998 • Revised September 2003