Drug Involvement

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Relevance to Security

Executive Order 12564, dated September 15, 1986, establishes the U.S. Government as a drug-free workplace. It declares that "persons who use illegal drugs are not suitable for federal employment." Applicants cannot be held to a no-prior-use standard, but any illegal drug use at all by a current U.S. Government employee or member of the military is a violation of this presidential order.

Use of an illegal drug or misuse of a prescription drug raises questions about an individual's reliability and trustworthiness for the following reasons:

- Illegal drug use may indicate an unwillingness or inability to abide by the law. Cleared employees must respect regulations whether they agree with them or not. If they do not respect the rules on use of illegal substances, they may not respect the rules for protection of classified information. This was precisely the reasoning used by a convicted spy, U.S. Army Sgt. Roderick Ramsey to recruit coworkers to spy for Hungary. Current drug use while in military service was the principal qualification he looked for in selecting coworkers for a recruitment pitch. He knew such persons were willing to break the rules and would not report illegal activity.
- Drug use may weaken judgment. When under the influence of a psychoactive substance, an individual may not exercise the care and discretion required to protect classified information.
- Some types of drug use reflect a tendency toward irresponsible or high-risk behavior. These characteristics cast doubt upon an individual's judgment and ability to protect classified information even when not under the influence of drugs.
- Users of illegal drugs may be susceptible to blackmail, especially if exposure of drug use could cost them their jobs. Police and security services actively monitor drug distribution networks. Procurement of illegal drugs while traveling abroad or carrying drugs across national boundaries risks attracting the attention of foreign intelligence or security services or other individuals who may seek to exploit this vulnerability. Any habitual behavior that places an individual in a compromising position exploitable by others is a serious security concern.
- Drug abuse or dependence may indicate the presence of broad emotional or personality problems of security concern. See Drug Use and Mental Health.
- Drug use may cause financial problems, leading to criminal activity to finance a drug habit. Conversely, unexplained affluence may indicate involvement in drug sales.

National surveys of drug use show that a large percentage of the U.S. population have some history of illegal drug use. In 2003, almost 60% of Americans age 19 to 30 had used an illegal drug at some time during their lives. In 2004, 51.1% of high school seniors had used some illegal drug at some time during their life; 23.4% had done so during the previous month. 1, 2 If the cleared population is at all representative of the U.S. population as a whole, this suggests that a large percentage of applicants for security clearance have had at least some experimental drug use.

The wide prevalence of drug use presents a dilemma for adjudicators. If standards are too lax, security may not be protected. If standards are too strict, many well-adjusted, adventuresome, and creative individuals who have experimented with drugs in the past may be screened out even though they have no intention of using drugs in the future.

Relationship to Espionage

The case of U.S. Army Sgt. Roderick Ramsey is one concrete example of the relationship between drug use and espionage. Ramsey was arrested in 1990 and sentenced to 36 years in prison for spying for Hungary. During a two-year period he passed a large number of Secret and Top Secret documents containing military operational plans for the defense of Western Europe. He was part of the Clyde Lee Conrad spy ring and himself recruited at least two other American soldiers to provide classified documents.

Ramsey used drugs regularly while in the military. He saw drug use in violation of military rules and regulations as the principal qualification for selecting those who might be susceptible to recruitment as sources of classified information. He explained this as follows during an interview after his arrest:

"The people that I recruited, yes, they were involved in drugs, but it wasn't so much that they were pot smokers or hashish smokers that made them, in my opinion, more susceptible to the pitch. It was that these were people who had already shown a propensity or willingness to violate Army regulations.

Anyone in the Army who was willing to take drugs on a regular basis has to be willing to take some kind of risk and has to be willing to break the Army's regulations. That's the starting point." 3

Potentially Disqualifying Conditions

Extract from the Guideline

(a) any drug abuse (see above definition);

(b) testing positive for illegal drug use;

(c) illegal drug possession, including cultivation, processing, manufacture, purchase, sale, or distribution; or possession of drug paraphernalia;

(d) diagnosis by a duly qualified medical professional (e.g., physician, clinical psychologist, or psychiatrist) of drug abuse or drug dependence;

(e) evaluation of drug abuse or drug dependence by a licensed clinical social worker who is a staff member of a recognized drug treatment program;

(f) failure to successfully complete a drug treatment program prescribed by a duly qualified medical professional;

(g) any illegal drug use after being granted a security clearance;

(h) expressed intent to continue illegal drug use, or failure to clearly and convincingly commit to discontinue drug use.

Introduction

Any use at all of an illegal drug or misuse of a legal drug as defined by the Controlled Substances Act of 1970, as amended, is potentially disqualifying. There is a great difference, however, between experimental use of marijuana a couple years before applying for a security clearance and any use of an illegal drug after obtaining a security clearance. Any attitude toward compliance with drug laws or history of drug use that suggests past drug use may continue or recur after obtaining a clearance is a serious security concern. See Example 1.

Public Law 110-181, Section 2002 (50 U.S.C. 435c), commonly referred to as the Bond Amendment, repealed and revised a previous law known as the Smith Amendment. Similar to the Smith Amendment, the Bond Amendment places restrictions on who is eligible for a security clearance. (See Compliance with Bond Amendment under Criminal Conduct.)

The Bond Amendment prohibits all Federal agencies from granting or renewing any security clearance for any person who is an unlawful user of a controlled substance or is an addict. For purposes of this prohibition:

- an "unlawful user of a controlled substance" is a person who uses a controlled substance and has lost the power of self-control with reference to the use of the controlled substance, and
- any person who is a current user of the controlled substance in a manner other than as prescribed by a licensed physician.

Such use is not limited to the use of drugs on a particular day, or within a matter of days or weeks before, but rather that the unlawful use has occurred recently enough to indicate that the individual is actively engaged in such conduct.

- An "addict" of a controlled substance is any individual who habitually uses any narcotic drug so as to endanger the public morals, health, safety, or welfare;
- or who is so far addicted to the use of narcotic drugs as to have lost the power of self-control with reference to his or her drug use. "

Adjudicators should apply the Bond Amendment provisions very narrowly, as all criteria specified under the amendment already are within the scope of what is normally considered disqualifying under the Drug Involvement adjudicative guideline. If any doubt exists as to the applicability of the amendment provisions, apply the appropriate provisions of the Adjudicative Guidelines.

There is no provision for waiver of the Bond Amendment criteria as it applies to drug use.

Adjudication of drug issues must be based on assessment of security risk, not whether the adjudicator personally approves or disapproves of the behavior being adjudicated. To assess the significance of different types and circumstances of drug use, see:

- Which Drugs Are Used
- Frequency of Drug Use
- Recency of Drug Use
- Circumstances of Drug Use
- Current Clearance Holder or Applicant
- Drug Use and Mental Health

Expressed or implied intent to continue using drugs, or failure to complete successfully a drug treatment program, are both normally disqualifying.

Drug possession including cultivation, processing, manufacture, purchase, sale, or distribution is a serious security concern. See Example 2.

Possession of drug paraphernalia such as needles for injecting drugs, smoking devices, gram scales, or certain chemicals indicates drug involvement unless subject can present evidence to the contrary.

Which Drugs Are Used

The more dangerous the drug, the more the drug use indicates about poor judgment, propensity for irresponsible or high-risk behavior, tendency to rebel against social norms, alienation, or emotional maladjustment.

There are two aspects of a drug's dangerousness -- the risk of addiction and the adverse health and behavioral consequences. Both differ greatly from one drug to another. The most dangerous drugs are methamphetamine, cocaine, heroin, PCP, and LSD. For more information on the most commonly abused drugs, see the Information on Specific Drugs section of this file.

Drug dependence can develop through both psychological and physical processes.

- Psychological dependence is characterized by emotional and mental preoccupation with the drug's pleasurable effects. One craves more to regain the stimulation, elation, sense of well-being, or other psychological pleasures from the drug. Psychological dependence also occurs when one develops a lifestyle that is centered around drug use.
- Physical dependence occurs when the body adjusts to the presence of a drug in such a way that physical symptoms involving such things as abdominal pain, nausea, sweating, trembling, or other discomfort occur when the drug is withdrawn. The addict craves more drugs in order to avoid or alleviate the discomfort.

Methamphetamine is currently one of the most commonly abused drugs, and also one of the most addictive and damaging to one's health. It has spread rapidly because it can be made in home labs with chemicals that have been, until recently, readily available to the public. The essential chemicals are ephedrine and pseudoephedrine, which are common ingredients in many cold medicines. Many states are now passing laws that require every product containing even a small amount of either chemical to be kept behind a pharmacy counter. Customers do not need a prescription to buy the products, but they may need to show a photo ID and sign a log.

Cocaine is one of the most powerfully addictive drugs of abuse. Psychological dependence on cocaine, especially crack cocaine, occurs quite rapidly and physical dependence follows. Narcotics (heroin, opium, morphine) create the strongest physical dependence. Addiction occurs more slowly than with cocaine, but withdrawal is more difficult and painful. Marijuana is only mildly addictive, although regular users may develop psychological dependence on the role which marijuana plays in their lives. LSD is not physically addictive but is especially dangerous because of its health consequences.

Past use of LSD and other hallucinogens is a concern because it may be followed by flashbacks a couple years after the last use. A flashback is a

sudden, involuntary recurrence of a previous drug-induced hallucination. LSD flashbacks are predominantly *visual* distortions, things that one *sees*. No evidence is available that an individual suffering a flashback is likely to *talk* about classified information or programs. Reduced conscious control during a flashback could, however, lead to loss of physical control over classified material.

There are two different types of flashback. One type goes away after a short time. If such flashbacks are going to occur, they are most likely to occur within one year after use of the hallucinogen. If an individual has gone two years without a flashback, a future flashback is unlikely. Flashbacks of this type have been compared to flashbacks that can occur with Post-Traumatic Stress Disorder and may be treated the same way. The other type is a mental illness called Hallucinogen Persisting Perception Disorder. The flashbacks are more frequent and long-lasting and cause problems in the individual's social, work, or family life. Individuals suffering from this are acutely aware of their perceptual disturbances and often seek psychiatric help. This disorder may slowly fade away but often lasts longer than five years and may affect people for the rest of their lives. 4

Frequency of Drug Use

Frequency of drug use is significant because it relates to the likelihood of psychological or physical dependency. Increasing the frequency or dosage over time suggests tolerance and physiological dependence. Regular or habitual use is predictive of continued future use. Serious, long-term drug abuse or dependence may be accompanied by an emotional, mental, or personality disorder. See Drug Use and Mental Health

There is no agreed terminology for describing the frequency of drug use. Investigators and adjudicators should avoid the use of terms such as experimental, occasional, frequent, or regular drug use whenever possible. They should be specific about which drug or drugs, how often, for how long, and how long ago. However, if some general descriptive term is required, the following is one set of terms that has been used by adjudicators to describe frequency of drug use.

- **Experimental Use:** Initial use for a maximum of six times, or more intensive use for a maximum of one month.
- **Occasional Use:** Once a month or less.
- **Frequent Use:** Once a week or less, but more than once a month.
- **Regular or Habitual Use:** More than once a week.

Recency of Drug Use

Time elapsed since the last drug use is an important consideration in determining likelihood of future use. The longer someone has abstained from

drug use, the greater the chances of continued abstinence in the future. Future Drug Use Is Unlikely discusses recency of use as a mitigating condition.

Circumstances of Drug Use

The circumstances of an individual's past drug use may also indicate whether drug use is likely to continue or recur in the future.

Age at First Use: Early initiation of drug use is one of the best indicators of future drug abuse and dependence. One study reports that in 2003, 13.3% of users who began taking drugs before age 14 reported dependence, compared to only 2.2% who began after the age of 18. Data gathered from the National Longitudinal Survey of Youth reveal that 35% of persons who used cocaine and 23.5% who smoked marijuana before age 12 became heavy cocaine users. Of those who did not use cocaine or smoke marijuana before age 12, only 5.9% and 5%, respectively, became heavy cocaine users later in life. 5

Individuals whose drug use started before high school (age 14 or younger) are atypical and are more vulnerable to drug problems later in life than those who started using drugs in high school or college. Initiation of drug use between age 15 and 18 is common and is not indicative. Drug use usually peaks during the senior year in high school or in college (age 17 to 23). Continuation of peak usage after this period suggests possible future problems. Initiation of drug use later in life is quite unusual and suggests a possibility of future problems. 6

Increased maturity and lifestyle changes that usually accompany employment, marriage, or the birth of children often lead to reduction or cessation of drug use. Continuation of the same social environment in which past drug use occurred suggests that use may continue.

Solitary Drug Use: Use of drugs to relax *prior* to a social event points to psychological dependence and is more indicative of future use than use *at* social events. Solitary drug use is more indicative of future use than is social use.

Means of Acquiring Drugs: Growing or making one's own drugs or purchase of drugs from a stranger indicate a stronger commitment to drug use than obtaining drugs from a friend.

Motivation for Drug Use: If drugs are used to reduce stress or build self-esteem, this may indicate underlying psychological problems that can persist and cause continued drug use or other problems. Rebelliousness as a motivation for past drug use does not necessarily indicate future drug use, but it may indicate a tendency toward antisocial behavior. Among the various

possible motivations for drug use, peer pressure and a desire to be sociable are the least indicative of future drug problems.

Behavior While Under the Influence of Drugs: If drug use is associated with traffic violations, pranks, shoplifting, fights, etc., it may be part of a larger pattern of antisocial behavior that is itself a security concern. Drug use is frequently related to criminal behavior. 7

Example 1

Subject is a 40-year-old engineer being processed by a defense contractor for a Secret clearance. One year ago he experimented with marijuana on social occasions four or five times during a one-month period. He has not used marijuana since and does not intend to use it in the future.

If subject were a 21-year-old, recent college graduate, this would be a clear-cut case. Some experimentation with marijuana is common in that age group. It is abnormal for someone to begin experimenting with marijuana at age 39 or 40. Such behavior indicates that caution is in order. Additional information is needed before a decision can be made. One needs to understand what was going on in the subject's life that led to this change in behavior? Are there other changes in subject's life style, particularly changes in work performance, friends that he associates with, or indicators of developing emotional or mental problems?

Example 2

The subject is a newly selected civilian employee on whom a SSBI is being conducted for a Top Secret clearance. During the interview, the subject stated that she uses marijuana about once or twice a month or at parties if it is offered. The subject stated that she will not use marijuana at work but will continue to use it as before. She said that she does not see anything wrong with its use if it does not affect her job, and that the government has no business controlling her private life.

A stated intention to continue using marijuana is normally disqualifying, whether or not the marijuana is used at work.

Falsification of Drug Test

Any falsification of a drug test is potentially disqualifying. Although the urine test is generally reliable, as discussed below under Accuracy of Urine Testing, it can be falsified, and products for doing so are widely promoted and sold over the Internet.

The Government Accountability Office (GAO) recently investigated the availability of products intended to enable users of illegal drugs to pass

federal government drug tests. An Internet search on the words "pass drug test" turns up dozens of companies that advertise such products. One web site claims that "passing a urine drug test has never been easier." Another advises prospective customers that its product formulas are changed about every 6 to 9 months to stay ahead of new validity tests performed by drug testing laboratories. The masking products fall into four categories:

- Dilution substances that are added to a urine specimen at the time it is collected or are ingested before an individual submits a urine specimen.
- Cleansing substances that detoxify or cleanse the urine and are ingested prior to the time that an individual submits a urine specimen.
- Adulterants that are used to destroy or alter the chemical make-up of drugs and are added to a urine specimen at the time that it is provided for testing. About 400 different adulterant products are available.
- Synthetic or drug-free urine that is substituted in place of an individual's specimen and provided for testing.

Web sites and sales representatives recommend different types of masking products based on which drugs are used, how frequently they are used, how recently they were used, whether tests are announced or conducted randomly, and whether testing administrators closely monitor the collection of urine samples. Some web sites provide an interactive format for prospective customers to find out which products best meet their individual needs. Some web sites provide a search mechanism to identify the nearest dealer who sells the products. The prices range from $30 to $79 dollars per package to get through one test. The GAO investigator bought such products from a dealer in the Washington, DC, area as well as from a number of web sites. The GAO only investigated the availability of these products. It did not test their effectiveness in masking drug use.

The GAO investigation concluded that "the sheer number of these products, and the ease with which they are marketed and distributed through the Internet, present formidable obstacles to the integrity of the drug testing process." 8

Current Clearance Holder or Applicant

Executive Order 12564 established the U.S. Government as a drug-free workplace. By accepting government employment, government employees have accepted voluntarily an obligation to be drug-free. It is appropriate to hold them to a higher standard than applicants who have not yet assumed this obligation.

For current government or military personnel with security clearances, any illegal drug use or misuse of a legal drug is a violation of Executive Order 12564. It is, therefore, a breach of trust and a security concern. If this

behavior is part of a pattern of problematic behavior, it should be evaluated under Personal Conduct.

The situation is different for applicants, as they have not previously accepted an obligation to remain drug-free. The prevalence of drug use in the United States suggests that some prior experimental or brief recreational drug use is to be expected among many otherwise well qualified individuals. Drug use reached a peak in 1981, when 65.6% of high school seniors had used some illegal drug at some time during their lives. Drug use among high school seniors gradually declined until 1992, when 40.7% reported some previous drug use. In 2004, 51.1% of high school seniors reported using some illegal drug at some time during their life.2 Applicants who admit prior drug use may be more honest than many who have used drugs but don't admit it. See Some Prior Drug Use Is Not Abnormal and Prevalence of Drug Use.

For applicants, the question is less what they have done in the past than whether they are willing and able to remain drug-free in the future. Past drug use is a security concern if:

- The nature and extent of past use suggests that drug use may continue or recur after the security clearance is granted. This judgment depends upon Which Drugs Are Used, Frequency of Drug Use, Circumstances of Drug Use, and Recency of Drug Use. See also Mitigating Conditions.
- The nature and extent of past drug use indicates possible psychological or emotional problems, including antisocial behavior (a tendency to disregard laws and rules). See Drug Use and Mental Health.

Some Prior Drug Use Is Not Abnormal

Given the statistics on the increasing prevalence of drug use, some experimentation with drugs, especially marijuana, cannot be considered abnormal behavior among younger Americans applying for a security clearance.

Adolescence is a time when young people differentiate themselves from parents and family and forge independent identities. Experimenting with values and beliefs, exploring new roles and identities, and testing limits and personal boundaries are normal behaviors during adolescence. Such experimentation contributes to personal growth and adjustment.

For psychologically healthy individuals, some experimentation with drugs is usually benign and does not lead to long-term or habitual drug use. For others who already have some emotional or psychological problem, drug use easily becomes part of a broad pattern of self-destructive behavior.9 For more information, see Drug Use as a Mental Health Indicator.

Drug Use as a Mental Health Indicator

Scientific evidence accumulated over the past 15 years suggests that drug abuse is more complex than previously believed. Characteristics of the individual, rather than of the drug, are now seen as playing a dominant role in vulnerability to drug abuse. The social and psychological maladjustment that characterizes most frequent drug abusers *precedes* the first drug use. One study that tracked children from an early age to adulthood identified predictors of future serious drug use that could be identified in children's behavior as early as age 7. 9

Psychoactive drugs do have potent addictive properties, but addiction does not follow automatically from their use. Most people who experiment with drugs or even use them regularly for a while do not become abusers or develop dependence.

Initial low-level involvement with drugs may result from curiosity, peer pressure, drug availability, or risk factors in an individual's social or family environment. Subsequent escalation to and maintenance of higher levels of drug use is likely to result from biological, psychological or psychiatric characteristics of the individual user. In some cases, vulnerability may be inherited in the form of heightened susceptibility to a certain type of drug. In most cases, however, escalation will be caused by psychological characteristics or psychiatric conditions, some of which may also be inherited.

Poorly adjusted individuals who do not become involved with illegal drugs will often become involved with some other nondrug addictive behavior that fills the same psychological need. If an individual has a history of drug abuse or dependence, the likelihood that drug use has stopped for good, or will stop if given a clearance or a second chance, can be fully understood only in the context of the individual's entire personality, life experiences, and social support networks.

Psychiatric disorders frequently occur in conjunction with drug dependence. In 2003, a national survey found that 18.1% of adults 18 years of age or older who reported illicit drug use also reported a serious mental illness in that year. By comparison, only 7.8% of nondrug users reported a serious mental illness. In other words, adult drug users were more than twice as likely to have a serious mental illness than adults who did not use drugs.10 Co-occurring mental disorders most often suffered by illicit drug users are anxiety disorders (28%), affective disorders (26%), antisocial personality disorders (18%), and schizophrenia (7%).11 The prevalence of mental disorders varies with the drug being abused, ranging from 50% of marijuana abusers to 76% of those who abuse cocaine. Almost half of drug abusers also suffer from alcohol abuse at some point during their lifetime. 12

Mitigating Conditions

Extract from the Guideline

(a) the behavior happened so long ago, was so infrequent, or happened under such circumstances that it is unlikely to recur or does not cast doubt on the individual's current reliability, trustworthiness, or good judgment;

(b) a demonstrated intent not to abuse any drugs in the future, such as:

(1) disassociation from drug-using associates and contacts;

(2) changing or avoiding the environment where drugs were used;

(3) an appropriate period of abstinence;

(4) a signed statement of intent with automatic revocation of clearance for any violation;

(c) abuse of prescription drugs was after a severe or prolonged illness during which these drugs were prescribed, and abuse has since ended;

(d) satisfactory completion of a prescribed drug treatment program, including but not limited to rehabilitation and aftercare requirements, without recurrence of abuse, and a favorable prognosis by a duly qualified medical professional.

Evaluating Mitigation

In considering mitigating conditions, adjudicators should evaluate whether:

- There is strong reason to believe that subject is no longer using drugs or involved with drugs, and a high probability that the subject will not become involved in the future.
- Subject has successfully completed a drug treatment program prescribed by a qualified medical professional.
- Past drug use was an aberration from an otherwise strong record of sound judgment and responsible and emotionally stable behavior.

Criteria for judging that past drug use is not likely to continue or recur are discussed under Future Drug Use Is Unlikely.

Successful completion of a drug treatment program may mitigate past drug use if that use was not too advanced. If past use meets the medical definition of abuse or dependence, however, even successful completion of a treatment program may not be sufficient. Despite recent advances in treatment, "drug abuse remains a chronic relapsing condition usually requiring prolonged or repeated treatment."13 See Types of Treatment for Drug Abuse and Effectiveness of Treatment for Drug Abuse.

Future Drug Use Is Unlikely

Past drug use may be mitigated by evidence that future drug use is very unlikely. In judging the likelihood of future drug use, the adjudicator should consider the subject's expressed intentions but know that good intentions may not last. Expressed intentions are more believable if they are accompanied by specific changes in lifestyle, such as moving from a college to a work environment, disassociation from drug-using associates, or avoiding the environment where drugs were used.

The adjudicator also considers recency of last drug use, frequency of past drug use, which drugs were used, circumstances of past drug use, and a whole person evaluation of the individual's reliability and trustworthiness.

The strongest indicator of a person's true intent and ability to abstain from future drug use is time elapsed since last drug use. The Adjudicative Guidelines do not provide any formula for evaluating the period of time that is relevant. This is a matter for informed judgment of the trained and experienced adjudicator. The following examples of time periods that might mitigate various types and frequencies of past drug use are based on a 1992 Defense Department study.14 They are provided for consideration in the context of all the other information available about the person. They are not a formula to be applied mechanically in all cases.

At Least Six Months: The only drug use was experimental or occasional use of marijuana, and there are no aggravating circumstances.

At Least One Year: Marijuana was used frequently, or any other drug was used experimentally, and there are no aggravating circumstances.

At Least Two Years: Marijuana was used regularly, or any other drug was used occasionally, and there are no aggravating circumstances. There was no evidence of psychological or physical dependence at the time subject was using drugs, and subject has demonstrated a stable lifestyle with satisfactory employment record since then.

At Least Three Years: Any drug other than marijuana was used frequently or regularly, or marijuana was used regularly with signs of psychological dependence. There are no other aggravating circumstances. Subject has maintained a stable lifestyle, satisfactory employment record, and a

completely clean record in all other issue areas during the past three years. See Example 4.

At Least Five Years: A minor involvement in drug trafficking for profit or failure to complete a drug treatment program. Subject has maintained a stable lifestyle, satisfactory employment record, and a completely clean record in all other issue areas during the past five years.

Every case has unique factors that must be considered in addition to these time guidelines. Adjudicators should adjust the time periods in order to take into account circumstances of past drug use and whether the individual is a current clearance holder or an applicant. When in doubt, ask the following question: Has subject demonstrated "strength of character, trustworthiness, honesty, reliability, discretion, and sound judgment" as required by Executive Order 12968? If so, access may be approved. If not, it may be denied.

Example

Subject is a 32-year-old technician with a defense contractor. He is being processed for a Secret clearance. He was arrested four years ago for driving under the influence of marijuana; he was weaving across the center line of the road. He was given one year probation, drivers license suspended for six months, ordered into drug counseling, and fined $200.

Subject said he used marijuana two to four times a week for three years, mostly at parties. He was never involved in cultivating or selling marijuana and never used any other drug. Subject completed the 40-hour drug counseling program. He says he has not used marijuana or any other drug since his arrest and does not intend to use drugs in the future. "Drugs aren't worth the trouble they cause you," he explains. Subject's employer reports that his work performance has improved during the four years since his arrest. There is no other derogatory information on subject.

The employer's report that subject's work performance improved after his arrest supports subject's statement that he did, indeed, stop using drugs. It also suggests, however, that before the arrest his drug problem was serious enough to affect work performance. The severity of subject's penalty for a first-time offense also suggests he had a serious drug problem. However, four years of abstention from marijuana is a strong indicator of intent. There appears to be strong evidence of continuing intent to abstain from drugs, so approval may be appropriate.

Types of Treatment for Drug Abuse

Drug abuse treatment includes detoxification, management of drug dependence, and prevention of relapse. Since drug abuse is a complex disorder with multiple causes, there are also multiple treatment methods that are more or less effective with, or acceptable to, different patients. Ideally,

assessment of the drug abuse history and personal characteristics of individual patients would permit matching the patient with the treatment method most likely to be successful for that person. This is not possible with the present state of knowledge, however, so treatment programs are varied and usually multifaceted. Treatment methods are of two general types:

Drugs that Affect Physiological Processes: Prescribed medications may provide a substitute drug that has similar physiological effects (i.e., methadone treatment of heroin addiction and nicotine chewing gum for treatment of tobacco dependence); may block the physiological effects of the abused drug; or may treat the symptoms of the abused drug (i.e., reduce the craving or treat the insomnia and anxiety often associated with withdrawal from drug use). 15

Examples:

- Agonistic Maintenance Treatment: works by stabilizing opiate addicts with sustained dosages of methadone.
- Narcotic Antagonistic Treatment Using Naltrexone: works by providing long-acting synthetic opiate antagonist drugs to combat the effects of opiates on the physiological processes of the body.
- Medical Detoxification: in-patient treatment aimed at ridding the body of addictive agents and providing medications to help combat the effects of withdrawal.

Therapies that Aim to Modify Behavior: Treatments that aim to change behavior include a variety of counseling and psychotherapy approaches based primarily on talking: peer support self-help groups modeled after Alcoholics Anonymous; behavioral conditioning to alter one's response to drug stimuli; skill development (i.e., teaching job or social skills, assertiveness, or relaxation/stress management); or relatively long-term (typically 6 months or longer) treatment in a closed residential setting emphasizing drug abstinence and learning of new attitudes and behaviors. 13

Examples:

- Outpatient Drug-free Treatment: works by providing drug education, admonition, and often group therapy; most suitable for addicts with extensive social-support networks.
- Long-Term Residential Treatment: provides 24-hour care in a therapeutic community; often involves behavior modification therapies and focuses on individual accountability and social responsibility outside treatment.
- Short-Term Residential Treatment: provides brief but intensive treatment using a 12-step process intended to directly address the addiction.

Effectiveness of Treatment for Drug Abuse

The most comprehensive study of the effectiveness of drug abuse treatment is the Drug Abuse Treatment Outcome Study (DATOS) sponsored by the National Institute on Drug Abuse. This study collected data on 10,000 patients who entered drug treatment in 1991, 1992 and 1993 and followed a sample of these patients for five years after completion of their treatment. There have been notable advances in treatment methods since this study was done, but the general findings of the DATOS study are still considered valid. 16

DATOS and other studies have shown that treatment is effective, but that relapse remains common and repeated treatments are often required. It confirmed previous findings that the amount of time spent in the treatment program was more important than the nature of the treatment program, and was the single most important factor in determining the amount of improvement gained from the program. Three months of treatment was sufficient for positive outcomes in a number of cases, but those who remained in a program for one year were significantly less likely to return to regular drug use than those in treatment less than one year. 17

In addition to length of the treatment program, chances of relapse, most notably for cocaine users, are influenced by the severity of the problem and by the same biological, psychological, behavioral, social and environmental risk factors that influence the onset of drug use and the escalation to drug abuse in the first place. It is speculated that the number of risk factors for an individual may serve as a measure of relapse risk for that individual.17 Conversely, a stable family, work and social environment, the absence of severe psychological problems, and strong motivation to be cured are associated with successful treatment outcomes.

Individuals who suffer from a psychiatric disorder as well as drug abuse are especially difficult to treat and have higher than normal relapse rates after treatment. Historically, treatment response has been directly related to severity of the psychiatric disorder; the more severe the psychiatric problem, the lower the chances for successful treatment. Treatment is particularly ineffective with drug abusers who also suffer from antisocial personality disorder.3 Recent advances have provided more effective approaches to treating co-occurring drug abuse/dependence and mental disorders, but the fact remains that drug abusers with other mental disorders are at a disadvantage when it comes to successful rehabilitation. 18

According to the DATOS study, Outpatient Methadone Treatment was the least successful, while Outpatient Drug Free Treatment was the most successful. This may be because individuals in the Outpatient Drug-free Treatment group are most likely to have the familial and social support to help them cope throughout their time in rehabilitation.

In the DATOS study, 48%-69% of the heroin and cocaine abusers significantly reduced their drug use during the year after treatment. Abstinence after one year varied depending on type of treatment. Patients in Outpatient Methadone Treatment only achieved 26% abstinence, compared to 71% of patients in Long-term Residential Treatment.

For marijuana, abstinence rates averaged only about 20% and improvement rates about 60% for the various treatment programs. One-year improvement rates for marijuana were the lowest for any drug. The persistence of marijuana use may be explained by the fact that almost 30% of patients in the study were multiple drug users. Treatment focused on the harder drugs, with marijuana considered more benign. Treatment is considered partially successful if patients shift to less serious drugs and less complex patterns of use. Thus, marijuana may act as a substitute for harder drug use.

Drug abuse treatment, as well as drug abuse itself, is a recurrent phenomenon. Twenty to 74% of all patients returned to treatment within the first year after completing the treatment, depending on treatment method, and substantial numbers returned each year during the five-year monitoring period. Additionally, more than 60% of those treated for addiction to cocaine, heroin, or other opiates had received prior treatment, and of those, more than half had received at least three months of prior intensive treatment.

Regarding treatment for abuse of a specific drug, click on that drug in the Contents frame on the left.

Reference Materials

Definitions of Drug Use, Abuse, and Dependence

When categorizing extent of drug involvement, medical personnel use three terms: drug use, abuse, and dependence.[19] This medical usage differs substantially from the way the terms "use" and "abuse" are used in the Adjudicative Guidelines.

These terms are defined in medical usage as follows:

Use: Any taking in of a psychoactive substance. A psychoactive substance is a substance which affects a person's perceptions, mood, way of thinking and behavior. The term "simple use" is sometimes used to describe experimentation or occasional recreational use that does not reach the point of abuse or dependence. Note: The distinction between use and abuse is not meant to imply that simple use is benign or that there is any level of drug involvement that is not potentially dangerous. The Adjudicative Guidelines define *any* illegal use of a drug or use of a legal drug in a manner that deviates from approved medical direction as drug abuse.

Abuse: Use becomes abuse when it continues despite persistent or recurrent social, occupational, psychological or physical problems caused by or made worse by this use. Use before driving a car or engaging in other activities that are dangerous when under the influence of a psychoactive substance also qualifies as abuse. The transition from use to abuse is often gradual, and there is no clear threshold for defining the point at which use becomes abuse. Frequency and quantity of use are important considerations, as is the extent to which drug use has become a regular feature of one's lifestyle.

Dependence: Habitual, compulsive use of a substance over a prolonged period of time. The substance may be taken in larger amounts or over a longer period than intended. Increased amounts of the substance may be needed to achieve the desired effect. There may have been unsuccessful efforts to cut down on the amount of use. A great deal of time may be spent in obtaining the substance or recovering from its effects. There may be a significant impact on one's work, home or social life, or mental or physical health.

Abuse and dependence are both medical diagnoses that require certain criteria to be met before they are applied. The diagnosis should be made by a physician or other qualified substance abuse professional.

Observable Indicators of Drug Use

Drug abuse and other substance abuse often affects a person's performance, behavior, and appearance. This is the basis for a number of indicators that can alert supervisors and coworkers to the possibility that an individual may be abusing drugs, but they certainly do not "prove" the abuse of drugs. These indicators are significant only if they represent a change from the person's normal behavior. Some of these changed behaviors may be caused by a death in the family, a new medical problem, a divorce, or any other source of emotional stress. It is important to keep these caveats in mind when considering these indicators. Any sudden change for the worse in a person's performance, behavior, or appearance should be a source of concern, but drug abuse is just one of the possibilities.

- **Performance Indicators:** Excessive absenteeism or tardiness, missed deadlines, lower productivity or deteriorating work quality, increased minor accidents or mistakes, multiple reports by coworkers of theft or missing personal items.
- **Behavioral Indicators:** Sudden change in attitude such as a new "I don't care" attitude, sudden deterioration of long friendships or relationships, explosive arguments over small matters, frequent hangover symptoms, using drug culture jargon, secretive behavior, unusual forgetfulness or indecision, deterioration in personal appearance and hygiene, hyperactivity such as constant toe or heel-tapping or drumming of fingers, restlessness, increased physical

activity, wearing long-sleeved clothing in very warm weather, new financial problems or frequent borrowing of money.

- **Physical Indicators:** Small blood spots or bruises on skin, bloodshot or watery eyes, large or small (dilated) pupils, runny or irritated nose or irritating cough or sore throat, change in speech pattern (slurred, faster, slower), tremors or jitters, constant scratching of skin or picking at skin and hair on arms, poor coordination (tripping, spilling, bumping into things), a faint skin odor (either sweet or acrid), easily fatigued or constantly fatigued, hyper-excitability.
- **Drug Paraphernalia:** Possession of hypodermic needles, balloons, aluminum foil wrappers, mirrors or flat metal, short straws, glass pipes, smoking pipes, capsules, vials, folded paper envelopes, cigarette lighter or small butane torch (when carried by a nonsmoker). 20

Prevalence of Drug Use

Trends in high school drug use predict how many future job applicants will have previously used drugs. There was a strong trend toward *reduced* drug use from 1981 to 1992, but this trend reversed in 1993. In 1981, 65.6% of high school seniors had used some illegal drug at some time during their lives. This was down to 40.7% in the graduating class of 1992. It has increased steadily since then. In 1996, 50.8% of high school seniors admitted using an illegal drug at some time during their life; 24.6% admitted doing so during the previous month. In 2003, 51% reported using drugs in their lifetimes, with 24.1% reporting use in the past month. Daily (at least 20 times during the month prior to the survey) use of marijuana was reported by 5.8%. 1

For information on prevalence of other drugs, click on the specific drug in the Table of Contents.

Statistics that apply to the overall population, as reported here, will generally be higher than frequency rates found in a select and prescreened pool of persons undergoing security processing.

Prevalence of drug use, which drugs are favored and how they are administered are all subject to rapid change. Drug education programs, changes in public attitudes, high-profile cases of drug deaths, rumors and facts regarding the dangers of specific drugs, new developments in methods of administering drugs, and changes in the cost or purity of drugs all affect the nature and extent of drug use and abuse.

Updated information on prevalence of drug use is available from two annual surveys sponsored by the National Institute on Drug Abuse: the National Household Survey on Drug Abuse, and the Monitoring the Future survey of drug use by high school seniors. Information is broken down by type of drug,

frequency of use, and many demographic variables. Information on prevalence of drug use among military personnel is available from the Worldwide Survey of Substance Abuse and Health Behaviors Among Military Personnel. To obtain the most current information, see Sources of Additional Information.

Glossary of Drug Terms

Slang terminology for illegal drugs and drug use is extensive, differs from one locality to another, and is constantly changing. The Office of National Drug Control Policy (ONDCP) maintains an extensive glossary of drug terms. It is available at the ONDCP site at www.whitehousedrugpolicy.gov/streetterms/Default.asp. It has over 2,300 street terms and is updated periodically. It can be searched alphabetically or by topic.

Effectiveness of Drug Screening Programs

Although the urine test procedure yields accurate results when done properly, preemployment drug screening generally detects only the careless user or the strongly dependent person. One can generally avoid detection simply by abstaining from drug use prior to the test.

For most drugs, evidence of drug use at levels detectable by the initial screening remains in the system for only two or three days, although heavy marijuana use can sometimes be detected up to three weeks later. The length of time that detectable evidence of drug use remains in the urine depends upon which drug is used, amount taken, the individual's physical condition and metabolism, fluid intake since taking the drug, and the sensitivity of the drug test. 29

Unscheduled random testing has a better chance of detecting the occasional user than pre-employment screening, but even random testing has limitations that are more or less severe, depending upon how it is conducted. For example, current U.S. Navy policy directs all commands to test approximately 10% to 20% of their personnel each month on a random basis.30 (Army and Air Force testing is less extensive.)

If a randomly selected sample of 10% of personnel is tested once a month, on a randomly selected day, a user with drugs in his or her system 6 days of the month has only a 2% chance of detection during any given month. This probability is greatly reduced if a drug user refrains from drug use until after the monthly test.

If only 1% of personnel were to be tested on each of 10 randomly selected days each month, the statistical probability of detection would be marginally reduced, but the deterrent value of testing would be greatly enhanced, as it

would become more difficult to plan drug use around the monthly test schedule. 31

Drug testing programs vary in the number of drugs that each urine sample is tested for. Navy policy is to test each urine sample for five drugs, with the fifth drug in the test rotated among several possibilities. Army and Air Force test each urine sample for only three drugs -- marijuana and cocaine, with the third drug rotated among heroin, amphetamine, LSD, etc. 32

Accuracy of Urine Testing

Testing a urine sample is the standard means to determine current use of an illegal drug. A positive drug test shows only that a substance or some of its residue was present in a person's body. It does not provide any information about the frequency of use or whether the individual is an abuser or drug dependent, and it does not prove intoxication or impaired on-the-job performance.

The standard urine test is judged to be reliable only if test procedures follow the Technical and Scientific Guidelines issued by the U.S. Department of Health and Human Services.21 Requirements of these guidelines include:

- Strict controls over the chain of custody of urine specimens, so that there is documentary evidence that the test report applies to the individual from whom the sample was taken.
- Federal certification of the laboratory and of the scientists performing test analysis.
- When initial screening shows the presence of an illegal drug, a confirmatory test using gas chromatography/mass spectrometry (GC/MS) techniques is required.
- A Medical Review Officer must review any positive test result with the employee to determine whether alternative medical factors could account for the result. This review must occur prior to transmission of test results to agency administrative officials.

These procedures protect against some but certainly not all methods that individuals can use to falsify a drug test. The Government Accountability Office (GAO) investigation described above, under Falsification of Drug Tests, concluded that products promoted and distributed via the Internet "present formidable obstacles to the integrity of the drug testing process." 8

The standard procedure used in mass drug-screening programs is an immunoassay test, of which there are a number of different versions. The great advantage of immunoassay urinalysis technologies is that they are quick and not too expensive. The weakness is that 1% to 2% of negative urine specimens will test positive. And many positive urine specimens will

test negative, as the procedure is not as sensitive to low concentrations of drugs in the urine as one might prefer. 22

The only way to ensure full reliability is to conduct a second confirmatory test, using the more time-consuming and expensive GC/MS technique. This is required by the Technical and Scientific Guidelines in all cases when the initial test is positive. The GC/MS technique is extremely accurate and sensitive to relatively small traces of drug use. There is almost no chance of error with a GC/MS test as long as the test is conducted and interpreted properly. 21

The evidence does still need to be interpreted by a qualified medical professional. Legitimate medical treatment, and even some foods such as poppy seeds, can lead to detectable levels of drugs in urine during an initial drug screening; the confirmatory GC/MS test can generally identify the specific substance involved.

Hair Testing

Hair testing is approved by the Federal Drug Administration, has been admitted in court as scientifically acceptable evidence of drug use, and is now being used in place of urine testing by many large corporations and leading police departments. It is, however, still controversial and subject to legal challenge. Studies have found that dark-haired people are more likely to test positive for drugs because they have higher levels of melanin, which allows drug compounds to bind more easily to their hair. 23

Drug traces get into the hair via the blood that circulates in the body to nourish hair as well as other tissues. The drug enters the hair below skin level, so it takes about seven days for hair to grow out enough for drug use to be detectable in hair cut from the scalp.

Head hair grows approximately 1.3 centimeters, or 1/2 inch, per month and provides a chronological record of drug use. In other words, hair that is 1 1/2 inches long would represent about three months' growth. The section of hair nearest the scalp would show drug use during the previous month, while the section nearest the end of the hair would reflect drug use two to three months earlier. If insufficient head hair is available, pubic hair or other body hair may be used.

Hair testing is currently available for the following drugs: cocaine, opiates, marijuana, PCP, and methamphetamine or amphetamine.

As compared with urine testing, hair testing has some significant advantages. 24, 25, 26

- Evidence of drug use remains in the hair for as long as the hair remains on the body, while evidence remains in the urine for only several days to a week or two, depending upon the drug. A brief period of abstinence will not significantly affect the results of hair testing, as it does with urine testing.
- Hair testing can distinguish between light, moderate, and heavy use of some drugs, especially cocaine and opiates, as the amount of drug traces in the hair is roughly proportional to the amount of drug use.
- Hair is relatively inert, easy to handle, and requires no special storage facilities or conditions.
- Snipping a small piece of hair from the head is less invasive and less embarrassing for most people than supplying a monitored urine sample.
- If test results are challenged, it is easy to collect another comparable hair sample for re-testing.
- Contaminating or altering a sample to distort or manipulate test results is much more difficult with hair than with urine.
- Because of the way traces of cocaine and opiate use are retained in the hair, hair testing is dramatically more effective than urine testing in detecting these drugs.

As compared with urine testing, hair testing also has several disadvantages. [27]

- Hair testing is more expensive, although cost will probably come down if hair testing is done in greater volume.
- Hair testing cannot be used to detect as many different types of drugs as urine testing. For example, hair testing for LSD is not currently available, although it is expected to be developed in the future.
- Hair testing is not as sensitive as urinalysis in detecting low levels of marijuana use within the previous week. This is offset by the ability of hair testing to detect moderate to high marijuana use over a much longer window of time.
- Some biases may exist based on an individual's hair color or texture which may influence drug test results.

As with urinalysis, rigorous procedures must be used to guide and document the collection, preservation, shipping, laboratory handling, testing, and eventual destruction of the hair sample. Procedures unique to hair testing include washing the hair sample to remove any external contaminants prior to testing. The washing is repeated until the wash water tests negative for any evidence of drugs. This ensures that a positive hair test shows only chemicals that were in the hair, not on the hair.

Sweat Testing

New research has shown that body sweat provides accurate indices of drug use. Using sweat testing, drug use can be monitored over a span of time, usually a week, to provide a record of drugs used. Sweat testing consists of an individual wearing a sweat patch. The patch resembles a band aid with an absorbent cellulose pad attached. The cellulose pad is designed to trap drug constituents excreted through the sweat, while allowing water, oxygen, and carbon dioxide to escape. Over several days as sweat saturates the pad, the excreted drug slowly concentrates. The patch is then removed and the cellulose pad analyzed for drug content. 28

Advantages of the sweat patch:

- High subject acceptability to wearing the patch because of its noninvasive nature.
- Sample collection is simple and efficient.
- Ability to monitor drug intake for one to two weeks at a time.
- The patch is relatively tamper-proof in that it cannot be taken off the skin and reapplied.
- Sweat is a good detector of both cocaine and heroin use.

Disadvantages of the sweat patch:

- There is high variability among individuals regarding utility of the sweat patch.
- Care must be taken to prevent environmental contamination of the cellulose pad during application and removal.
- Sweat testing is more expensive than traditional urine and hair testing.
- There are few established rules and regulations regarding use and analysis of the sweat patch.
- Because the patch must be worn for several days, it may be perceived as more invasive than other forms of drug testing.

Research is under way to develop a new approach to sweat testing that would allow a police officer, school official, or doctor to administer a test and have the results in a few minutes. 25

Sources of Additional Information

A catalog of publications on drugs, drug abuse, and prevention of drug abuse may be obtained from the National Clearinghouse for Alcohol and Drug Information, phone 1-800-729-6686. It is on the Internet at

http://store.health.org/catalog/. There is no charge for most of the publications.

The prevalence of all forms of substance abuse is monitored annually by two major national surveys. The National Survey on Drug Use and Health (http://www.oas.samhsa.gov/nhsda/2k3nsduh/2k3ResultsW.pdf) is based on a national probability sample of persons age 12 and older living in U.S. households. The Monitoring the Future survey (http://www.drugabuse.gov/DrugPages/MTF.html) interviews high school seniors in public and private schools, with annual follow-up questionnaires mailed to a sample of previous participants from each high school graduating class since 1976. Both surveys are sponsored by the National Institute on Drug Abuse. Results are published annually with information broken down by type of drug, frequency of use, and many demographic variables. Each report encompasses several volumes. Hard copies of these reports may be obtained without charge from the National Clearinghouse for Alcohol and Drug Information.

Several web sites provide detailed information on specific drugs of abuse, problems resulting from the widespread use of drugs in the United States, and measures that are being taken to correct these problems and treat drug addiction. These include:

- National Institute on Drug Abuse http://www.nida.nih.gov/Drugpages/
- The Office of National Drug Control Policy http://www.whitehousedrugpolicy.gov/index.html
- Drug Abuse Warning Network (DAWN) http://dawninfo.samhsa.gov/default.asp
- Substance Abuse and Mental Health Services Administration: http://www.samhsa.gov/
- Parents. The Antidrug. http://www.theantidrug.com

Information About Specific Drugs

The Office of National Drug Control Policy (ONDCP) maintains a web site with extensive information about the more commonly abused drugs. All the information in this section is copied with approval of ONDCP from its web site at www.whitehousedrugpolicy.gov/drugfact/index.html. The ONDCP files are updated periodically. Additional information on the drugs below and other illegal drugs not listed here is available at www.ohsinc.com/descriptions_of_drugs_of_abuse.htm.

Cocaine	MDMA (Ecstasy)
GammaHydroxybutyrate	Methamphetamine
Hallucinogens	Oxycontin

Heroin
Inhalants
Marijuana
Rohypnol
Steroids

Cocaine

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated November 2003.

Background

Cocaine, the most potent stimulant of natural origin, is extracted from the leaves of the coca plant *(Erythroxylon).* It was originally used in South America in the mid-19th century by natives of the region to relieve fatigue. Pure cocaine (cocaine hydrochloride) was first used as a local anesthetic for surgeries in the 1880s and was the main stimulant drug used in tonics and elixirs for treatment of various illnesses in the early 1900s. Crack, the freebase form of cocaine, derives its name from the crackling sound made when heating the sodium bicarbonate (baking soda) or ammonia used during production. Crack became popular in the mid-1980s because of its immediate high and its inexpensive production cost.

Cocaine most often appears as a white crystalline powder or an off-white chunky material. Powder cocaine is commonly diluted with other substances such as lactose, inositol, mannitol, and local anesthetics such as lidocaine to increase the volume of the substance and the profits of the drug dealer. Powder cocaine is usually snorted or dissolved in water and injected. Crack, or "rock," is most often smoked.

Effects

The effects of cocaine normally occur immediately after ingestion and can last from a few minutes to a few hours. The duration of the drug's effects depends on how it is ingested. Snorting cocaine produces a slow onset of effects that can last from 15 to 30 minutes, while the effects of smoking cocaine last from 5 to 10 minutes and produce a more intense high. Cocaine produces euphoric effects by building up dopamine in the brain, causing the continuous stimulation of neurons.

Users often feel euphoric, energetic, talkative, and mentally alert after taking small amounts of cocaine. Cocaine use can also temporarily lessen a user's need for food or sleep. Short-term physiological effects include constricted blood vessels, dilated pupils, and increased temperature, heart rate, and blood pressure. Ingesting large amounts of cocaine can intensify the user's high, but can also lead to bizarre, erratic, and violent behavior. Users who

ingest large amounts may experience tremors, vertigo, muscle twitches, and paranoia. Other possible effects of cocaine use include irritability, anxiety, and restlessness.

Cocaine is a powerfully addictive drug. A tolerance is often developed when a user, seeking to achieve the initial pleasure received from first use, increases the dosage to intensify and prolong the euphoric effects.

Prevalence Estimates

During 2000, there were an estimated 2,707,000 chronic cocaine users and 3,035,000 occasional cocaine users in the United States.

According to *What America's Users Spend on Illegal Drugs,* users spent $35.3 billion on cocaine in 2000, a decrease from the $69.9 billion spent in 1990. Americans consumed 259 metric tons of cocaine in 2000, a decrease from the 447 metric tons consumed in 1990.

The U.S. Department of Health and Human Services' *Results From the 2002 National Survey on Drug Use and Health: National Findings* found that more than 33 million people age 12 and older (14.4%) in 2002 reported that they had used cocaine at least once in their lifetime (see table 1). More than 8 million Americans (3.6%) age 12 and older had used crack cocaine at least once in their lifetime (see table 2).

According to the University of Michigan's Monitoring the Future Study, in 2002, 3.6% of 8th graders, 6.1% of 10th graders, and 7.8% of 12th graders surveyed reported using cocaine at least once during their lifetime (see table 3). Of the students surveyed, 2.5% of 8th graders, 3.6% of 10th graders, and 3.8% of 12th graders reported using crack within their lifetime (see table 4).

The study also showed that, in 2002, 8.2% of college students and 13.5% of young adults (ages 19 to 28) reported using cocaine during their lifetime. Almost 2% of college students and 4.3% of young adults reported using crack cocaine during their lifetime.

Table 1. Percentage of Americans reporting lifetime use of cocaine, by age group, 2002

Age Group	Lifetime	Past Year	Past Month
12–17	2.7%	2.1%	0.6%
18–25	15.4	6.7	2.0
26 and older	15.9	1.8	0.7
Total population	14.4	2.5	0.9

Source: National Survey on Drug Use and Health.

Table 2. Percentage of Americans reporting lifetime use of crack, by age group, 2002

Age Group	Lifetime	Past Year	Past Month
12–17	0.7%	0.4%	0.1%
18–25	3.8	0.9	0.2
26 and older	3.9	0.7	0.3
Total population	3.6	0.7	0.2

Source: National Survey on Drug Use and Health.

Table 3. Percentage of students reporting cocaine use, 2001–2002

	Lifetime		Past year		Past month	
Grade	**2001**	**2002**	**2001**	**2002**	**2001**	**2002**
8th grade	4.3%	3.6%	2.5%	2.3%	1.2%	1.1%
10th grade	5.7	6.1	3.6	4.0	1.3	1.6
12th grade	8.2	7.8	4.8	5.0	2.1	2.3

Source: Monitoring the Future Study.

Table 4. Percentage of students reporting crack use, 2001–2002

	Lifetime		Past year		Past month	
Grade	**2001**	**2002**	**2001**	**2002**	**2001**	**2002**
8th grade	3.0%	2.5%	1.7%	1.6%	0.8%	0.8%
10th grade	3.1	3.6	1.8	2.3	0.7	1.0
12th grade	3.7	3.8	2.1	2.3	1.1	1.2

Source: Monitoring the Future Study.

In another study, among the high school students surveyed in 2001 as part of the Youth Risk Behavior Surveillance System, 9.4% reported using cocaine in their lifetime and 4.2% reported using cocaine in the 30 days before the survey. Hispanic students reported the highest percentage of lifetime cocaine use (14.9%), followed by white students (9.9%), and black students (2.1%). Male students (10.3%) were more likely than female students (8.4%) to report lifetime cocaine use.

Regional Observations

According to *Pulse Check: Trends in Drug Abuse,* during the first half of 2002 powder and crack cocaine were widely to somewhat available in the 20 Pulse Check sites across the United States. Among powder cocaine users, the predominant group consisted of white males who were older than 30 and lived in the central city. Crack cocaine users tended to be young adults between the ages of 18 and 30 who lived in the central city and were usually from low socioeconomic backgrounds. Blacks were twice as likely as whites to be reported as the predominant crack cocaine user group by Pulse Check sites.

In December 2002, the 21 Community Epidemiology Work Group (CEWG) sites reported that cocaine/crack indicators showed mixed patterns of stabilization or decline in 10 sites, while 8 sites remained stable, 1 reported an increase, and 2 reported decreases.

The Arrestee Drug Abuse Monitoring (ADAM) Program collects data on male arrestees testing positive for cocaine at the time of arrest in 36 ADAM sites. According to preliminary 2002 data, the percentage of adult male arrestees testing positive ranged from 9.1% in Honolulu to 49.4% in Atlanta. Of the 23 ADAM sites collecting female-arrestee data, the percentage of female arrestees testing positive for cocaine at the time of arrest ranged from 7.4% in Honolulu to 55.2% in Indianapolis.

Availability

Production and Trafficking

According to the National Drug Intelligence Center's *National Drug Threat Assessment 2003,* cocaine is the primary drug threat in the United States because of its high demand and availability, its expanding distribution to new markets, the high rate of overdose associated with it, and its relation to violence. Cocaine consumed in the United States originates from coca plants grown in South America. In 2002, there was the potential for 550 metric tons of cocaine production. Some 352 metric tons of export-quality cocaine was available in U.S. markets.

Approximately 75% of the coca cultivated for processing into cocaine is currently grown in Colombia, and Colombian drug trafficking organizations (DTOs) are responsible for most of the cocaine production, transportation, and distribution. Bahamian, Dominican, Haitian, Jamaican, and Puerto Rican criminal groups transport cocaine, usually under the supervision of Colombian DTOs. Mexican DTOs are involved in wholesale cocaine distribution in the United States. Gangs control retail distribution of powder and crack cocaine in urban areas, while local independent dealers are the primary distributors in suburban and rural areas.

Of the cocaine that enters the United States, 72% passes through the Mexico/Central America corridor. Another 27% moves through the Caribbean and 1% comes directly from South America.

Cocaine is readily available in most major cities in the United States. Powder cocaine is typically shipped to one of six main transportation hubs—Central Arizona (Phoenix/Tulsa), El Paso, Houston, Los Angeles, Miami, and Puerto Rico. New York City also is becoming a main transportation hub. Powder cocaine is then distributed through one of the primary distribution centers—Atlanta, Chicago, Dallas, Detroit, New York City, and Philadelphia.

Crack cocaine is not usually transported in large quantities or over long distances due to the more severe mandatory sentencing for possession and distribution of the drug. Retail distributors often convert powder cocaine into crack closer to the marketing areas.

Price and Purity

In 2001, the wholesale price for powder cocaine ranged from $10,000 to $36,000 per kilogram, $400 to $1,800 per ounce, and $20 to $200 per gram. Prices for crack cocaine ranged from $3 to $50 per rock, with prices usually ranging from $10 to $20. In 2001, the average nationwide purity of powder cocaine was 69% for kilogram quantities and 56% for gram quantities.

Enforcement

Arrests

The Federal Bureau of Investigation estimates that, during 2001, cocaine and heroin and their derivatives accounted for 9.7% of drug abuse violation arrests for sale and manufacturing and 23.1% for possession arrests (estimates of cocaine arrests alone are not available).

From October 1, 2000, to September 30, 2001, there were 12,457 Federal drug arrests for cocaine, representing 37% of all Federal drug arrests. Of those arrested by Federal agents for cocaine, 40% were white and 59% were black.

Seizures

According to the Federal-wide Drug Seizure System (FDSS), U.S. Federal law enforcement authorities seized 105,885 kilograms of cocaine in 2001 and 60,874 kilograms from January to September 2002. FDSS consolidates information about drug seizures made within the jurisdiction of the United States by DEA, the Federal Bureau of Investigation, and U.S. Customs and Border Protection, as well as maritime seizures made by the U.S. Coast Guard. FDSS eliminates duplicate reporting of seizures involving more than one Federal agency.

According to U.S. Customs and Border Protection, more than 171,000 pounds of cocaine were seized nationally during fiscal year (FY) 2002. Large amounts of cocaine were seized at the Southwest border and in South Florida—a total of more than 30,000 pounds at each location.

Adjudication

During FY 2001, 5,356 Federal drug offenders were convicted of committing an offense involving powder cocaine and 4,999 were convicted of committing a crack cocaine offense. Of those convicted of a Federal drug offense for powder cocaine, 50.2% were Hispanic, 30.5% were black, 18.1% were white, and 1.2% were of another race. Of those convicted of a Federal drug offense involving crack cocaine, 82.8% were black, 9.3% were Hispanic, 7% were white, and 0.9% fell into another race category.

Corrections

Federal drug offenders received longer sentences for crack cocaine than for any other drug. In FY 2001, the average length of sentence received by Federal crack cocaine offenders was 115 months, compared with 88.5 months for methamphetamine offenders, 77 months for powder cocaine offenders, 63.4 months for heroin offenders, 38 months for marijuana offenders, and 41.1 months for other drug offenders. According to a 1997 Bureau of Justice Statistics survey of Federal and State prisoners, approximately 65.5% of Federal and 72.1% of State drug offenders were incarcerated for a cocaine offense.

Consequences of Use

Cocaine use can lead to medical complications such as cardiovascular effects (disturbances in heart rhythm, heart attacks), respiratory failure, neurological effects (strokes, seizure, and headaches), and gastrointestinal complications such as abdominal pain and nausea. Cocaine use has been linked to heart disease, has been found to trigger ventricular fibrillation (chaotic heart rhythms), can accelerate a user's heart beat and breathing, and can increase a user's blood pressure and body temperature. Additional physical symptoms of cocaine use include blurred vision, fever, muscle

spasms, convulsions, and coma. In rare instances, sudden death can occur on the first use of cocaine or unexpectedly thereafter. Cocaine-related deaths are often a result of cardiac arrest or seizures followed by respiratory arrest.

Other medical complications are related to the method of ingestion. For example, users who snort cocaine may lose their sense of smell, have nose bleeds, have problems swallowing, and have an overall irritation of their nasal septum that leads to a chronic runny nose.

Combined cocaine and alcohol use converts in the body to cocaethylene and causes a longer duration of effects in the brain that is more toxic than each drug used alone. This mixture results in more drug-related deaths than any other combination of drugs.

Although the effects of prenatal cocaine exposure are not completely understood, scientific studies have shown that such afflicted babies are often born prematurely, have low birth weights and smaller head circumferences, and are shorter in length. Originally thought to suffer irreversible neurological damage, these "crack babies" now appear to recover from the drug exposure. This is not to underestimate the many subtle but significant effects such babies later experience because of their exposure to cocaine, including impairment in behaviors that are crucial to concentrating in school.

Table 5. Number of emergency department mentions of cocaine, 1995–2002

1995	1996	1997	1998	1999	2000	2001	2002
135,711	152,420	161,083	172,011	168,751	174,881	193,034	199,198

Source: Drug Abuse Warning Network.

According to emergency department (ED) data collected by the Drug Abuse Warning Network (DAWN), there were 135,711 reported mentions of cocaine in 1995 (see table 5). A drug mention refers to a substance that was recorded (mentioned) during a visit to the ED. This number increased to 199,198 in 2002.

According to DAWN's 2001 mortality data, of the 42 metropolitan areas studied, 14 reported a decrease in cocaine mentions and 14 saw an overall increase since 2000. The remaining metropolitan areas had stable cocaine mentions.

Treatment

Medications to treat cocaine addiction are not available, although researchers are working to identify and test new options. The most promising experimental medication is selegiline, which still needs an appropriate method of administration. Disulfiram, a medication that has been used to treat alcoholism, has been shown to be effective in treating cocaine abuse in clinical trials. Antidepressants are usually prescribed to deal with mood

changes that come with cocaine withdrawal. Medical treatments are also being developed to deal with cocaine overdose.

Treatments such as cognitive-behavioral coping skills have been shown to be effective in addressing cocaine addiction but are a short-term approach that focuses on the learning processes. Behavioral treatment attempts to help patients recognize, avoid, and cope with situations in which they are most likely to use cocaine.

According to the Treatment Episode Data Set, cocaine was the third most common illicit drug responsible for treatment admissions in 2000, accounting for 13.6% of all drug treatment admissions. There were 158,524 total admissions for smoked cocaine, accounting for 9.9% of all drug treatment admissions (73% of all cocaine admissions), and 59,787 total admissions for nonsmoked cocaine, accounting for 3.7% of all drug treatment admissions.

Those admitted for smoking crack cocaine were predominantly black (59%), followed by whites (32%) and Hispanics (6.3%). Approximately 42% of those admitted for smoking crack were female. Of all individuals admitted for smoking crack, most (59%) did not use the drug until age 21 or older and 41% reported daily use.

Those admitted for nonsmoked cocaine were predominantly white males (29%), followed by black males (23%), white females (18%), and black females (12%). More than 40% of those admitted for nonsmoked cocaine reported first using the drug by the age of 18. The more common form of nonsmoked cocaine ingestion was by inhalation (70%), followed by injection (15%).

Street Terms

Street terms for cocaine	
All American drug	Icing
Aspirin (powder cocaine)	Jelly
Barbs	Lady
Basa (crack cocaine)	Mama coca
Base (crack cocaine)	Mojo
Bernie	Nose stuff
Big C	Oyster stew
Black rock (crack cocaine)	Paradise
CDs (crack cocaine)	Pariba (powder cocaine)
Candy sugar (powder cocaine)	Pearl
Coca	Real tops (crack cocaine)
Crack	Rocks (crack cocaine)
Double bubble	Roxanne (crack cocaine)
Electric Kool-Aid (crack cocaine)	Scorpion
Flave (powder cocaine)	Sevenup
Florida snow	Snow white
Foo foo	Sugar boogers (powder cocaine)
Gin	Twinkie (crack cocaine)
Gold dust	Yam (crack cocaine)
Happy dust	Zip

Gamma Hydroxybutyrate (GHB)

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated November 2002.

Background

Gamma hydroxybutyrate (GHB) is a powerful, rapidly acting central nervous system depressant. It was first synthesized in the 1920s and was under development as an anesthetic agent in the 1960s. GHB is produced naturally by the body in small amounts but its physiological function is unclear.

GHB was sold in health food stores as a performance enhancing additive in bodybuilding formulas until the Food and Drug Administration (FDA) banned it in 1990. It is currently marketed in some European countries as an adjunct to anesthesia. GHB is abused for its ability to produce euphoric and hallucinogenic states and for its alleged function as a growth hormone that

releases agents to stimulate muscle growth. GHB became a Schedule I Controlled Substance in March 2000.

In the United States, GHB is produced in clandestine laboratories with no guarantee of quality or purity, making its effects less predictable and more difficult to diagnose. GHB can be manufactured with inexpensive ingredients and using recipes on the Internet. Gamma butyrolactone (GBL) and 1,4-butanediol are analogs of GHB that can be substituted for it. Once ingested, these analogs convert to GHB and produce identical effects. GBL, an industrial solvent, is used as an immediate precursor in the clandestine production of GHB. The FDA has issued warnings for both GBL and 1,4-butanediol, stating that the drugs have a potential for abuse and are a public health danger.

Effects

GHB is usually taken orally. It is sold as a light-colored powder that easily dissolves in liquids or as a pure liquid packaged in vials or small bottles. In liquid form, it is clear, odorless, tasteless, and almost undetectable when mixed in a drink. GHB is typically consumed by the capful or teaspoonful at a cost of $5 to $10 per dose. The average dose is 1 to 5 grams and takes effect in 15 to 30 minutes, depending on the dosage and purity of the drug. Its effects last from 3 to 6 hours.

Consumption of less than 1 gram of GHB acts as a relaxant, causing a loss of muscle tone and reduced inhibitions. Consumption of 1 to 2 grams causes a strong feeling of relaxation and slows the heart rate and respiration. At this dosage level, GHB also interferes with blood circulation, motor coordination, and balance. In stronger doses, 2 to 4 grams, pronounced interference with motor and speech control occurs. A coma-like sleep may be induced, requiring intubation to wake the user. When mixed with alcohol, the depressant effects of GHB are enhanced. This can lead to respiratory depression, unconsciousness, coma, and overdose.

Side effects associated with GHB may include nausea, vomiting, delusions, depression, vertigo, hallucinations, seizures, respiratory distress, loss of consciousness, slowed heart rate, lowered blood pressure, amnesia, and coma. GHB can become addictive with sustained use.

Patients with a history of around-the-clock use of GHB (every 2 to 4 hours) exhibit withdrawal symptoms including anxiety, insomnia, tremors, and episodes of tachycardia (abnormally fast heart rates), and may progress to delirium and agitation. Because GHB has a short duration of action and quickly leaves the user's system, withdrawal symptoms may occur within 1 to 6 hours of the last dose. These symptoms may last for many months.

According to the Drug Abuse Warning Network (DAWN), GHB emergency department (ED) mentions have increased from 56 in 1994 to 3,340 in 2001 (see table).

Estimated number of emergency department GHB mentions, 1994–2001							
1994	1995	1996	1997	1998	1999	2000	2001
56	145	638	762	1,282	3,178	4,969	3,340
Source: Drug Abuse Warning Network.							

GHB-related deaths have occurred in several Community Epidemiology Work Group (CEWG) sites. In 1999, there were three reported deaths involving GHB in Texas and two in Minnesota. Missouri has reported five GHB-related deaths and two near deaths in which GHB was used to facilitate rapes. In Florida, during 2000, GHB was detected in 23 deaths and identified as the cause of death in 6 cases. Since 1990, the U.S. Drug Enforcement Administration (DEA) has documented more than 15,600 overdoses and law enforcement encounters and 72 deaths relating to GHB.

Prevalence Estimates

GHB is often ingested with alcohol by young adults and teens at nightclubs and parties. It is used as a pleasure enhancer that depresses the central nervous system and induces intoxication. It also can be used as a sedative to reduce the effects of stimulants (cocaine, methamphetamine, ephedrine) or hallucinogens (LSD, mescaline) and to prevent physical withdrawal symptoms.

Since 2000, GHB has been included in the University of Michigan's Monitoring the Future Survey questionnaire. Survey results indicate that annual GHB use by secondary school students in 2000 ranged from 1.1% among 10th graders to 1.2% among 8th graders and 1.9% among 12th graders. In 2001, estimates of annual GHB use ranged from 1.0% among 10th graders to 1.1% among 8th graders and 1.6% among 12th graders.

Regional Observations

According to CEWG, as of 2001, 15 CEWG areas reported increases in GHB indicators. They were Boston, Chicago, Dallas/Houston, Denver, Los Angeles, Miami, Minneapolis/St. Paul, Newark, New York, Philadelphia, Phoenix, St. Louis, San Diego, San Francisco, and Seattle. Atlanta, Baltimore, and Washington, D.C., reported stable GHB indicators. Only two CEWG sites, Detroit and New Orleans, reported declines in GHB indicators. Most CEWG areas report that GHB is frequently used in combination with alcohol, causing users to overdose.

In 2000, according to the National Drug Intelligence Center (NDIC), GHB availability was stable or increasing in nearly every DEA Field Division and High Intensity Drug Trafficking Area. Many areas reported that the increased availability of GHB occurred in concert with a rise in rave activity. Law enforcement also reported increases in the number of cases involving GHB analogs.

According to *Pulse Check: Trends in Drug Abuse*, GHB users and sellers tend to be between the ages of 18 and 30. Most users are middle-class white males. GHB is typically packaged in plastic bottles (mostly water or sports drink bottles) and distributed by the capful for $5–$20 per dose. Additional packaging includes eyedropper bottles, glass vials, and mouthwash bottles.

Drug-Facilitated Rape

Drug-facilitated rape is defined as sexual assault made easier by the offender's use of an anesthetic-type drug that renders the victim physically incapacitated or helpless and unable to consent to sexual activity. Whether the victim is unwittingly administered the drug or willingly ingests it for recreational use is irrelevant—the person is victimized because of their inability to consciously consent to sexual acts.

According to NDIC, GHB has surpassed Rohypnol (flunitrazepam) as the most common substance used in drug-facilitated sexual assaults. GHB can mentally and physically paralyze an individual, and these effects are intensified when the drug is combined with alcohol. To date, DEA has documented 15 sexual assaults involving 30 victims who were under the influence of GHB. Of the 711 drug-positive urinalysis samples submitted from victims of alleged sexual assault, 48 tested positive for GHB.

It is difficult to estimate the incidence of drug-facilitated rape involving GHB. Victims may not seek help until days after the assault, in part because the drug impairs their memory and in part because they may not identify signs of sexual assault. GHB is only detectable in a person's system for a limited amount of time and, if the victim does not seek immediate help, the opportunity to detect the drug can quickly pass. Also, law enforcement agencies may not be trained to gather necessary evidence and may not be using equipment that is sensitive enough to test for the drug.

Scheduling and Legislation

In response to the use of drugs in sexual assaults, Congress passed the Drug-Induced Rape Prevention and Punishment Act of 1996 to combat drug-facilitated crimes of violence, including sexual assaults. The act imposes harsh penalties for distribution of a controlled substance to an individual without the individual's knowledge and consent with intent to commit a crime of violence, including rape.

On February 18, 2000, the Hillory J. Farias and Samantha Reid Date-Rape Prevention Act of 2000 (Public Law 106-72) became law. It made GBL a List I chemical subject to the criminal, civil, and administrative sanctions of the Federal Controlled Substances Act of 1970. As a result of the law, GHB became a Schedule I Controlled Substance. A Schedule I drug has a high potential for abuse, is not currently accepted for medical use in treatment in the United States, and lacks accepted safety for use under medical supervision.

On March 20, 2001, the Commission on Narcotic Drugs placed GHB in Schedule IV of the 1971 Convention of Psychotropic Substances. This placement affects international drug control laws with which countries that are a part of the convention must comply. Schedule IV mandates international requirements on licensing for manufacture, trade, and distribution of the drug. It also requires parties to comply with prohibition of and restrictions on export and import of the drug and to adopt measures for the repression of acts contrary to these laws and regulations.

On July 17, 2002, Xyrem, a drug with an active ingredient of sodium oxybate or GHB, was approved by the FDA to treat cataplexy attacks in patients with narcolepsy. Cataplexy is a condition characterized by weak or paralyzed muscles. Xyrem, when used as medically prescribed, is a Schedule III Controlled Substance. A Schedule III Controlled Substance has less potential for abuse than Schedule I and II categories, is currently accepted for medical use in treatment in the United States, and may lead to moderate or low physical dependence. Illicit use of Xyrem is subject to Schedule I penalties.

Street Terms

Street terms for GHB	
Cherry Meth	Liquid X
Fantasy	Organic quaalude
GBH	Salty water
Georgia home boy	Scoop
Great hormones at bedtime	Sleep-500
Grievous bodily harm	Soap
Liquid E	Somatomaz
Liquid Ecstasy	Vita-G

Hallucinogens

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated 2004.

Overview

Hallucinogenic substances are characterized by their ability to cause changes in a person's perception of reality. Persons using hallucinogenic drugs often report seeing images, hearing sounds, and feeling sensations that seem real, but do not exist. In the past, plants and fungi that contained hallucinogenic substances were abused. Currently, these hallucinogenic substances are produced synthetically to provide a higher potency.

Commonly abused illicit hallucinogens include lysergic acid diethylamide (LSD), phencyclidine (PCP), psilocybin mushrooms, mescaline, dimethyltryptamine (DMT), alpha-methyltryptamine (AMT), and 5-MeO-DIPT (Foxy).

LSD is manufactured from lysergic acid, which is found in ergot, a fungus that grows on rye and other grains. It is sold on the street in tablets, capsules, and occasionally in liquid form. LSD is an odorless and colorless substance with a slightly bitter taste that is usually ingested orally. It is often added to absorbent paper, such as blotter paper, and divided into small decorated squares, with each square representing one dose.

PCP is a bitter tasting, white crystalline powder that can dissolve in water. PCP is most often snorted, smoked, or ingested in a pill form. The powder form of PCP can be easily mixed with dyes and often appears on the street in various colors whether sold as a tablet, capsule, liquid, or powder.

Psilocybin is obtained from certain mushrooms found in South America, Mexico, and the U.S, although the substance can also be produced synthetically. Mushrooms containing psilocybin are available fresh or dried with long, narrow stems topped by caps with dark gills on the underside. These mushrooms are usually ingested orally, but can also be brewed in a tea or added to food to mask the bitter flavor. Once ingested, psilocybin is broken down in the user's body to produce psilocyn, another hallucinogenic substance.

Mescaline is the active hallucinogenic ingredient in peyote. Peyote is a small, spineless cactus historically used by natives in Mexico and the southwestern U.S. as part of religious rites. Mescaline can also be produced synthetically.

DMT is found in a number of plants and seeds, but can also be produced synthetically. DMT is usually ingested by snorting, smoking, or injecting the

drug. DMT is not effective in producing hallucinogenic effects when ingested by itself and is therefore used in conjunction with another drug that inhibits its metabolism.

AMT and Foxy are synthetic hallucinogens that are relatively new drugs of abuse. Reports of their abuse are limited throughout the U.S., but are sometimes seen in raves and clubs. Foxy, also know as Foxy Methoxy, is available in powder, capsule, and tablet form and is usually ingested orally (although it can be snorted or smoked). Foxy capsules and tablets vary in color and logos sometimes appear on tablets. AMT is often found in tablet and capsule form.

Additionally, licit drugs can be used to produce hallucinogenic effects. Dextromethorphan (DXM) is a cough suppressant, available over-the-counter in cough and cold medications, that is commonly abused to produce hallucinations and a sense of disassociation when taken in large doses. Coricidin, often referred to as Triple C, contains DXM.

Extent of Use

According to the 2003 National Survey on Drug Use and Health (NSDUH), approximately 34.4 million Americans aged 12 and older reported trying hallucinogens at least once during their lifetimes, representing 14.5% of the population. Approximatley 3.9 million (1.7% of the population) reported past year hallucinogen use and 1.0 million (0.4%) reported past month ("current") use of hallucinogens.

The 2003 NSDUH also provides specific results for LSD and PCP use. Concerning LSD, 24.4 million Americans (10.3% of the population 12 and older) reported lifetime use, 558,000 (0.2%) reported past year use, and 133,000 (0.1%) reported past month use. Concerning PCP, 7.1 million (3.0%) reported lifetime use, 219,000 (0.1%) reported past year use, and 56,000 (0.0%) reported past month use.

Among students surveyed as part of the 2004 Monitoring the Future study, 3.5% of eighth graders, 6.4% of tenth graders, and 9.7% of twelfth graders reported using hallucinogens at least once during their lifetimes. In 2003, these percentages were 4.0%, 6.9%, and 10.6%, respectively.

Percent of Students Reporting Hallucinogen Use, 2003-2004

	8th Grade		10th Grade		12th Grade	
	2003	2004	2003	2004	2003	2004
Past month	1.2%	1.0%	1.5%	1.6%	1.8%	1.9%
Past year	2.6	2.2	4.1	4.1	5.9	6.2

Lifetime	**4.0**	**3.5**	**6.9**	**6.4**	**10.6**	**9.7**

Approximately 1.8% of eighth graders, 2.8% of tenth graders, and 4.6% of twelfth graders surveyed in 2004 reported lifetime use of LSD.[17]

Percent of Students Reporting LSD Use, 2003-2004

	8th Grade		10th Grade		12th Grade	
	2003	2004	2003	2004	2003	2004
Past month	0.6%	0.5%	0.6%	0.6%	0.6%	0.7%
Past year	1.3	1.1	1.7	1.6	1.9/div>	2.2
Lifetime	2.1	1.8	3.5	2.8	5.9	4.6

Among high school seniors surveyed in 2004, 1.6% reported lifetime use of PCP (PCP use among eighth graders and tenth graders is not collected as part of the Monitoring the Future study).

Percent of Twelfth Graders Reporting PCP Use, 2003-2004

	2003	2004
Past month	0.6%	0.4%
Past year	1.3	0.7
Lifetime	2.5	1.6

During 2003, 14.5% of college students and 19.7% of young adults (ages 19-28) reported using hallucinogens at least once during their lifetimes. Approximately 7.4% of college students and 5.2% of young adults reported past year use of hallucinogens, and 1.8% of college students and 1.2% of young adults reported past month hallucinogen use.

Approximately 8.7% of college students and 14.6% of young adults surveyed in 2003 reported lifetime LSD use. The use of LSD in the past year was 1.4% for college students and 1.2% for young adults. Approximately 0.2% of college students and young adults reported past month LSD use. Three percent of young adults reported lifetime PCP use, 0.3% reported past year PCP use, and 0.1% reported past month PCP use. PCP use data are not available for college students.

Health Effects

Hallucinogens can produce physiological effects including elevated heart rate, increased blood pressure, and dilated pupils. These drugs are often unpredictable and a user may experience different effects compared to other

users or past usage. Users often experience changes in perception, thought, and mood.

The effects of LSD are unpredictable. They depend on the amount of the drug taken; the user's personality, mood, and expectations; and the surroundings in which the drug is used. Usually, the user feels the first effects of the drug within 30 to 90 minutes of ingestion. These experiences last for extended periods of time and typically begin to clear after about 12 hours. The physical effects include dilated pupils, higher body temperature, increased heart rate and blood pressure, sweating, loss of appetite, sleeplessness, dry mouth, and tremors. Sensations may seem to "cross over" for the user, giving the feeling of hearing colors and seeing sounds. If taken in a large enough dose, the drug produces delusions and visual hallucinations.

The effects of PCP use are unpredictable, can be felt within minutes of ingestion, and can last for many hours. Physical effects can include shallow, rapid breathing; increased blood pressure; elevated heart rate; and increased temperature. Nausea, blurred vision, dizziness, and decreased awareness can also occur. High doses of PCP can cause convulsions, coma, hyperthermia, and death. PCP is an addictive drug that can cause psychological dependence, cravings, and compulsive drug seeking behaviors.

Physical effects of psilocybin are usually experienced within 20 minutes of ingestion and can last for 6 hours. Negative physical symptoms of psilocybin use can include vomiting, muscle weakness, drowsiness, and panic reactions. Frequent use of this drug can result in the development of a tolerance.

AMT and Foxy share many chemical and pharmacological characteristics with other Schedule I hallucinogens and produce similar effects. Effects include hallucinations, visual and auditory distortions, euphoria, and emotional distress. Users may experience negative effects such as nausea, vomiting, and diarrhea.

DXM can cause effects similar to PCP when used in high doses. The effects of the drug usually last for 6 hours. Risks associated with ingesting this drug include hyperthermia, abdominal pain, vomiting, irregular heartbeat, high blood pressure, headache, loss of consciousness, seizures, brain damage, and death.

According to the Drug Abuse Warning Network (DAWN) emergency department (ED) data for 2002, there were 891 mentions of LSD, 7,648 mentions of PCP, and 1,428 mentions of miscellaneous hallucinogens in emergency departments reporting to DAWN. More than 300 visits to the ED because of LSD were there because of an unexpected reaction to the drug

Reason for Emergency Department Contact, by Drug Type, 2002

Reason	LSD	PCP	Other*
Unexpected reaction	349	2,443	574
Overdose	147	2,377	536
Chronic effects	—	836	45
Withdrawal	—	—	0
Seeking detoxification	119	392	17
Accident/injury	8	331	19
Other	44	413	—
Unknown	—	665	17
*Other stands for miscellaneous hallucinogens			

During 2002, there were 4,334 visits to the ED for PCP that were treated and released.

Patient Disposition During ED Visit, by Drug Type, 2002

Patient Disposition	LSD	PCP	Other*
Treated/released	574	4,334	1,017
Admitted to hospital	304	3,061	339
Left against medical advice	10	208	—
Died	0	—	—
Unknown	—	44	7
*Other stands for miscellaneous hallucinogens			

Treatment

During 2002, there were 2,795 total admissions to substance abuse treatment facilities for hallucinogens, representing 0.1% of all treatment admissions. This is a decrease from the 3,121 admissions for hallucinogens during 2001. Hallucinogens include LSD, DMT, dimethoxyphenylethylamine (STP), mescaline, psilocybin, and peyote. During 2002, there were 3,854 treatment admissions for PCP, representing 0.2% of all treatment admissions. This was an increase from the 3,133 admissions for PCP during 2001.

Arrests and Sentencing

On March 31, 2003, William Leonard Pickard and Clyde Apperson were found guilty of one count of conspiracy to manufacture and distribute more than 10 grams of LSD from August 1999 to November 2000 and one count of possession with the intent to distribute more than 10 grams of LSD on

November 6, 2000. The case involving these two individuals included the largest LSD lab seizure ever made by the DEA. Agents seized 41.3 kilograms of LSD and 23.6 kilograms of iso-LSD, a by-product from the manufacture of LSD. In the history of the DEA, there have only been 4 seizures of complete LSD labs. Three of these seizures involved Pickard and Apperson.

Since 2001, AMT and Foxy have been seized by law enforcement in Arizona, Delaware, Florida, Idaho, Illinois, New Jersey, Oregon, Virginia, Washington, and in the District of Columbia. During March 2002, three men were arrested by the Naval Criminal Investigative Service (NCIS) for conspiracy to manufacture and distribute Foxy and AMT. These men had over 200 grams of 98% pure Foxy and 22 pounds of cutting agents that were estimated to produce between 9,000 and 14,000 tablets.

In November 1999, the DEA in conjunction with other Federal agencies seized an indoor psilocybin mushroom growing operation. This seizure included 66 pounds of dried mushrooms and 100 pounds of fresh mushrooms.

Production and Trafficking

LSD is illegally manufactured within the United States by a small number of chemists located in Northern California and the Midwest. Prices for LSD range from $1–$12 per dosage unit, and generally sell for $5 per dosage unit. LSD is distributed by mail orders, creating a market place where sellers and buyers do not know each other. This level of anonymity causes problems for law enforcement investigating the trafficking. LSD has also been historically distributed at rock concerts, but is more recently available at raves.

PCP is clandestinely manufactured using ingredients that are inexpensive and easy to obtain. Prices for PCP range from $5-$15 for tablets, $20–$30 for a gram of powder PCP, and $200–$600 for an ounce of liquid PCP.

A gram of AMT or Foxy, in bulk powder form, costs less than $150 and can be obtained via the Internet. Dealers have tried to capitalize on the club drug trend and are selling non-controlled synthetic substances in raves and nightclubs.

Psilocybin mushrooms are difficult to grow and store. Suppliers of this drug usually operate independently and distribute locally. Mushrooms can vary in price, but usually sell for $20 per 1/8 ounce and $100–$150 per ounce.

DXM is available in over the counter medications that are often readily available to youth. DXM powder, which is usually snorted or swallowed (in capsules), is sold through the Internet.

Legislative History

LSD is a Schedule I substance under the Controlled Substances Act (CSA), meaning it has a high potential for abuse, there is no currently accepted medical use in treatment in the United States, and there is a lack of accepted safety for use of the substance under medical supervision.

PCP is a Schedule II substance under the CSA. Schedule II substances indicate that the drug has a high potential for abuse, is currently accepted for medical use in treatment in the United States, and may lead to severe psychological or physical dependence.

Psilocybin and psilocyn are both Schedule I substances under the CSA although mushrooms are not scheduled under the CSA. Mescaline, peyote, and DMT are also Schedule I substances under the CSA.

In April 2003, the DEA temporarily designated Foxy as a Schedule I substance under the CSA. AMT was also placed under a temporary designation as a Schedule I substance by the DEA in 2003.

DXM is not an illegal substance, although the DEA may add it to the CSA because of its frequent abuse.

Terminology

Term	Definition	Term	Definition
Acid	LSD	Angel Dust	PCP
Blotter	LSD	Boat	PCP
Dots	LSD	Magic mushrooms	Psilocybin
Mellow yellow	LSD	Musk	Psilocybin
Shrooms	Psilocybin	Tic tac	PCP
Widow pane	LSD	Zoom	PCP

Heroin

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated June 2003.

Background

Heroin was first synthesized in 1874 from morphine, a naturally occurring substance extracted from the seed pod of certain varieties of poppy plants. It

was commercially marketed in 1898 as a new pain remedy and became widely used in medicine in the early 1900s until it became a controlled substance in 1914 under the Harrison Narcotic Act. Heroin is a highly addictive drug and is considered the most abused and most rapidly acting opiate.

Heroin comes in various forms, but pure heroin is a white powder with a bitter taste. Most illicit heroin comes in powder form in colors ranging from white to dark brown. The colors are due to the impurities left from the manufacturing process or the presence of additives. “Black tar” is another form of heroin that resembles roofing tar or is hard like coal. Color varies from dark brown to black.

Effects

Heroin can be injected, smoked, or snorted. Intravenous injection produces the greatest intensity and most rapid onset of euphoria. Effects are felt in 7 to 8 seconds. Even though effects for sniffing or smoking develop more slowly, beginning in 10 to 15 minutes, sniffing or smoking heroin has increased in popularity because of the availability of high-purity heroin and the fear of sharing needles. Also, users tend to mistakenly believe that sniffing or smoking heroin will not lead to addiction.

After ingestion, heroin crosses the blood-brain barrier. While in the brain, heroin converts to morphine and binds rapidly to opioid receptors. Users tend to report feeling a “rush” or a surge of pleasurable sensations. The feeling varies in intensity depending on how much of the drug was ingested and how rapidly the drug enters the brain and binds to the natural opioid receptors. The rush is usually accompanied by a warm flushing of the skin, dry mouth, and a heavy feeling in the user’s arms and legs. The user may also experience nausea, vomiting, and severe itching. Following the initial effects, the user will be drowsy for several hours with clouded mental function and slow cardiac function. Breathing is slowed, possibly to the point of death.

Repeated heroin use produces tolerance and physical dependence. Physical dependence causes the user’s body to adapt to the presence of the drug and withdrawal symptoms occur if use is reduced. Withdrawal symptoms begin within a few hours of last use and can include restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, cold flashes with goose bumps, and involuntary leg movements. These symptoms peak between 24 and 48 hours after the last dose and subside after about a week, but may persist for up to a month. Heroin withdrawal is not usually fatal in an otherwise healthy adult, but can cause death to the fetus of a pregnant addict.

Prevalence Estimates

Although it is difficult to obtain an exact number of heroin users because of the transient nature of this population, several surveys have attempted to provide estimates. A rough estimate of the hardcore addict population in the United States places the number between 750,000 and 1,000,000 users.

The U.S. Department of Health and Human Services' National Household Survey on Drug Abuse found that, in 2001, approximately 3.1 million Americans (1.4%) 12 years old and older had used heroin at least once in their lifetime. Persons ages 18 to 25 reported the highest percentage of lifetime heroin use with 1.6% in 2001 (see table 1).

Table 1. Percentage of Americans reporting lifetime use of heroin, by age group, 1999–2001

Age	1999	2000	2001
12–17	0.4%	0.4%	0.3%
18–25	1.8	1.4	1.6
26–34	1.3	1.1	1.3
35 and older	1.5	1.4	1.5
Total population	1.4	1.2	1.4

Source: National Household Survey on Drug Abuse.

According to the University of Michigan's Monitoring the Future Study in 2002, 1.6% of 8th graders, 1.8% of 10th graders, and 1.7% of 12th graders surveyed reported using heroin at least once during their lifetime. That study also showed that 0.9% of 8th graders, 1.1% of 10th graders, and 1% of 12th graders reported using heroin in the past year.

Among college students surveyed in 2001, 1.2% reported using heroin during their lifetime and 0.1% reported using heroin in the 30 days before being surveyed. Of those young adults surveyed between ages 19 and 28, 2% reported using heroin during their lifetime and 0.3% reported using heroin within the 30 days before being surveyed.

In another study, of those high school students surveyed in 2001 as part of the Youth Risk Behavior Surveillance System, 3.1% reported using heroin at least once during their lifetime. Male students (3.8%) were more likely than female students (2.5%) to report lifetime heroin use.

Regional Observations

According to *Pulse Check: Trends in Drug Abuse*, during the first half of 2002, heroin was perceived to be the drug associated with the most serious consequences (medical, legal, and societal) in 15 of the 20 Pulse Check sites across the United States. Heroin users are predominantly white males, over age 30, who live in central city areas. Most heroin sellers tend to be young adults between the ages of 18 and 30.

The different forms of heroin vary in availability across the Pulse Check sites in the United States. High-purity, South American (Colombian) white heroin is widely available across the Northeast, South, and Midwest. Mexican black tar, a less pure form of heroin, is more commonly found in the West. Southeast Asian heroin is considered widely available in New Orleans, Portland, Maine, and Washington, D.C., and Southwest Asian heroin (the

least common form of heroin) is only considered widely available in Chicago and New Orleans.

According to the Community Epidemiology Work Group (CEWG), as of December 2002, heroin use indicators increased in four CEWG sites, decreased in one, were stable in seven, and were mixed in nine. Despite mixed patterns, heroin abuse indicators remain high in many CEWG areas. The sites where heroin indicators increased were Atlanta, Boston, Detroit, and Washington, D.C.

The Arrestee Drug Abuse Monitoring Program (ADAM) collects data on male arrestees testing positive for opiates at the time of arrest in 36 ADAM sites. During 2002, the percentage of adult male arrestees testing positive ranged from 0% in Woodbury, Iowa, to 26% in Chicago. Of the 28 ADAM sites collecting female arrestee data, the percentage of female arrestees testing positive for opiates at the time of arrest ranged from 0% in Woodbury, Iowa, to 18% in Portland, Oregon, and Washington, D.C. The ADAM program also collects data on reported drug use by arrestees in the past 30 days. For adult male arrestees during 2002, the average number of days that arrestees reported using heroin ranged from 0.7 days in Omaha to 21.5 days in Woodbury, Iowa. The average number of days reported by adult female arrestees ranged from zero days in Woodbury, Iowa, to 16 days in New York City.

Availability

According to *What America's Users Spend on Illegal Drugs*, heroin expenditures were an estimated $22 billion in 1990, and decreased to $10 billion in 2000. During 1990, Americans consumed 13.6 metric tons of heroin. Current estimates of heroin consumption remain relatively unchanged and show that 13.3 metric tons of heroin were consumed in 2000.

Production and Trafficking

According to the *National Drug Intelligence Center's National Drug Threat Assessment 2003*, heroin is cultivated from opium poppies in four source areas: South America, Mexico, and Southeast and Southwest Asia. Opium cultivation decreased from 5,082 metric tons during 2000 to 1,255 metric tons during 2001. This led to a reduction in heroin production from 482.2 metric tons during 2000 to 109.3 metric tons during 2001.

South American heroin is the most prevalent type of heroin in the United States. Colombian criminal groups, operating independently of major cocaine cartels, dominate the smuggling of South American heroin into the United States. Others involved in the transportation of South American heroin include Bahamian, Dominican, Guatemalan, Haitian, Jamaican, and Puerto Rican criminal groups.

Heroin is smuggled into the United States through the air, sea, land, and mail services. Once in the United States, heroin is distributed at the wholesale level, most frequently by Columbian, Dominican, Mexican, Nigerian, and Chinese criminal groups described as small, independent, and loosely structured. Retail- or street-level distribution of heroin is handled by a larger array of criminal groups. Gangs also are involved in the wholesale and retail distribution of heroin. Many members of national gangs, such as the Gangster Disciples, Vice Lords, and Latin Kings, keep links to heroin traffickers to guarantee a constant supply of the drug.

Price and Purity

During 2001, wholesale prices for South American heroin ranged from $50,000 to $250,000 per kilogram. Southeast and Southwest Asian heroin wholesale prices ranged from $35,000 to $120,000 per kilogram, and Mexican heroin ranged from $15,000 to $65,000 per kilogram. Street-level heroin usually sells for $10 per dose, although prices vary throughout the country.

According to the Drug Enforcement Administration (DEA), during 2000, retail purity levels of heroin ranged from 48.1% for South American heroin, to 34.6% for Southwest Asian heroin, to 20.8% for Mexican heroin. The national average purity for retail heroin from all sources was 36.8%.

Enforcement

Arrests

The Federal Bureau of Investigation estimates that, during 2001, heroin or cocaine and their derivatives accounted for 9.7% of drug arrests for sale and manufacturing and 23.1% of drug arrests for possession (estimates of heroin arrests alone are not available).

From October 1, 1999, to September 30, 2000, there were 3,557 arrests by DEA for opiates out of 38,411 total drug arrests. These figures represent only DEA's portion of heroin arrests nationwide during 2000.

Seizures

According to the Federal-wide Drug Seizures System (FDSS), 1,587 kilograms of heroin were seized from January to September 2002 by U.S. Federal law enforcement authorities, a decline from 2,493 kilograms in 2001. FDSS comprises information about drug seizures made within the jurisdiction of the United States by DEA, the Federal Bureau of Investigation, the U.S. Customs Service, and the U.S. Border Patrol, as well as maritime seizures made by the U.S. Coast Guard. FDSS eliminates duplicate reporting of seizures involving more than one Federal agency.

Adjudication

During FY 2001, 1,757 Federal drug offenders were convicted of committing an offense involving heroin. Of those convicted of a Federal drug offense for heroin, 61.3% were Hispanic, 23% were black, 14% were white, and 1.7% were of another race.

Corrections

In FY 2001, the average length of sentence received by Federal heroin offenders was 63.4 months, compared to 115 months for crack cocaine offenders, 88.5 months for methamphetamine offenders, 77 months for powder cocaine offenders, 38 months for marijuana offenders, and 41.1 months for other drug offenders. According to a 1997 Bureau of Justice Statistics survey of Federal and State prisoners, approximately 10% of Federal and 12.8% of State drug offenders were incarcerated for an offense involving heroin or other opiates.

Consequences of Use

Chronic heroin use can lead to medical consequences such as scarred and/or collapsed veins, bacterial infections of the blood vessels and heart valves, abscesses and other soft-tissue infections, and liver or kidney disease. Poor health conditions and depressed respiration from heroin use can cause lung complications, including various types of pneumonia and tuberculosis.

Addiction is the most detrimental long-term effect of heroin use because it is a chronic, relapsing disease characterized by compulsive drug seeking and use, as well as neurochemical and molecular changes in the brain.

Long-term effects of heroin use also can include arthritis and other rheumatologic problems and infection of bloodborne pathogens such as HIV/AIDS and hepatitis B and C (which are contracted by sharing and reusing syringes and other injection paraphernalia). It is estimated that injection drug use has been a factor in onethird of all HIV and more than half of all hepatitis C cases in the United States.

Heroin use by a pregnant woman can result in a miscarriage or premature delivery. Heroin exposure in utero can increase a newborns' risk of SIDS (sudden infant death syndrome).

Street heroin is often cut with substances such as sugar, starch, powdered milk, strychnine and other poisons, and other drugs. These additives may not dissolve when injected in a user's system and can clog the blood vessels that lead to the lungs, liver, kidneys, or brain, infecting or killing patches of cells in vital organs. In addition, many users do not know their heroin's actual

strength or its true contents and are at an elevated risk of overdose or death.

According to Drug Abuse Warning Network (DAWN) emergency department (ED) data, there were 93,064 reported mentions of heroin in 2001, an increase of 47.4% since 1994 (see table 2). Preliminary ED data for the first half of 2002 revealed that there were 42,571 mentions of heroin. A drug mention refers to a substance that was recorded (mentioned) during a visit to the ED. Heroin represented 15% of 638,484 total ED episodes in 2001. Approximately 56% of heroin ED mentions were for people ages 35 and older. Almost half (43%) of heroin ED mentions were for whites.

According to DAWN's 2001 mortality data, of the 42 metropolitan areas studied, 19 areas saw a decrease in the number of heroin/morphine mentions, while 9 areas reported an increase in heroin/morphine mentions.

Table 2. Number of emergency department mentions of heroin, 1994–2001

1994	1995	1996	1997	1998	1999	2000	2001
63,158	69,556	72,980	70,712	75,688	82,192	94,804	93,064

Source: Drug Abuse Warning Network.

Treatment

According to Treatment Episode Data Set, heroin accounted for 15.2% of all treatment admissions in 2000 (243,523 admissions). Males accounted for 66.9% of heroin treatment admissions. Treatment admissions by race/ethnicity ranged from 47.3% white, to 24.7% Hispanic, to 24.2% black.

Eighty-one percent of heroin treatment admissions reported daily use of the drug. Almost 80% of heroin admissions had been in treatment before the current episode and 25% had been in treatment five or more times. Methadone treatment was planned to be used for 40% of primary heroin admissions.

Methadone has been used to treat opioid addiction for more than 30 years. This synthetic narcotic suppresses opioid withdrawal symptoms for 24 to 36 hours. Although the patient remains physically dependent on the opioid, the craving from heroin use is reduced and the highs and lows are blocked. This permits the patient to be free from the uncontrolled, compulsive, and disruptive behavior associated with heroin addiction.

Other pharmaceutical approaches to heroin treatment include detoxification, naloxone and naltrexone, LAAM (levo-alpha-acetyl-methadol), and buprenorphine.

Detoxification relieves the withdrawal symptoms experienced when substance use is discontinued. Detoxification is not a treatment for addiction, although it can be used to aid in the transition to long-term treatment.

Street Terms for heroin	
Al Capone	Isda
Antifreeze	Jee gee
Ballot	Joy
Bart Simpson	Junk
Big bag	Lemonade
Big H	Mexican brown
Brown sugar	Nice and easy
Capital H	Noise
Cheese	Ogoy
Chip	Old Steve
Crank	Orange line
Dead on arrival	P-dope
Dirt	Pangonadalot
Dr. Feelgood	Peg
Ferry dust	Perfect high
George smack	Poison
Golden girl	Pure
Good horse	Rawhide
Hard candy	Ready rock
Hazel	Salt
Hero	Sweet dreams
Hombre	Train
Horse	White boy
HRN	Zoquete

Naloxone and naltrexone are medications that inhibit the effects of opiates such as morphine and heroin. LAAM, a synthetic opiate similar to methadone, is used to treat heroin addiction. This treatment's long duration of action (up to 72 hours) allows patients to administer their dosage three times a week instead of daily. Buprenorphine, another opiate treatment, causes weaker opiate effects and is not as likely to cause overdose. Buprenorphine creates a lower level of physical dependence and makes it easier for patients to discontinue medication

Inhalants

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated February 2003.

Background Information

The term "inhalants" refers to more than a thousand household and commercial products that can be abused by inhaling them through one's mouth or nose for an intoxicating effect. These products are composed of volatile solvents and substances commonly found in commercial adhesives, lighter fluids, cleaning solvents, and paint products. Their easy accessibility,

low cost, and ease of concealment make inhalants one of the first substances abused.

Inhalant users can ingest substances in various ways that include inhaling directly from containers for products such as rubber cement or correction fluid, sniffing fumes from plastic bags held over the mouth and nose, or sniffing a cloth saturated with the substance. The substance may be inhaled directly from an aerosol can or out of an alternative container such as a balloon filled with nitrous oxide. Some volatile substances release intoxicating vapors when heated.

Prevalence Estimates

Typical first use of inhalants occurs between late childhood and early adolescence. According to the National Household Survey on Drug Abuse (NHSDA), there were an estimated 979,000 new inhalant users in 2000, up from 410,000 in 1985. During 2001, more than 18 million (8.1%) persons ages 12 and older reported using an inhalant at least once in their lifetime (see table 1). The 2002 Monitoring the Future Study from the University of Michigan reported that 7.7% of 8th graders, 5.8% of 10th graders, and 4.5% of 12th graders used inhalants in the past year (see table 2). The study also showed that 3.8% of 8th graders, 2.4% of 10th graders, and 1.5% of 12th graders used inhalants in the past month (see table 3).

Table 1. Percentage of people ages 12 and older reporting inhalant use, 1999–2001

	Past Month	Past Year	Lifetime
1999	0.3	0.9	7.8
2000	0.3	0.9	7.5
2001	0.2	0.9	8.1

Source: National Household Survey on Drug Abuse.

This study also showed that in 2001, 2.8% of college students reported using inhalants in the past year and 0.4% reported using inhalants in the 30 days before being surveyed. Of those young adults between the ages of 19 and 28, 1.7% reported using inhalants in the past year and 0.4% reported using inhalants in the 30 days before being surveyed.

Table 2. Percentage of students reporting past year inhalant use, 1996–2002

	1996	1997	1998	1999	2000	2001	2002
8th graders	12.2	11.8	11.1	10.3	9.4	9.1	7.7

10th graders	9.5	8.7	8.0	7.2	7.3	6.6	5.8
12th graders	7.6	6.7	6.2	5.6	5.9	4.5	4.5
Source: Monitoring the Future Study.							

Table 3. Percentage of students reporting past month inhalant use, 1996–2002							
	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
8th graders	5.8	5.6	4.8	5.0	4.5	4.0	3.8
10th graders	3.3	3.0	2.9	2.6	2.6	2.4	2.4
12th graders	2.5	2.5	2.3	2.0	2.2	1.7	1.5
Source: Monitoring the Future Study.							

According to the 2001 Youth Risk Behavior Surveillance Survey, 14.7% of high school students nationwide have sniffed glue, breathed the contents of aerosol spray cans, or inhaled paints or spray to get high at least once during their lifetime. Some 4.7% of high school students reported using inhalants in the 30 days preceding the survey.

Effects

The effects of inhalant use resemble alcohol inebriation. Upon inhalation, the body becomes starved of oxygen, forcing the heart to beat more rapidly in an attempt to increase blood flow to the brain. The user initially experiences stimulation, a loss of inhibition, and a distorted perception of reality and spatial relations. After a few minutes, the senses become depressed and a sense of lethargy arises as the body attempts to stabilize blood flow to the brain, usually referred to as a "head rush." Users can become intoxicated several times over a few hours because of a chemical's short-acting, rapid-onset effect. Many users also experience headaches, nausea, vomiting, slurred speech, loss of coordination, and wheezing.

Table 4. Emergency department mentions of inhalants, 1994–2001							
1994	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1,511	1,036	1,313	2,225	2,211	1,162	1,522	676
Source: Drug Abuse Warning Network.							

Heavy or sustained use of inhalants can cause tolerance and physical withdrawal symptoms within several hours to a few days after use. Withdrawal symptoms may include sweating, rapid pulse, hand tremors,

insomnia, nausea, vomiting, physical agitation, anxiety, hallucinations, and grand mal seizures. Indicators of inhalant abuse include paint or stains on the body or clothing, spots or sores around the mouth, red or runny eyes and nose, chemical odor on the breath, a drunken or dazed appearance, loss of appetite, excitability, and/or irritability.

Commonly Abused Commercial Products

Adhesives:
Model airplane glue, rubber cement, household glue.

Aerosols:
Spray paint, hair spray, air freshener, deodorant, fabric protector.

Anesthetics:
Nitrous oxide, ether, chloroform.

Cleaning agents:
Dry cleaning fluid, spot remover, degreaser.

Food products:
Vegetable cooking spray, "whippets" (nitrous oxide).

Gases:
Nitrous oxide, butane, propane, helium.

Solvents and gases:
Nail polish remover, paint thinner, typing correction fluid and thinner, toxic markers, pure toluene, toluol, cigar lighter fluid, gasoline.

Source: National Inhalant Prevention Coalition.

Consequences of Use

There is a common link between inhalant abuse and problems in school such as failing grades, memory loss, learning problems, chronic absences, and general apathy. Inhalant users tend to be disruptive, deviant, or delinquent because of the early onset of use, the user's lack of physical and emotional maturation, and the physical consequences of extended use.

According to Drug Abuse Warning Network (DAWN) emergency department (ED) data, in 1994 there were 1,511 reported mentions of inhalants. This number increased to 2,225 in 1997 and sharply declined to 676 in 2001 (see table 4). Preliminary data for the first half of 2002 showed that there were 559 reported mentions of inhalants.

During 2001, approximately 47% of ED inhalant mentions were for people 35 years old or older. Unexpected reaction was cited in 41% of inhalant-related ED visits and was the most frequently mentioned reason for visiting the emergency department after using an inhalant.

During 1999, 129 inhalant abuse deaths were reported to DAWN by 139 medical examiner facilities in 40 metropolitan areas across the United States. This was up from 103 inhalant abuse deaths in 1998.

DAWN's 2000 medical examiner report was redesigned from its previous format and presents only regional data without national totals. Out of the 43 metropolitan areas studied during 2000, only the cities of Dallas, Louisville, Oklahoma City, and St. Louis reported more than 4 mentions of inhalant drug-related deaths.

Treatment

According to the Treatment Episode Data Set, inhalants were reported as the primary substance of abuse in 1,251 (0.1%) admissions to treatment facilities in 2000. People admitted for inhalant abuse were generally under age 18 (44%), male (72%), and non-Hispanic White (66%). Twenty-eight percent of those admitted reported daily use of inhalants, and almost 26% admitted using inhalants by age 12.

Damage to Body Caused by Inhalants

Acoustic nerve and muscle
Destruction of cells that relay sound to the brain may cause deafness.

Blood
The oxygen-carrying capacity of the blood can be inhibited.

Bone marrow
Components containing benzene have been shown to cause leukemia.

Brain
Damage is also caused to the cerebral cortex and the cerebellum, resulting in personality changes, memory impairment, hallucinations, loss of coordination, and slurred speech.

Heart
Sudden sniffing death (SSD) syndrome,* an unexpected disturbance in the heart's rhythm, may cause fatal cardiac arrhythmias (heart failure).

Kidneys
The kidney's ability to control the amount of acid in the blood may be impaired. Kidney stones may develop after use is terminated.

Liver
Gathering of fatty tissue may cause liver damage.

Lungs
Damaged lungs and impaired breathing occurs with repeated use.

Muscle
Chronic use can lead to muscle wasting and reduced muscle tone and strength.

Peripheral nervous system
Damage to the nerves may result in numbness, tingling, and paralysis.

Skin
A severe rash around the nose and mouth, referred to as "glue sniffer's rash," may result.

*SSD syndrome may result when a user deeply inhales a chemical for the effect of intoxication. This causes a decrease in available oxygen in the body. If the user becomes startled or engages in sudden physical activity, an increased flow of adrenalin from the brain to the heart induces cardiac arrest and death occurs within minutes.

Source: National Inhalant Prevention Coalition.

Legislation

Most of the common household and commercial products abused as inhalants are not regulated under the Controlled Substances Act. Consequently, many State legislatures have attempted to deter youth from abusing them by placing restrictions on their sale to minors.

According to the National Conference of State Legislatures, 38 States have adopted laws preventing the sale, use, and/or distribution of various products commonly abused as inhalants to minors. Some States have introduced fines, incarceration, or mandatory treatments for the sale, distribution, use, and/or possession of inhalable chemicals.

Street Terms for Inhalants

Air blast	**Discorama**	**Laughing gas**	**Shoot the breeze**
Ames (amyl	**Glading (using**	**(nitrous oxide)**	**(nitrous oxide)**

nitrite)	**inhalant)**	**Medusa**	**Snappers (isobutyl nitrite)**
Amys (amyl nitrite)	**Gluey (one who sniffs or inhales glue)**	**Moon gas**	**Snorting (using inhalant)**
Aroma of men (isobutyl nitrite)	**Hardware (isobutyl nitrite)**	**Oz**	**Thrust (isobutyl nitrite)**
Bagging (using inhalants)	**Hippie crack**	**Pearls (amyl nitrite)**	**Toncho (octane booster)**
Bolt (isobutyl nitrite)	**Honey oil**	**Poor man's pot**	**Whippets (nitrous oxide)**
Boppers (amyl nitrite)	**Huff**	**Poppers (isobutyl nitrite, amyl nitrite)**	**Whiteout (isobutyl nitrite)**
Buzz bomb (nitrous oxide)	**Huffing (sniffing an inhalant)**	**Quicksilver (isobutyl nitrite)**	
Climax (isobutyl nitrite)	**Kick**	**Rush (isobutyl nitrite)**	

Source: Drug Policy Information Clearinghouse.

Marijuana

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated February 2004.

Background

Marijuana is a greenish-gray mixture of the dried, shredded leaves, stems, seeds, and flowers of the hemp plant, Cannabis sativa. It is typically smoked in hand-rolled cigarettes (joints), cigars (blunts), pipes, or water pipes (bongs). The active ingredient in marijuana is delta-9-tetrahydrocannabinol (THC), which is responsible for the potency and effects of marijuana intoxication. Over the past two decades, THC levels of marijuana in the United States have increased.

Commercial-grade marijuana contains parts of the marijuana plant such as stems and seeds that are not high quality. Sinsemilla, a higher potency marijuana, contains only the leaves and buds of the unpollinated female cannabis plant, where THC is most concentrated. Marijuana is produced in all 50 States, and the primary foreign sources for marijuana found in the United States are Mexico, Canada, Colombia, and Jamaica.

Prevalence Estimates

Use by General Population

Marijuana is the most commonly used illicit drug. According to the 2002 National Survey on Drug Use and Health (NSDUH), it was used by 75% of current (past month) illicit drug users. Some 55% of current illicit drug users used only marijuana, 20% used marijuana and another illicit drug, and 25% used an illicit drug other than marijuana in the past month.

The 2002 NSDUH also showed that an estimated 40.4% (94.9 million) of Americans age 12 or older had used marijuana or hashish in their lifetime, 11% (25.8 million) had used it in the past year, and 6.2% (14.6 million) had used it in the past month. One-third of the past month users, or 4.8 million persons, reported using marijuana 20 or more days in the past month.

There were an estimated 2.6 million new marijuana users in the United States in 2001. This is similar to the number of new users each year since 1995, but an increase over the number in 1990 (1.6 million). Approximately 67% of the new marijuana users in 2001 were under age 18. This proportion has typically increased since the 1960s, when less than half of initiates were under 18. The average age of marijuana initiates in 2001 was 17.1 years.

According to the 2003 Monitoring the Future Study, use of marijuana among 8th, 10th, and 12th graders has declined significantly from 2001 to 2003. Current (past month) marijuana use decreased 11%, from 16.6% to 14.8%; past year use also decreased 11%, from 27.5% to 24.5%; and lifetime use declined 8.2%, from 35.3% to 32.4%. Approximately 17.5% of 8th graders, 36.4% of 10th graders, and 46.1% of 12th graders surveyed in 2003 reported lifetime marijuana use (see table 1).

Table 1. Percentage of students reporting marijuana use, 2002–2003

	Past Month		Past Year		Lifetime	
Grade	**2002**	**2003**	**2002**	**2003**	**2002**	**2003**
8th grade	8.3	7.5	14.6	12.8	19.2	17.5
10th grade	17.8	17.0	30.3	28.2	38.7	36.4
12th grade	21.5	21.2	36.2	34.9	47.8	46.1

Source: Monitoring the Future Study.

According to the Centers for Disease Control and Prevention's Youth Risk Behavior Surveillance System, 42.4% of high school students surveyed in 2001 had used marijuana during their lifetime. Students in grades 10, 11, and 12 (41.7%, 47.2%, and 51.5%, respectively) were significantly more likely than students in grade 9 (32.7%) to report lifetime marijuana use. About 24% of students had used marijuana at least once during the 30 days preceding the survey.

According to *Initiation of Marijuana Use: Trends, Patterns, and Implications,* the younger an individual is when he or she first uses marijuana, the more likely that person is to use cocaine and heroin and become drug dependent as an adult. Adults who used marijuana before age 15 were 6 times more likely to be dependent on an illicit drug than adults who first used marijuana

at age 21 or older. The report found that among adults age 26 or older who used marijuana before age 15, some 62% reported lifetime cocaine use, 9% reported lifetime heroin use, and 54% reported nonmedical use of psychotherapeutics. By comparison, among marijuana users who reported first smoking the drug after age 20, some 16% used cocaine, 1% used heroin, and 21% used psychotherapeutics nonmedically in their lifetime. Among those who had never used marijuana, 0.6% reported lifetime cocaine use, 0.1% reported lifetime heroin use, and 5.1% reported lifetime nonmedical psychotherapeutic use.

NSDUH included questions to assess dependence on and abuse of substances based on criteria specified in the *Diagnostic and Statistical Manual of Mental Disorders.* Of the 7.1 million past year users classified with dependence on or abuse of illicit drugs in 2002, approximately 4.3 million were dependent on or abused marijuana. This represents 1.8% of the total population age 12 and older and 60.3% of those classified with illicit drug dependence or abuse. The questions used to assess drug dependence asked about health, emotional problems, attempts to reduce use, tolerance, withdrawal, and other symptoms. The questions on abuse asked about problems at work, home, and school; problems with family and friends; physical danger; and trouble with the law due to substance use.

The NSDUH and Monitoring the Future studies also present information about perceived harms associated with drug use. Data from the 2002 NSDUH indicate that 32% of 12- to 17-year-olds felt that smoking marijuana once a month was a great risk. Results from the 2003 Monitoring the Future Study show that 55% of high school seniors believed it was harmful to smoke marijuana regularly and 27% of seniors felt it was harmful to smoke it occasionally.

Use by Offenders

The National Institute of Justice's Arrestee Drug Abuse Monitoring (ADAM) Program tests urine samples voluntarily collected from arrestees throughout the United States. During 2002, data on adult male arrestees in 36 sites and adult female arrestees in 23 sites were collected. A median of 41.5% of adult male arrestees and 28.4% of adult female arrestees tested positive for marijuana at arrest (see table 2).

Adult male arrestees who used marijuana in the past year reported using it an average of 10.1 days in the past month. Marijuana was used an average of 8.1 days in the past month among the adult female arrestees who reported past year marijuana use. Among the juvenile male detainees who were tested in five sites during 2002, a median of 57.7% tested positive for marijuana. A median of 32.5% of the juvenile female detainees who were tested in four sites in 2002 tested positive for marijuana.

Table 2. Arrestee marijuana use, 2002

Type of Discovery	Adult Male	Adult Female
Tested positive for marijuana (median)	41.5%	28.4%
Reported use in past 7 days	37.4	28.3
Reported use in past 30 days	43.7	34.5
Reported use in past year	52.8	44.3

Source: Preliminary Data on Drug Use and Related Matters Among Adult Arrestees and Juvenile Detainees, 2002.

Another National Institute of Justice report looked at ADAM data from 1987 through 1999 to track the upsurge in marijuana use among youthful adult arrestees. The study found that most ADAM locations have experienced a rapid increase in marijuana use among youthful arrestees, from an average of 25% in 1991 to 57% by 1996. The study concluded that marijuana appears to be the drug of choice among youth coming of age in the 1990s who tend to get in trouble with the law.

In 1997, State and Federal prisoners used marijuana more than any other drug. Some 77% of State prisoners reported lifetime use of marijuana, 39% used it in the month before the offense, and 15% were under its influence at the time of the offense. Among Federal offenders, 65% used marijuana in their lifetime, 30% used it in the month before committing the offense, and 11% were under its influence at the time of the offense.

Data from convicted jail inmates in 1998 indicate that 138,000 of them were under the influence of drugs when they committed their offense. Approximately 18.5% were under the influence of marijuana or hashish; 15.2% were under the influence of cocaine or crack, and 5.6% were under the influence of heroin. Some 37% of convicted jail inmates used marijuana in the month before their offense, while 24% used cocaine, 10% used stimulants, 9% used heroin or opiates, 6% used depressants, 5% used hallucinogens, and 1% used inhalants.

Regional Observations

The most recent version of *Pulse Check: Trends in Drug Abuse* was based on discussions with 78 epidemiologists, ethnographers, law enforcement representatives, and treatment providers from 20 sites across the United States. During the January-June 2002 period, all reporting sites except Honolulu, Memphis, and New Orleans reported marijuana as their most abused drug.

Effects and Consequences of Use

Marijuana use is associated with numerous detrimental health effects, including frequent respiratory infections, impaired memory and learning, increased heart rate, anxiety, and panic attacks.

Effects on the Brain

Marijuana's effects begin as soon as the drug enters the brain and can last from 1 to 3 hours. As THC enters the brain, it causes the user to feel high by stimulating brain cells to release the chemical dopamine. When the euphoria passes, the user may feel sleepy or depressed and may also get feelings of panic, anxiety, or distrust.

Marijuana affects a person's ability to shift attention from one thing to another and causes damage to short-term memory because of how THC alters the way information is processed by the hippocampus. THC disrupts coordination and balance by binding to parts of the brain that regulate balance, posture, coordination of movement, and reaction time.

Other Effects on the Body

Because marijuana contains irritants and carcinogens, it can promote cancer of the lungs and other parts of the respiratory tract. A study comparing 173 cancer patients and 176 healthy individuals produced strong evidence that smoking marijuana increased the likelihood of developing cancer of the head or neck. The more marijuana that was smoked, the greater the increase in likelihood. Marijuana also produces high levels of an enzyme that converts some hydrocarbons into their carcinogenic form. These levels may accelerate the changes that ultimately produce malignant cells. Additionally, marijuana users typically inhale more deeply and hold their breath longer than tobacco smokers, increasing the lungs' exposure to carcinogenic smoke.

Users who smoke marijuana regularly may experience the same respiratory problems as tobacco smokers, including daily cough and phlegm, symptoms of chronic bronchitis, and frequent chest colds. Continued marijuana use can result in abnormal functioning of lung tissue injured or destroyed by marijuana smoke.

Within a few minutes after smoking marijuana, the user's heart begins to beat more rapidly and may increase by 20 to 50 beats per minute, or even double. Results of a study released in 2001 indicate that a person's risk of heart attack within the first hour of smoking marijuana is four times the usual risk.

Emergency Department Visits

From 2000 to 2002, there was a significant increase in the number of emergency department (ED) marijuana mentions nationwide reported to the Drug Abuse Warning Network. A drug mention refers to a substance that was recorded (mentioned) during a visit to the ED. Marijuana was mentioned 96,426 times in 2000 and 119,472 times in 2002, a 24% increase. Since 1995, the number of ED marijuana mentions has increased 164%.

In approximately 45,000 of the cases in which marijuana was mentioned in 2002, the patient reported going to the ED because of an unexpected reaction to the drug. More than 22,000 reported an overdose as the reason for the ED visit (see table 3).

Table 3. Episode characteristics of ED marijuana episodes, 2000–2002

Characteristic	2000	2001	2002
Drug use motive			
Psychic effects	36,970	38,694	39,901
Dependence	30,762	33,817	34,302
Suicide	11,454	14,130	13,753
Other	615	1,258	1,060
Unknown	16,626	22,612	–
Reason for ED contact			
Unexpected reaction	31,218	36,626	45,223
Overdose	18,722	22,469	22,533
Chronic effects	8,620	9,834	10,583
Withdrawal	1,401	1,840	1,419
Seeking detoxification	14,109	14,580	13,917
Accident/injury	5,632	6,130	6,731
Other	10,521	12,242	11,986
Unknown reason	6,202	6,791	7,081

Source: Emergency Department Trends From the Drug Abuse Warning Network.

Drugged Driving

While alcohol is the predominant substance found in fatal automobile crashes, marijuana is the second most frequently found substance in drivers. Alcohol and marijuana are also frequently found together, resulting in a dramatic decrease in driving performance and spike in impairment levels.

According to a National Highway Traffic Safety Administration Study, a moderate dose of marijuana can impair driving performance. The study also found the effects of a low dose of marijuana combined with alcohol were markedly greater than for either drug alone. Driving performance was measured by reaction time, visual search frequency, and the ability to perceive and/or respond to changes in the velocity of other vehicles.

According to estimates derived from the U.S. Census Bureau and Monitoring the Future data, approximately 600,000 of the nearly 4 million U.S. high school seniors drive under the influence of marijuana. Approximately 38,000 seniors reported that they had crashed while driving under the influence of marijuana in 2001.

Marijuana and School/Work Performance

Studies have shown a correlation between cannabis use and various education performance measures. For example, a study by the National Drug

and Alcohol Research Center showed lower grade point averages, less satisfaction with school, negative attitudes towards school, and increased rates of school absenteeism among marijuana users.

In another study, researchers compared marijuana smoking and nonsmoking 12th graders' scores on standardized tests of verbal and mathematical skills. Although all of the students had scored equally well when tested in the 4th grade, heavy marijuana smokers (those who used marijuana seven or more times per week) scored significantly lower in 12th grade than nonsmokers.

Workers who smoke marijuana have been shown to have more problems on the job than their nonsmoking coworkers. Several studies have associated workers' marijuana use with increased tardiness, absences, accidents, workers' compensation claims, and job turnover.

Marijuana and Pregnancy

Research has shown that infants exposed to marijuana in utero display altered responses to visual stimuli and increased tremulousness, which may indicate problems with neurological development. Other studies have shown that during infancy and preschool years, marijuana-exposed children have more behavioral problems than nonexposed children. Research also shows that marijuana-exposed children perform visual perception, language comprehension, sustained attention, and memory tasks more poorly when compared with unexposed children.

Withdrawal

Long-term marijuana users trying to quit using the drug may experience cravings and other withdrawal symptoms and often report irritability, difficulty sleeping, and anxiety. The users also display increased aggression on psychological tests, peaking approximately a week after last smoking marijuana.

Health effects of marijuana use

Acute (present during intoxication)

- Impairs short-term memory.
- Impairs attention, judgment, and other cognitive functions.
- Impairs coordination, balance, and reaction time.
- Increases heart rate.

Persistent (lasting longer than intoxication, but may not be permanent)

- Impairs memory.
- Impairs learning skills.

Long-term (cumulative, potentially permanent effects of chronic abuse)

- Can lead to addiction.
- Increases risk of chronic cough, bronchitis, and emphysema.
- Increases risk of cancer of the head, neck, and lungs.

Source: Marijuana Abuse Research Report.

Availability

Approximately 55% of youth ages 12 to 17 surveyed in 2002 felt that it would be fairly or very easy to obtain marijuana. Some 56.7% of those who used marijuana in 2002 reported that they got the drug for free or shared

someone else's marijuana. Nearly 40% of marijuana users bought the drug. About 79% of marijuana users who bought the drug and 81.8% who obtained the drug for free got it from a friend.

The Monitoring the Future Study also tracks trends in availability of drugs to youth. From the time the study began in 1975 to 2003, between 83% and 90% of every senior class have said that they could obtain marijuana fairly or very easily.

All but one of the 40 Pulse Check law enforcement and epidemiologic/ethnographic sources consider marijuana widely available in their communities. The exception is Chicago, where the law enforcement source considers the drug somewhat available.

Production and Trafficking

According to responses to the 2001 National Drug Threat Survey, State and local law enforcement agencies from all 50 States, Puerto Rico, and Guam reported the presence of indoor and outdoor cannabis cultivation in their jurisdictions. Hydroponic operations, in which cannabis plants are grown without soil but with liquid nutrients, were identified in every State and Puerto Rico. The cultivation of cannabis indoors continues to increase across the United States because of aggressive outdoor eradication programs and drought conditions. Indoor operations enable growers to better conceal their operations and control the growing environment.

The primary foreign sources for marijuana in the United States are Mexico, Canada, Colombia, and Jamaica. During 2002, Mexico produced about 7,900 metric tons and Colombia produced 4,000 metric tons of marijuana. The Royal Canadian Mounted Police estimates that 800 metric tons of cannabis are produced annually in Canada. Some 214 metric tons were produced in Jamaica in 1997 (the most recent data available).

Most marijuana shipments from Mexico enter the United States through Arizona, California, and Texas. Marijuana from Colombia and Jamaica is typically shipped through the Caribbean to the eastern and southeastern sections of the United States by air and sea. Marijuana from Canada is usually smuggled into the country via commercial and private vehicles, couriers on foot, or by sea or waterways using small boats and fishing vessels.

Price and Potency

The price of marijuana varies widely. According to the U.S. Drug Enforcement Administration (DEA), the national price per pound in 2001 ranged from $70 to $1,200 for commercial-grade marijuana and from $600 to $4,000 for sinsemilla. The wide range in prices reflects variables such as potency, quantities purchased, purchase frequencies, buyer-seller relationships,

transportation costs, and proximity to supply sources. U.S. marijuana users spent approximately $10.5 billion on marijuana in 2000, compared to $15 billion in 1990. Although more marijuana was consumed in 2000, the price decreased from 1990 to 2000, resulting in a decrease in the total amount spent on the drug.

Marijuana potency as characterized by THC content is rising. According to data from the Marijuana Potency Monitoring Project, the average potency of samples of all cannabis types increased from 3% in 1991 to 5.2% in 2001. The potency of commercial-grade marijuana increased from 3.1% to 5% during the same period. In the late 1970s and early 1980s, commercial-grade marijuana THC levels were under 2%. The concentration of THC in sinsemilla was about 6% in the late 1970s and early 1980s, and averaged more than 9% in 2001.

Enforcement

Arrests

During FY 2002, DEA made 5,502 marijuana-related arrests, representing 18.6% of the total drug arrests made by the agency during the year. Agencies participating in DEA's Domestic Cannabis Eradication/Suppression Program made 8,247 arrests in 2002. This program is a joint Federal and State effort in which DEA contributes funding, training, equipment, and investigative and aircraft resources to participating States to eradicate domestically cultivated marijuana. According to the Federal Bureau of Investigation (FBI), of the estimated 1,538,813 State and local arrests for drug abuse violations in 2002, about 5.4% were for marijuana sale/manufacturing and 39.9% were for possession.

Seizures

In 2002, approximately 2,412,365 pounds of marijuana were seized and reported in the Federal-wide Drug Seizure System (FDSS), down from 2,674,826 pounds seized in 2001, and 2,614,746 pounds seized in 2000. FDSS comprises information about drug seizures made within the jurisdiction of the United States by DEA, the FBI, and U.S. Customs and Border Protection, as well as maritime seizures made by the U.S. Coast Guard. FDSS eliminates duplicate reporting of seizures involving more than one Federal agency.

The number of cannabis plants seized on national forest land more than doubled from 1997 to 2001. In 1997, the U.S. Forest Service reported the seizure of 316,013 plants. By 2001, 719,985 plants were seized.

More than 3.3 million cultivated marijuana plants were seized in 2002 as a result of DEA's Domestic Cannabis Eradication/Suppression Program. Most seizures took place in California where nearly 1.3 million plants were seized.

Adjudication

During FY 2001, some 8,000 convicted Federal drug offenders had committed an offense involving marijuana. Of these offenders, 7,758 were convicted of committing a trafficking offense, while 186 were convicted of marijuana possession. Marijuana trafficking convictions represented 33% of all drug trafficking offenses, and marijuana possession convictions accounted for 48.4% of all drug possession convictions in Federal courts during FY 2001. The median amount of marijuana involved in Federal marijuana trafficking convictions was 59,000 grams, or 2,081 ounces. The median amount of marijuana involved in Federal possession convictions was 37.5 grams, or 1.3 ounces.

A total of 924,700 persons were convicted of a felony in State courts in 2000. Marijuana trafficking convictions made up 2.7% of the total, and marijuana possession convictions represented 3.7% of the total.

Corrections

Among all Federal drug offenders receiving a prison sentence, those charged with marijuana offenses received the shortest ones. The average sentence received by Federal marijuana offenders in FY 2001 was 38 months, compared to 115 months for crack cocaine offenders, 88.5 months for methamphetamine offenders, 77 months for powder cocaine offenders, 63.4 months for heroin offenders, and 41.1 months for those who committed offenses involving other drugs.

According to a 1997 Bureau of Justice Statistics survey of Federal and State prisoners, approximately 19% of Federal and 13% of State drug offenders were incarcerated for a marijuana offense.

Table 4. Age at admission to treatment, 2001

Age (in Years)	All Admissions	Marijuana/Hashish
Younger than 15	1.6%	6.1%
15 to 19	10.8	40.2
15 to 17	6.8	28.9
18 to 19	4.1	11.2
20 to 24	12.3	21.6
25 to 29	11.3	11.3
30 to 34	14.6	7.9
35 to 39	17.1	6.2
40 to 44	14.9	4.0
45 to 49	9.3	1.8
50 to 54	4.6	0.7
55 to 59	1.9	0.2
60 to 64	0.9	0.1
65 and older	0.6	<0.05
Average age at admission	33.9 years	23.1 years

Source: Treatment Episode Data Set.

Treatment

The number of admissions to drug and alcohol treatment in the United States increased from 1,527,930 in 1992 to 1,739,796 in 2001. The number of admissions for primary marijuana abuse (255,394 admissions) accounted for

14.7% of the total admissions in 2001. This was up from 1992 when there were 92,414 marijuana admissions, or 6% of the year's admissions.

About 40% of those treated for primary marijuana abuse during 2001 were between ages 15 and 19 at admission. For all admissions to treatment (all illicit drugs and alcohol), this age group accounted for 11% of admissions (see table 4).

More than half of the drug-related treatment admissions involving individuals under the age of 15 (55.0%) and more than half of those ages 15 to 19 (54.1%) were treated for primary marijuana abuse. Among the marijuana/hashish admissions with data available (255,394), more than 25% of those admitted began using marijuana at age 12 or younger (see table 5).

Some 56.8% of the marijuana admissions to treatment in 2001 were referred through the criminal justice system. Other sources for referral treatment included individual referred self (17.5%), substance abuse provider (5.9%), other health care provider (4.9%), school (4.2%), employer/employee assistance program (1.2%), and other community referrals (9.5%).

Table 5. Age at first use, 2001

	Admissions to Treatment	
Age (in Years)	**All Admissions**	**Marijuana/Hashish**
12 or younger	15.2%	25.7%
13 to 14	16.7	30.5
15 to 16	21.2	24.5
17 to 18	15.8	11.2
19 to 20	7.7	3.5
21 to 25	10.8	3.0
26 to 30	5.9	0.9
Older than 30	6.8	0.7

Source: Treatment Episode Data Set.

Other Issues

Marijuana remains a Schedule I substance under the Controlled Substances Act. Schedule I drugs are classified as having a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use of the drug under medical supervision.

A 1999 Institute of Medicine report found that marijuana is not a modern medicine and expressed concern about patients smoking it because that was deemed a harmful drug-delivery system. Marinol (dronabinol), a capsule that contains THC and is taken orally, was approved by the U.S. Food and Drug Administration (FDA) in 1985 for the treatment of nausea and vomiting associated with cancer chemotherapy. In 1992, FDA approved the marketing of Marinol for the treatment of anorexia associated with weight loss in AIDS patients. FDA has also approved nabilone, a substance chemically related to marijuana. This drug is used to prevent the nausea and vomiting that may occur after cancer treatments

when other medicines are unsuccessful. Marinol and nabilone are available in the United States by prescription.

MDMA (Ecstasy)

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated February 2004.

Background

MDMA (3,4-methylenedioxymethamphetamine) or "ecstasy" is a synthetic drug with both psychedelic and stimulant effects. In the past, some therapists in the United States used the drug to facilitate psychotherapy. In 1988, however, MDMA became a Schedule I substance under the Controlled Substances Act.

In response to the Ecstasy Anti-Proliferation Act of 2000, the U.S. Sentencing Commission increased the guideline sentences for trafficking ecstasy. The new amendment, which became effective in May 2001 on an emergency basis, increases the sentence for trafficking 800 pills (approximately 200 grams) of ecstasy by 300%, from 15 months to 5 years. It also increases the penalty for trafficking 8,000 pills by almost 200%, from 41 months to 10 years. This new increase will affect the upper middle-level distributors. The amendment became permanent on November 1, 2001.

Currently, MDMA is predominantly a "club drug" and is commonly used at all-night dance parties known as "raves." However, recent research indicates that the use of MDMA is moving to settings other than nightclubs, such as private homes, high schools, college dorms, and shopping malls.

Effects

MDMA is a stimulant whose psychedelic effects can last between 4 and 6 hours and it is usually taken orally in pill form. The psychological effects of MDMA include confusion, depression, anxiety, sleeplessness, drug craving, and paranoia. Adverse physical effects include muscle tension, involuntary teeth clenching, nausea, blurred vision, feeling faint, tremors, rapid eye movement, and sweating or chills. Because of MDMA's ability to increase heart rate and blood pressure, an extra risk is involved with MDMA ingestion for people with circulatory problems or heart disease.

Rave party attendees who ingest MDMA are at risk of dehydration, hyperthermia, and heart or kidney failure. These risks are due to a

combination of the drug's stimulant effect, which allows the user to dance for long periods of time, and the hot, crowded atmosphere of rave parties. The combination of crowded all-night dance parties and MDMA use has been reported to cause fatalities.

Research shows that MDMA causes damage to the parts of the brain that are critical to thought and memory. MDMA increases the activity levels of neurotransmitters such as serotonin, dopamine, and norepinephrine. The drug causes the release of the neurotransmitters from their storage sites, which increases brain activity. By releasing large amounts of the neurotransmitters and also interfering with neurotransmitter synthesis, MDMA causes a significant depletion in the neurotransmitters. It takes the brain a significant length of time to rebuild the amount of serotonin and other neurotransmitters needed to perform important functions.

In addition to the dangers associated with MDMA itself, users are also at risk of being given a substitute drug. For example, PMA (paramethoxyamphetamine) is an illicit, synthetic hallucinogen that has stimulant effects similar to MDMA. However, when users take PMA believing they are ingesting MDMA, they often think they have taken weak ecstasy because PMA's effects take longer to appear. They then ingest more of the substance to attain a better high, which can result in death by overdose.

Adulterants may be added to ecstasy without the user's knowledge, resulting in additional danger to the user. According to the November 2002 Pulse Check report, ecstasy adulterants in Memphis included mescaline and methamphetamine, while in Los Angeles adulterants included codeine, dextromethorphan (DXM), and PMA.

In 1995, hospitals participating in the Drug Abuse Warning Network (DAWN) reported 421 mentions of MDMA. These mentions document the number of times a reference to MDMA was made during a drug-related emergency department (ED) visit. The number of ED MDMA mentions reported in 2002 reached 4,026 out of more than 1 million total drug mentions.

During 2002, approximately 75% of the ED MDMA mentions were attributed to ED patients age 25 and under. The primary reason for going to the ED after using MDMA was "unexpected reaction," cited in 1,578 of the ED visits involving MDMA. Another 1,215 MDMA-related ED visits were the result of an overdose.

Prevalence Estimates

The number of new MDMA users has risen since 1993, when there were 168,000 initiates. By 2001, the number of MDMA initiates reached 1.8 million. The National Survey on Drug Use and Health found that 15.1% of 18- to 25-year-olds surveyed in 2002 had used MDMA at least once in their lifetime (see table 1). There were 676,000 current MDMA users in 2002, meaning that they had used the drug within the month before being surveyed.

Table 1. MDMA use among U.S. population, 2002

Age Group	Lifetime	Past Year	Past Month
12–17	3.3%	2.2%	0.5%
18–25	15.1	5.8	1.1
26 and older	2.6	0.5	0.1
Total population	4.3	1.3	0.3

Source: National Survey on Drug Use and Health.

The University of Michigan's Monitoring the Future Study found that MDMA use among high school students declined from 2002 to 2003. Among 10th and 12th graders surveyed in 1996, annual prevalence of MDMA use (use in the past year) was 4.6% in both grades. By 2003, annual prevalence had decreased to 3% among 10th graders and 4.5% among 12th graders (see table 2).

Data on MDMA use by college students and young adults from 19 to 28 years old is also captured in the Monitoring the Future Study. In 2002, 12.7% of college students and 14.6% of young adults reported having used MDMA at least once. Approximately 6.8% of college students and 6.2% of young adults reported past year MDMA use (see table 2).

The Monitoring the Future Study also measures perceived harmfulness and disapproval of use by students. The 2003 study found that 41.9% of 8th graders, 49.7% of 10th graders, and 56.3% of 12th graders thought that trying MDMA once or twice was a great risk. This is up from 38.9%, 43.5%, and 52.2%, respectively, in 2002. Approximately 22% of 8th graders, 36% of 10th graders, and 58% of 12th graders surveyed in 2003 felt that MDMA was "fairly easy" or "very easy" to obtain.

Table 2. Percentage of students and young adults reporting past year MDMA use, 1996–2003

Year	8th Grade	10th Grade	12th Grade	College Adults	Young Students
1996	2.3%	4.6%	4.6%	2.8%	1.7%
1997	2.3	3.9	4.0	2.4	2.1
1998	1.8	3.3	3.6	3.9	2.9
1999	1.7	4.4	5.6	5.5	3.6
2000	3.1	5.4	8.2	9.1	7.2
2001	3.5	6.2	9.2	9.2	7.5
2002	2.9	4.9	7.4	6.8	6.2
2003	2.1	3.0	4.5	NA	NA

NA: Not available.
Source: Monitoring the Future Study.

Ecstasy was emerging, or was continuing to emerge, as a drug of abuse in all but five Pulse Check sites in 2002: Detroit, Miami, New Orleans, New York City, and Portland, Maine. In these five sites, ecstasy has either leveled off or is now considered an established drug of abuse. In 25 of the 40 Pulse Check sites, ecstasy is considered widely available by enforcement and epidemiologic/ethnographic sources.

Most ED visits involving club drugs also involve other drugs. In 2002, other drugs were found in 72% of the ED visits involving MDMA. Ecstasy continues to be taken with alcohol or marijuana, or both. It is also sometimes taken in combination or sequentially with various other legal and illegal drugs including LSD, GHB, ketamine, heroin, prescription pills (benzodiazepines or antidepressants), cough syrup, Viagra, and nitrous oxide.

Raves

MDMA is often found at nightclubs and raves. Raves first appeared in the United States in the late 1980s in cities such as San Francisco and Los Angeles. By the early 1990s, rave parties and clubs were present in most American metropolitan areas.

Raves are characterized by high entrance fees, extensive drug use, and overcrowded dance floors. Club owners often seem to promote the use of MDMA at their clubs. They sell overpriced bottled water and sports drinks to try to manage the hyperthermia and dehydration effects of MDMA use; pacifiers to prevent involuntary teeth clenching; and menthol nasal inhalers and neon glowsticks to enhance some of the other effects of MDMA.

Raves often are promoted as alcohol-free events, which gives parents a false sense of security that their children will be safe attending these parties. In reality, raves may be havens for the illicit sale and abuse of club drugs.

Cities and communities throughout the United States have attempted to reduce the number of raves in their areas and to curb the use of club drugs in these raves. Several cities have passed new ordinances designed to regulate rave activity. Other cities have reduced rave activity through enforcement of juvenile curfews, fire codes, health and safety ordinances, liquor laws, and licensing requirements for large public gatherings.

Production, Trafficking, and Enforcement

MDMA is most often manufactured clandestinely in Western Europe, primarily in Belgium and the Netherlands. These countries produce 80% of the MDMA consumed worldwide. This is primarily because of the availability of precursor and essential chemicals and international transportation hubs in this area of the world.

In the United States, the Drug Enforcement Administration's (DEA's) Chemical Control Program is working to disrupt the production of MDMA and other controlled substances by preventing the diversion of the precursor chemicals used to produce these substances. DEA registration, recordkeeping, and suspicious order reporting requirements apply to those who import, export, manufacture, and distribute the chemicals being monitored by DEA.

The United States works with other countries to prevent the diversion of precursor chemicals. As a result of the 1988 United Nations Drug Convention, parties to the convention became obligated to control their chemical commerce and to cooperate with each other in their efforts to prevent chemical diversion. The United States and other governments use the annual meetings of the United Nations Commission on Narcotic Drugs to promote international acceptance of chemical control and to highlight emerging chemical control concerns. During 1999, the International Criminal Police Organization (Interpol) reported several seizures of precursor chemicals in areas such as Spain, the Slovak Republic, and the Netherlands.

The majority of the MDMA produced in other countries is trafficked to the United States by Israeli and Russian organized crime syndicates that have forged relationships with Western European drug traffickers and gained control over most of the European market. These groups recruit American, Israeli, and Western European nationals as couriers. In addition, traffickers use express mail services, commercial flights, and airfreight shipments to deliver their merchandise. All major airports in Europe act as shipping points for MDMA destined for the United States. Currently, Los Angeles, Miami, and New York are the major gateway cities for the influx of MDMA from abroad.

According to DEA data, the national wholesale price range for MDMA tablets was $5 to $17 per dosage unit during 2001. The national retail price range during the year was $10 to $60 per tablet.

Domestically, DEA seized 196 MDMA tablets in 1993, 174,278 tablets in 1998, more than 1 million in 1999, more than 3 million in 2000, and more than 5.5 million in 2001. The U.S. Customs Service (USCS), now part of U.S. Customs and Border Protection, also reported a large increase in the number of MDMA tablets seized. USCS seized approximately 3.5 million MDMA tablets in 1999 and 9.3 million tablets in 2000.

According to Interpol, more than 14.1 million MDMA tablets were seized in Europe during 1999. This is nearly triple the amount seized in 1998 (5 million tablets). During the first half of 2000, more than 8.4 million MDMA tablets were seized in Europe. In 1999, global MDMA seizures totaled approximately 22 million tablets, up from 5.6 million in 1998.

Prevention and Enforcement Initiatives

In recent years, some initiatives have been developed to curb the use of MDMA and other club drugs. In 1999, the National Institute on Drug Abuse (NIDA) and its partners (American Academy of Child and Adolescent Psychiatry, Community Anti-Drug Coalitions of America, Join Together, and National Families in Action) launched a national research and education initiative, “Club Drugs: Raves, Risks, and Research,” to combat the increased use of club drugs. Through this initiative, NIDA increased funding for club drug research and launched a multimedia public education strategy to alert

teens, young adults, parents, educators, and others about the dangers associated with MDMA and other club drugs.

In February 2002, the Partnership for a Drug-Free America (PDFA) launched a national MDMA education campaign. The campaign consists of television and print advertising and an MDMA microsite found within PDFA's Web site. The campaign is aimed at teens and their parents.

In 2002, DEA began Operation X-Out, a multifaceted, year-long initiative that focuses on identifying and dismantling organizations that produce and distribute MDMA and similar drugs in the United States and abroad. Some results of Operation X-Out include increasing the number of DEA investigations involving MDMA and other club drugs, enhancing airport interdiction task forces, creating new task forces in cities such as Miami and New York, creating a task force on Internet drug trafficking, and expanding cooperation with international law enforcement.

Street Terms

Street terms for MDMA		
Adam B-bombs Bens Clarity Cristal Decadence Dex Disco biscuit	Ecstasy E Essence Eve Go Hug drug Iboga Love drug	Morning shot Pollutants Scooby snacks Speed for lovers Sweeties Wheels X XTC

Conclusion

The synthetic drug MDMA is commonly found at rave parties, nightclubs, and, more recently, other settings such as schools, malls, and private homes that are frequented by youth and young adults. The damaging effects of the drug can be long lasting and are possible after only a small number of uses. The trafficking of MDMA is increasing at an alarming rate, and multiple agencies have reported large seizures of the drug.

Methamphetamine

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated November 2003.

Background

Methamphetamine, a derivative of amphetamine, is a powerful stimulant that affects the central nervous system. Amphetamines were originally intended for use in nasal decongestants and bronchial inhalers and have limited medical applications, which include the treatment of narcolepsy, weight control, and attention deficit disorder. Methamphetamine can be smoked, snorted, orally ingested, and injected. It is accessible in many different forms and may be identified by color, which ranges from white to yellow to darker colors such as red and brown. Methamphetamine comes in a powder form that resembles granulated crystals and in a rock form known as "ice," which is the smokeable version of methamphetamine that came into use during the 1980s.

Effects

Methamphetamine use increases energy and alertness and decreases appetite. An intense rush is felt, almost instantaneously, when a user smokes or injects methamphetamine. Snorting methamphetamine affects the user in approximately 5 minutes, whereas oral ingestion takes about 20 minutes for the user to feel the effects. The intense rush and high felt from methamphetamine results from the release of high levels of dopamine into the section of the brain that controls the feeling of pleasure. The effects of methamphetamine can last up to 12 hours. Side effects include convulsions, dangerously high body temperature, stroke, cardiac arrhythmia, stomach cramps, and shaking.

Chronic use of methamphetamine can result in a tolerance for the drug. Consequently, users may try to intensify the desired effects by taking higher doses of the drug, taking it more frequently, or changing their method of ingestion. Some abusers, while refraining from eating and sleeping, will binge, also known as "run," on methamphetamine. During these binges, users will inject as much as a gram of methamphetamine every 2 to 3 hours over several days until they run out of the drug or are too dazed to continue use.

Chronic methamphetamine abuse can lead to psychotic behavior including intense paranoia, visual and auditory hallucinations, and out-of-control rages that can result in violent episodes. Chronic users at times develop sores on their bodies from scratching at "crank bugs," which describes the common delusion that bugs are crawling under the skin. Long-term use of methamphetamine may result in anxiety, insomnia, and addiction.

Table 1. Percentage of lifetime methamphetamine use among U.S. population by age group, 2002			
Age Group	Lifetime	Past Year	Past Month
12–17	1.5%	0.9%	0.3%
18–25	5.7	1.7	0.5
26 and older	5.7	0.4	0.2
Total population	5.3	0.7	0.3
Source: National Survey on Drug Use and Health.			

Table 2. Percentage of methamphetamine use by secondary school students, by grade, 1999–2002				
	Lifetime			
Grade	1999	2000	2001	2002
8th graders	4.5%	4.2%	4.4%	3.5%
10th graders	7.3	6.9	6.4	6.1
12th graders	8.2	7.9	6.9	6.7
	Annual			
Grade	1999	2000	2001	2002
8th graders	3.2%	2.5%	2.8%	2.2%
10th graders	4.6	4.0	3.7	3.9
12th graders	4.7	4.3	3.9	3.6
	Past 30 Days			
Grade	1999	2000	2001	2002
8th graders	1.1%	0.8%	1.3%	1.1%
10th graders	1.8	2.0	1.5	1.8
12th graders	1.7	1.9	1.5	1.7
Source: Monitoring the Future Study.				

After methamphetamine use is stopped, several withdrawal symptoms can occur, including depression, anxiety, fatigue, paranoia, aggression, and an intense craving for the drug. Psychotic symptoms can sometimes persist for months or years after use has ceased.

Prevalence Estimates

According to the U.S. Department of Health and Human Services' *Results From the 2002 National Survey on Drug Use and Health: National Findings,* more than 12 million people age 12 and older (5.3%) reported that they had used methamphetamine at least once in their lifetime (see table 1). Of those surveyed, 597,000 persons age 12 and older (0.3%) reported past month use of methamphetamine.

Since 1999, methamphetamine has been included in the University of Michigan's Monitoring the Future survey questionnaire. Survey results indicate that annual methamphetamine use (use within the past year) by secondary school students in 1999 ranged from 3.2% among 8th graders, to 4.6% among 10th graders, to 4.7% among 12th graders (see table 2). In 2002, estimates of annual methamphetamine use ranged from 2.2% among 8th graders, to 3.9% among 10th graders, to 3.6% among 12th graders.

The study also collected data on methamphetamine use by college students and young adults ages 19 to 28. During 1999, 3.3% of college students and 2.8% of young adults tried methamphetamine in the past year (see table 3). In 2002, annual use of methamphetamine declined to 1.2% for college students and 2.5% for young adults.

Table 3. Percentage of methamphetamine use by college students and young adults, 1999–2002

	Lifetime				Annual				Past 30 Days			
Age Groups	1999	2000	2001	2002	1999	2000	2001	2002	1999	2000	2001	2002
College students	7.1%	5.1%	5.3%	5.0%	3.3%	1.6%	2.4%	1.2%	1.2%	0.2%	0.5%	0.2%
Young adults	8.8	9.3	9.0	9.1	2.8	2.5	2.8	2.5	0.8	0.7	1.0	1.0

Source: Monitoring the Future Study.

According to the Centers for Disease Control and Prevention's *Youth Risk Behavior Surveillance—United States, 2001* study, 9.8% of high school students had used methamphetamine within their lifetime. Overall, white (11.4%) and Hispanic (9.1%) students were more likely than black students (2.1%) to report lifetime methamphetamine use.

Regional Observations

The widespread availability of methamphetamine is illustrated by increasing numbers of methamphetamine seizures, arrests, indictments, and sentences. According to the National Drug Intelligence Center (NDIC),

methamphetamine is widely available throughout the Pacific, Southwest, and West Central regions and is increasingly available in the Great Lakes and Southeast.

Similarly, the National Institute on Drug Abuse's Community Epidemiology Work Group (CEWG) reports that, in 2002, methamphetamine indicators remained highest in West Coast areas and parts of the Southwest, as well as Hawaii. Methamphetamine abuse is spreading in areas such as Atlanta, Chicago, Detroit, St. Louis, and Texas. Relatively low indicators were found in East Coast and Mid-Atlantic CEWG areas, although abuse is increasing.

According to the Arrestee Drug Abuse Monitoring Program sites, during 2002, methamphetamine use by adult arrestees was concentrated in the Western region of the United States. Out of 36 sites, the highest percentages of adult male arrestees testing positive for methamphetamine were located in Honolulu (44.8%), Sacramento (33.5%), San Diego (31.7%), and Phoenix (31.2%). Out of 23 sites, the highest percentages of adult female arrestees testing positive for methamphetamine were located in Honolulu (50%), San Jose (42.8%), Phoenix (41.7%), Salt Lake City (37.7%), and San Diego (36.8%).

According to *Pulse Check: Trends in Drug Abuse,* law enforcement agencies and epidemiologic/ethnographic sources surveyed in 2002 reported that methamphetamine availability increased in the following sites: Boston, Billings, Chicago, Columbia (South Carolina), Denver, Detroit, Honolulu, Los Angeles, Memphis, Miami, New York, and Sioux Falls (South Dakota). The remaining 12 Pulse Check sites reported stable methamphetamine availability. There were no reported decreases in availability.

Availability

Yaba, the Thai name for a tablet form of methamphetamine mixed with caffeine, is appearing in Asian communities in California. These tablets are popular in Southeast and East Asia where they are produced. The tablets are small enough to fit in the end of a drinking straw and are usually reddish-orange or green with various logos. There are indications that methamphetamine tablets are becoming more popular in the rave scene because their appearance is similar to club drugs such as Ecstasy.

Production and Trafficking

Methamphetamine trafficking and abuse have changed in the United States during the past 10 years. Mexican drug trafficking organizations have become the dominant manufacturing and distribution group in cities in the Midwest and the West. Methamphetamine production and abuse were previously controlled by independent laboratory operators, such as outlaw motorcycle gangs, which continue to operate but to a smaller extent. The Mexican criminal organizations are able to manufacture in excess of 10

pounds of methamphetamine in a 24-hour period, producing high-purity, low-cost methamphetamine.

Methamphetamine precursor chemicals usually include pseudoephedrine and ephedrine drug products. Mexican organizations sometimes use methylsulfonylmethane (MSM) to "cut" the methamphetamine in the production cycle. MSM is legitimately used as a dietary supplement for horses and humans. The supplement is readily available at feed/livestock stores and in health/nutrition stores. By adding MSM, the volume of methamphetamine produced is increased, which in turn increases the profits for the dealer.

Price and Purity

According to the Drug Enforcement Administration (DEA), during 2001, the price of methamphetamine ranged nationally from $3,500 to $23,000 per pound, $350 to $2,200 per ounce, and $20 to $300 per gram. The average purity of methamphetamine decreased from 71.9% in 1994 to 40.1% in 2001. International controls have reduced the availability of chemicals used to produce high-purity methamphetamine and may have contributed to the decrease in purity levels.

Enforcement

Arrests

From October 1, 2000, to September 30, 2001, there were 3,932 Federal drug arrests for amphetamine/methamphetamine, representing 12% of all Federal drug arrests.

Seizures

According to the Federal-wide Drug Seizure System (FDSS), 2,807 kilograms of methamphetamine were seized in 2001 by U.S. Federal law enforcement authorities, down from 3,373 kilograms in 2000. FDSS consolidates information about drug seizures made within the jurisdiction of the United States by DEA, the Federal Bureau of Investigation, and U.S. Customs and Border Protection, as well as maritime seizures made by the U.S. Coast Guard. FDSS eliminates duplicate reporting of seizures involving more than one Federal agency.

In addition, Federal authorities seized 301,697 Southeast Asian methamphetamine tablets in U.S. Postal Service facilities in Oakland, Los Angeles, and Honolulu in 2000, representing a 656% increase from the 1999 seizures of 39,917 tablets.

According to the El Paso Intelligence Center's National Clandestine Laboratory Seizure System, 8,290 methamphetamine labs were seized in

2001. In 2001, there were 303 "superlabs" with the capacity to produce 10 or more pounds of methamphetamine in one production cycle seized in the United States.

Adjudication

During FY 2001, 3,404 Federal drug offenders were convicted of committing an offense involving methamphetamine. Of those convicted of a Federal drug offense for methamphetamine, 59% were white, 35.2% were Hispanic, 4.2% were of another race, and 1.6% were black.

Corrections

In FY 2001, the average length of sentence received by Federal methamphetamine offenders was 88.5 months, compared with 115 months for crack cocaine offenders, 77 months for powder cocaine offenders, 63.4 months for heroin offenders, 38 months for marijuana offenders, and 41.1 months for other drug offenders.

Consequences of Use

Chronic methamphetamine abuse can result in inflammation of the heart lining and, for injecting drug users, damaged blood vessels and skin abscesses. Social and occupational connections progressively deteriorate for chronic methamphetamine users. Acute lead poisoning is another potential risk for methamphetamine abusers because of a common method of production that uses lead acetate as a reagent.

Medical consequences of methamphetamine use can include cardiovascular problems such as rapid heart rate, irregular heartbeat, increased blood pressure, and stroke-producing damage to small blood vessels in the brain. Hyperthermia and convulsions can occur when a user overdoses and, if not treated immediately, can result in death. Research has shown that as much as 50% of the dopamine-producing cells in the brain can be damaged by prolonged exposure to relatively low levels of methamphetamine and that serotonin-containing nerve cells may be damaged even more extensively.

Methamphetamine abuse during pregnancy can cause prenatal complications such as increased rates of premature delivery and altered neonatal behavior patterns, such as abnormal reflexes and extreme irritability, and may be linked to congenital deformities. Methamphetamine abuse, particularly by those who inject the drug and share needles, can increase users' risks of contracting HIV/AIDS and hepatitis B and C.

Table 4. Number of emergency department methamphetamine mentions, 1995–2002							
1995	1996	1997	1998	1999	2000	2001	2002

15,933	11,002	17,154	11,486	10,447	13,505	14,923	17,696
Source: Drug Abuse Warning Network.							

During 1995, hospitals participating in the Drug Abuse Warning Network (DAWN) reported 15,933 mentions of methamphetamine (see table 4). A drug mention refers to a substance that was recorded (mentioned) during a drug-related visit to the emergency department (ED). By 1999, the number of methamphetamine ED mentions decreased to 10,447. This number increased to 17,696 in 2002.

In 2001, DAWN's mortality data for methamphetamine mentions to medical examiners remained concentrated in the Midwest and West regions of the United States. The metropolitan areas reporting the most methamphetamine mentions were Phoenix (122), San Diego (94), and Las Vegas (53). The East Coast area that reported the highest number of methamphetamine mentions was Long Island (49). Out of 42 metropolitan areas studied, 15 areas reported fewer than 5 methamphetamine mentions.

Treatment

According to the Treatment Episode Data Set, during 2000 methamphetamine treatment admissions accounted for 4.1% of total admissions or 66,052 admissions. Those admitted for methamphetamine/amphetamine were primarily white (79%) and male (53%). In 1994, there were half as many admissions for methamphetamine, 33,432 or about 2% of all admissions for treatment.

There are no pharmacological treatments for methamphetamine dependence. Antidepressant medications can be used to combat the depressive symptoms of withdrawal. The most effective treatment for methamphetamine addiction is cognitive behavioral interventions, which modify a patient's thinking, expectancies, and behavior while increasing coping skills to deal with life stressors.

Clandestine Laboratories

Methamphetamine can be easily manufactured in clandestine laboratories (meth labs) using ingredients purchased in local stores. Over-the-counter cold medicines containing ephedrine or pseudoephedrine and other materials are "cooked" in meth labs to make methamphetamine.

The manufacture of methamphetamine has a severe impact on the environment. The production of one pound of methamphetamine releases poisonous gas into the atmosphere and creates 5 to 7 pounds of toxic waste. Many laboratory operators dump the toxic waste down household drains, in fields and yards, or on rural roads.

Due to the creation of toxic waste at methamphetamine production sites, many first response personnel incur injury when dealing with the hazardous substances. The most common symptoms suffered by first responders when they raid meth labs are respiratory and eye irritations, headaches, dizziness, nausea, and shortness of breath.

Meth labs can be portable and so are easily dismantled, stored, or moved. This portability helps methamphetamine manufacturers avoid law enforcement authorities. Meth labs have been found in many different types of locations, including apartments, hotel rooms, rented storage spaces, and trucks. Methamphetamine labs have been known to be boobytrapped and lab operators are often well armed.

According to DEA, in 2001 there were 12,715 methamphetamine laboratory incidents reported in 46 States. The West Coast accounted for most of the laboratory incidents. On the East Coast, the following States reported the highest incident rates: Georgia (51), North Carolina (31), and Florida (29). Nationally, the highest rate of lab activity took place in Missouri, which reported 2,207 incidents. California and Washington also had high incident rates with 1,847 and 1,477, respectively.

Scheduling and Legislation

Methamphetamine is a Schedule II drug under the Controlled Substance Act of 1970. A Schedule II Controlled Substance has high potential for abuse, is currently accepted for medical use in treatment in the United States, and may lead to severe psychological or physical dependence.

The chemicals that are used to produce methamphetamine also are controlled under the Comprehensive Methamphetamine Control Act of 1996 (MCA). This legislation broadened the restrictions on listed chemicals used in the production of methamphetamine, increased penalties for the trafficking and manufacturing of methamphetamine and listed chemicals, and expanded the controls of products containing the licit chemicals ephedrine, pseudoephedrine, and phenylpropanolamine (PPA).

The Methamphetamine Anti-Proliferation Act was passed in July 2000. The act strengthens sentencing guidelines and provides training for Federal and State law enforcement officers on methamphetamine investigations and the handling of the chemicals used in clandestine meth labs. It also puts in place controls on the distribution of the chemical ingredients used in methamphetamine production and expands substance abuse prevention efforts.

Street Terms

Street terms for methamphetamine

Blue meth	Meth
Chicken feed	OZs
Cinnamon	Peanut butter
Crink	Sketch
Crystal meth	Spoosh
Desocsins	Stove top
Geep	Super ice
Granulated orange	Tick tick
Hot ice	Trash
Ice	Wash
Kaksonjae	Working man's cocaine
L.A. glass	Yellow barn
Lemon drop	Yellow powder

Oxycontin

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated 2003.

Overview

OxyContin is a prescription painkiller used for moderate to high pain relief associated with injuries, bursitis, dislocation, fractures, neuralgia, arthritis, lower back pain, and pain associated with cancer. OxyContin contains oxycodone, the medication's active ingredient, in a timed-release tablet. Oxycodone products have been illicitly abused for the past 30 years.

OxyContin produces opiate-like effects and is sometimes used as a substitute for heroin. Illicit uses of OxyContin include crushing the tablet and ingesting or snorting it. Most individuals who abuse this drug do so to gain euphoric effects, relieve pain, and to avoid withdrawal symptoms. Those who take the drug repeatedly can develop a tolerance or resistance to the drug's effects.

Extent of Use

According to the 2003 National Survey on Drug Use and Health, approximately 2.8 million persons aged 12 or older had used OxyContin nonmedically at least once in their lifetime. This is a statistically significant increase from the 1.9 million lifetime users in 2002.

A questionnaire about OxyContin was included in the 2002 Monitoring the Future Study for the first time. During 2003, 1.7% of 8th graders, 3.6% of 10th graders, and 4.5% of 12th graders reported using OxyContin within the past year. During 2004, 1.7% of 8th graders, 3.5% of 10th graders, and 5.0% of 12th graders reporting using OxyContin within the past year.

During 2003, 2.2% of college students and 2.6% of young adults (ages 19-28) reported using OxyContin at least once during the past year. This is up from 1.5% and 1.9%, respectively, during 2002.

According to the November 2002 Pulse Check: Trends in Drug Abuse, OxyContin diversion and abuse were reported as emerging in 13 of the 20 Pulse Check sites, including Baltimore, MD; Billings, MT; Boston, MA; Chicago, IL; Columbia, SC; Denver, CO; Detroit, MI; Memphis, TN; Miami, FL; New Orleans, LA; Philadelphia, PA; Portland, OR; and Seattle, WA.

Only 4 Pulse Check sites reported OxyContin to be widely available and more than half reported it to be somewhat available. OxyContin abusers in Pulse Check sites tend to be over 30 years old, although young adults (18-30 years) are emerging, and white.

Health Effects

Most individuals who are prescribed OxyContin will not become addicted, although they may become dependent on the drug and will experience withdrawal symptoms when use is stopped.

According to the Drug Use Warning Network (DAWN) emergency department (ED) data, there was a 107% increase in the number of oxycodone combination mentions from 2000 to 2002. During 2002, there were 22,397 mentions of oxycodone combinations, compared to the 10,825 mentions during 2000. During 2002, there were 14,996 single-entity Oxycodone mentions (where only Oxycodone is mentioned).

Drug Episode: A drug-related ED episode is an ED visit that was induced by or related to the use of drug(s)**.**
Drug Mention: A drug mention refers to a substance that was recorded during an ED episode. Because up to 4 drugs can be reported for each drug abuse episode, there are more mentions than episodes.

ED Oxycodone Mentions, 1996–2002>

Years	Combination Mentions*	Single Entity Mentions**
1996	3,190	100
1997	5,012	372
1998	5,211	1,034
1999	6,429	1,804
2000	10,825	3,792
2001	18,409	11,100
2002	22,397	14,996

*Oxycodone combinations include OxyContin, Percocet, and general oxycodone mentions
**Oxycodone single entity mentions (oxycodone only)

According to the Drug Abuse Warning Network (DAWN) 2002 mortality data, oxycodone ranked among the 10 most common drugs in 17 cities, including Philadelphia (93 mentions), Boston (49 mentions), Las Vegas (42), Baltimore (33 mentions), and Seattle (29 mentions).

As of November 1, 2001, medical examiner offices in 31 States reported 1,096 overdose deaths involving oxycodone, 117 of which were related to OxyContin.

Treatment

According to the Treatment Episode Data Set (TEDS), oxycodone was reported as the primary substance of abuse in 1,364 treatment admissions during 2002. It was also reported in 585 admissions as the secondary drug of abuse and in 341 admissions as the tertiary drug of abuse.

According to Pulse Check: Trends in Drug Abuse, OxyContin is the primary drug of abuse among substantial percentages of clients in several treatment programs in Pulse Check sites, especially in the Columbia (SC) and Portland (ME) methadone programs. OxyContin accounts for even higher percentages of clients who report any use (either primary, secondary, or tertiary) in several cities, such as Miami (40 percent), St. Louis (15 percent), Boston (8 percent), Los Angeles (4 percent), and-most dramatically-in Memphis, where all 300 clients in the program report some use of the drug.

Arrests & Sentencing

The number of DEA investigations and arrests involving OxyContin has declined since 2001.

DEA OxyContin Investigations/Arrests, 2000–2003

	2001	2002	2003
Investigations	172	140	71
Arrests	202	179	141

The number of Organized Crime Drug Enforcement Task Force (OCDETF) OxyContin-related investigations have fluctuated from 10 in FY 2001, to 22 in FY 2002, to 13 in FY 2003. The number of OCDETF indictments for OxyContin-related offenses has increased from 7 in FY 2001, to 31 in FY 2002, to 40 in FY 2003.

Production & Trafficking

Purdue Pharma introduced OxyContin, an opiate agonist, in 1995. Pharmaceuticals such as OxyContin can be diverted in many ways. The most

popular form is known as "doctor shopping," where individuals, who may or may not have legitimate illnesses requiring a doctor's prescription for controlled substances, visit many doctors to acquire large amounts of controlled substances. Other diversion methods include pharmacy diversion and improper prescribing practices by physicians.

Crimes related to OxyContin sales are usually non-violent, although violent crimes were reported in Boston, Honolulu, Los Angeles, and Portland relating to OxyContin sales. Most of the crimes include robbery, burglary, larceny, and other property crimes.

According to the Drug Enforcement Administration (DEA), licit retail prices for Oxycodone from 1996-2000 ranged from $1.30 for 10 milligrams to $14 for 160 milligrams. Illicit prices for Oxycodone ranged from $5-$12 for 10 milligrams to $60-$100 per 160 milligrams.

According to the Drug Enforcement Administration, there were 1,251 incidents of OxyContin theft during 2003. These incidents resulted in the theft of 464,312 OxyContin dosage units (DU).

OxyContin Theft Incidents, and Dosage Units Stolen, 2000–2003

	# of Incidents	DU Stolen
2000	791	260,688
2001	1,228	519,597
2002	1,479	587,168
2003	1,251	464,312

Legislation

Oxycodone is a Schedule II drug under the Controlled Substances Act. Schedule II substances have a high potential for abuse, a currently accepted medical use in treatment in the United States with severe restrictions, and may lead to severe psychological or physical dependence.

Many States have launched efforts to curb the illegal use of OxyContin. Louisiana, Maine, Virginia, Kentucky, Pennsylvania, and Tennessee have enacted legislation to deal with this issue. California, Hawaii, Idaho, Illinois, Indiana, Kentucky, Massachusetts, Michigan, Nevada, New Mexico, New York, Oklahoma, Rhode Island, Texas, Utah, and Washington have established prescription monitoring programs. Many more States are working to establish legislation and prescription monitoring programs to deal with diverted pharmaceuticals.

Street Terms

Common Terms Associated with OxyContin			
Term	**Definition**	**Term**	**Definition**
40	**OxyContin**	**Kicker**	**OxyContin**
80	**OxyContin**	**Oxy**	**OxyContin**
Blue	**OxyContin**	**Oxycotton**	**OxyContin**
Doctor shopping	**Obtaining pharmaceutical prescriptions from various doctors**	**Pill ladies**	**Female senior citizens who sell OxyContin**
Hillbilly heroin	**OxyContin**	**Pharming**	**Consuming a mix of prescription drugs**

Rohypnol

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated November 2003.

Background information

Rohypnol is the trade name for the drug flunitrazepam, a benzodiazepine (central nervous system depressant) like Valium, yet 10 times more potent. Outside the United States, Rohypnol is legally manufactured by Hoffman-LaRoche, Inc., and is available by prescription for the short-term treatment of severe sleep disorders. It is widely available in Europe, Mexico, and Colombia, but is neither manufactured nor approved for sale in the United States.

Illicit use of Rohypnol began in the 1970s in Europe and appeared in the United States in the early 1990s. Much of the concern surrounding Rohypnol is its abuse as a "date rape" drug. Rohypnol is a tasteless and odorless drug and, until recent manufacturer efforts, dissolved clear in liquid, which masked its presence. Rohypnol comes in pill form and is usually sold in the manufacturer's bubble packaging, which can mislead users in the United States into believing the drug is safe and legal. Since February 1999, reformulated Rohypnol tablets, which turn blue in a drink to increase visibility, have been approved and marketed in 20 countries. The old noncolored tablets are still available, however. In response to the reformulated blue tablets, people who intend to commit a sexual assault facilitated by Rohypnol are now serving blue tropical drinks and punches in which the blue dye can be disguised.

Effects

Rohypnol can be ingested orally, snorted, or injected. It is often combined with alcohol or used as a remedy for the depression that follows a stimulant high. The effects of Rohypnol begin within 15 to 20 minutes of administration and, depending on the amount ingested, may persist for more than 12 hours. The drug's metabolic properties are detectable in urine for up to 72 hours after ingestion.

Under Rohypnol, individuals may experience a slowing of psychomotor performance, muscle relaxation, decreased blood pressure, sleepiness, and/or amnesia. Some of the adverse side effects associated with the drug's use are drowsiness, headaches, memory impairment, dizziness, nightmares, confusion, and tremors. Although classified as a depressant, Rohypnol can induce aggression and/or excitability.

Prevalence Estimates

Rohypnol is popular with youth because of its low cost, which is usually less than $5 per tablet. It has been used throughout the United States by high school and college students, street gang members, rave and nightclub attendees, drug addicts, and alcohol abusers. Rohypnol is used in combination with alcohol, marijuana, cocaine, heroin, ecstasy, and LSD. The predominant user age group is 13- to 30-years-old and users tend to be male.

A questionnaire about Rohypnol use was included in the Monitoring the Future Survey for the first time in 1996. Lifetime Rohypnol use by secondary school students in 1996 ranged from 1.5% among 8th and 10th graders to 1.2% among 12th graders (table 1). Current estimates of lifetime Rohypnol use range from 1.1% among 8th graders, to 1.5% among 10th graders, to 1.7% among 12th graders.

Table 1: Rohypnol use by secondary school students, 1996–2001

	1996	1997	1998	1999	2000	2001
8th grade						
Lifetime	1.5	1.1	1.4	1.3	1.0	1.1
Annual	1.0	0.8	0.8	0.5	0.5	0.7
30-Day	0.5	0.3	0.4	0.3	0.3	0.4
10th grade						
Lifetime	1.5	1.7	2.0	1.8	1.3	1.5
Annual	1.1	1.3	1.2	1.0	0.8	1.0
30-Day	0.5	0.5	0.4	0.5	0.4	0.2
12th grade						
Lifetime	1.2	1.8	3.0	2.0	1.5	1.7
Annual	1.1	1.2	1.4	1.0	0.8	0.9
30-Day	0.5	0.3	0.3	0.3	0.4	0.3

Availability, Trafficking, and Seizures

Because Rohypnol is not manufactured or approved for medical use in the United States, distributors must obtain their supply from other countries. Colombian traffickers ship Rohypnol to the United States via mail services and/or couriers using

commercial airlines. Distributors also travel to Mexico to obtain supplies of the drug and smuggle it into the United States.

In the late 1980s, Rohypnol abuse and distribution were occasionally reported in Florida and in the border areas of Arizona, California, and Texas. Beginning around 1993, the abuse and distribution of Rohypnol began to spread, with the vast majority of Rohypnol-related law enforcement cases occurring between January 1993 and December 1996. The two largest Rohypnol seizures occurred in February 1995. At that time, more than 52,000 tablets were seized in Louisiana and 57,000 tablets were seized in Texas. By June 1996, the Drug Enforcement Administration (DEA) had documented more than 2,700 Federal, State, and local law enforcement encounters with Rohypnol.

On March 5, 1996, the U.S. Customs Service began seizing Rohypnol at United States borders on advice from DEA and the U.S. Food and Drug Administration. By December 1997, Customs Service efforts had substantially reduced the availability of the drug.

In May 2000, DEA, along with the U.S. Border Patrol, seized 900 Rohypnol tablets in Texas. In July 2000, multiagency investigations led to the closure of a pharmacy in Mexico that used the mail to distribute Rohypnol to California.

According to DEA's System to Retrieve Information from Drug Evidence (STRIDE) data, Rohypnol seizures were at their highest in 1995, with 164,534 dosage units, and have since decreased to 4,967 units in 2000.

Regional Observations

According to *Pulse Check: Trends in Drug Abuse*, Rohypnol is now the least available club drug in the United States. Nevertheless, Los Angeles and El Paso report that the drug is widely available. The remaining Pulse Check sites report it as somewhat, not very, or not at all available.

In El Paso, speedball (a combination of heroin and cocaine) users often use Rohypnol to "soften the fall when coming down." El Paso treatment centers also report clients using "roche," which is presumed to be Rohypnol smuggled in from Mexico.

According to the Community Epidemiology Work Group (CEWG), reports of Rohypnol use have been declining since recent legislation and its use is very low or nonexistent in the majority of CEWG areas. Cities that are exceptions to this decline in use include Atlanta and New Orleans. Poison control calls involving Rohypnol in combination with other drugs have increased in Atlanta where Rohypnol sells for $5 to $10 per pill. In New Orleans, Rohypnol is common in nightclubs and private rave parties.

Texas has experienced increases in poison control calls and treatment admissions for Rohypnol, especially among Hispanic youth close to the Mexican border. In the first quarter of 2000, DEA reported increases in Rohypnol seizures in Laredo, Beaumont, and Austin.

Drug-Facilitated Rape

Drug-facilitated rape can be defined as sexual assault made easier by the offender's use of an "anesthesia" type drug that can render the victim physically incapacitated or helpless and unable to give consent to sexual activity. Whether the victim is unwittingly administered the drug or willingly ingests it for recreational use is irrelevant. The person is victimized because of an inability to consciously consent to sexual acts.

Rohypnol is one of the drugs most commonly implicated in drug-facilitated rape. It can mentally and physically paralyze an individual. Effects of the drug are of particular concern in combination with alcohol and can lead to anterograde amnesia, where events that occurred during the time the drug was in effect are forgotten.

During 2000, some 261,000 rapes/sexual assaults occurred, but it is unknown how many were drug facilitated. Many factors contribute to this lack of data, including the short period of time that the drug can be detected in the victim's system. Also, victims may not seek help until days after the assault, partly because the drug impairs their memory and partly because of their inability to recognize signs of sexual assault. As with any sexual assault, survivors need help regaining a sense of control and security. Many victims rely on a support system to help them deal with the flood of emotions in the aftermath of the assault.

Scheduling and Legislation

As a result of the 1971 United Nations Convention on Psychotropic Substances, the United States placed Rohypnol under Schedule IV of the Controlled Substances Act in 1984. Rohypnol is not approved for manufacture or sale within the United States.

Controlled Substances Act—Formal Scheduling

Schedule I—The drug has a high potential for abuse, is not currently accepted for medical use in treatment in the United States, and lacks accepted safety for use under medical supervision.
Schedule II—The drug has a high potential for abuse, is currently accepted for medical use in treatment in the United States, and may lead to severe psychological or physical dependence.

Schedule III—The drug has less potential for abuse than drugs in Schedule I and II categories, is currently accepted for medical use in treatment in the United States, and may lead to moderate or low physical dependence or high psychological dependence.

Schedule IV—The drug has low potential for abuse relative to other drugs, is currently accepted for medical use in treatment in the United States, and may lead to limited physical dependence or psychological dependence relative to drugs in Schedule III.

Schedule V—The drug has a low potential for abuse relative to drugs in Schedule IV, is currently accepted for medical use in treatment in the United States, and may lead to limited physical or psychological dependence relative to drugs in Schedule IV.

By March 1995, the United Nations Commission on Narcotic Drugs had transferred Rohypnol from a Schedule IV to a Schedule III drug. DEA is reviewing the possibility of reclassifying Rohypnol as a Schedule I drug. At the State level, Rohypnol already has been reclassified as a Schedule I substance in Florida, Idaho, Minnesota, New Hampshire, New Mexico, North Dakota, Oklahoma, and Pennsylvania.

In response to Rohypnol abuse and use of the drug to facilitate sexual assaults, the U.S. Congress passed the Drug Induced Rape Prevention and Punishment Act, effective October 13, 1996. The law provides for harsher penalties regarding the distribution of a controlled substance to an individual without the individual's consent and with the intent to commit a crime of violence, including rape. The law imposes a penalty of up to 20 years in prison and a fine for the importation and distribution of 1 gram or more of Rohypnol. Simple possession is punishable by 3 years in prison and a fine.

In 1997, penalties for possession, trafficking, and distribution of Rohypnol were further increased by the U.S. Sentencing Commission's Federal

Sentencing Guidelines to those of a Schedule I substance because of growing abuse of the drug.

Street Terms

Street Terms for Rohypnol		
Circles Forget me drug Forget me pill Getting roached La Rocha Lunch money drug Mexican valium	Pingus R-2 Reynolds Rib Roach-2 Roapies Robutal	Roofies Rope Rophies Row-shay Ruffles Wolfies

Steroids

This information is copied from the Drug Facts section of the Office of National Drug Control Policy web site, www.whitehousedrugpolicy.gov/drugfact/index.html. It is dated 2005.

Overview

Currently, there are more than 100 different types of anabolic steroids that have been developed, and each requires a prescription to be used legally in the United States.

Anabolic steroids can be taken orally, injected intramuscularly, or rubbed on the skin when in the form of gels or creams. These drugs are often used in patterns called cycling, which involves taking multiple doses of steroids over a specific period of time, stopping for a period, and starting again. Users also frequently combine several different types of steroids in a process known as stacking. By doing this, users believe that the different steroids will interact to produce an effect on muscle size that is greater than the effects of using each drug individually.

Another mode of steroid use is "pyramiding." This is a process in which users slowly escalate steroid use (increasing the number of drugs used at one time and/or the dose and frequency of one or more steroids) reaching a peak amount at mid-cycle and gradually tapering the dose toward the end of the cycle.

Extent of Use

Results from the 2004 Monitoring the Future Study, which surveys students in eighth, tenth, and twelfth grades, show that 1.9% of eighth graders, 2.4% of tenth graders, and 3.4% of twelfth graders reported using steroids at least once in their lifetimes.[6]

Percent of Students Reporting Steroid Use, 2004

Student Steroid Use	Eighth Grade	Tenth Grade	Twelfth Grade
Past month use	0.5%	0.8%	1.6%
Past year use	1.1	1.5	2.5
Lifetime use	1.9	2.4	3.4

Regarding the ease by which one can obtain steroids, 19.7% of eighth graders, 29.6% of tenth graders, and 42.6% of twelfth graders surveyed in 2004 reported that steroids were "fairly easy" or "very easy" to obtain. During 2004 55.7% of twelfth graders surveyed reported that using steroids was a "great risk."

The Centers for Disease Control and Prevention (CDC) also conducts a survey of high school students throughout the United States, the Youth Risk Behavior Surveillance System (YRBSS) 6.1% of all high school students surveyed by CDC in 2003 reported lifetime use of steroid pills/shots without a doctor's prescription. 7.1% of ninth graders, 6.1% of tenth graders, 5.6% of eleventh graders, and 4.9% of twelfth graders reported lifetime illegal use of steroids.

During 2003, 1.8% of young adults (ages 19-28) reported using steroids at least once during their lifetimes, 0.5% reported past year steroid use, and 0.2% reported past month steroid use.

Health Effects

Anabolic steroid abuse has been associated with a wide range of adverse side effects ranging from some that are physically unattractive, such as acne and breast development in men, to others that are life threatening. Most of the effects are reversible if the abuser stops taking the drug, but some can be permanent. In addition to the physical effects, anabolic steroids can also cause increased irritability and aggression.

Some of the health consequences that can occur in both males and females include liver cancer, heart attacks, and elevated cholesterol levels. In addition to this, steroid use among adolescents may prematurely stop the lengthening of bones resulting in stunted growth.

People who inject steroids also run the risk of contracting or transmitting hepatitis or HIV. Some steroid abusers experience withdrawal symptoms

when they stop taking the drug. These withdrawal symptoms include mood swings, fatigue, restlessness, loss of appetite, insomnia, reduced sex drive, and depression. This depression can lead to suicide attempts, and if left untreated, can persist for a year or more after the abuser stops taking the drugs.

Production & Trafficking

Illicit anabolic steroids are often sold at gyms, competitions, and through mail operations after being smuggled into this country. The most common source for obtaining steroids for illegal use is smuggling them into the U.S. from other countries such as Mexico and European countries. These countries do not require a prescription for the purchase of steroids, making it easier to smuggle them. In addition to this, steroids are also illegally diverted from U.S. pharmacies or synthesized in clandestine laboratories.

Legislation

Concerns over a growing illicit market and prevalence of abuse combined with the possibility of harmful long-term effects of steroid use led Congress to place anabolic steroids into Schedule III of the Controlled Substances Act (CSA) in 1991. It is therefore illegal to possess or sell anabolic steroids without a valid prescription. Some States have also implemented additional fines and penalties for illegal use of anabolic steroids.

The International Olympic Committee, National Collegiate Athletic Association and many professional sports leagues (including the Major League Baseball, National Basketball Association, National Football League, and National Hockey League), have banned the use of steroids by athletes due to their potentially dangerous side effects and because they give the user an unfair advantage.

Street Terms

Street/Slang Terms for Steroids
Arnolds
Gym Candy
Juice
Pumpers
Stackers
Weight Trainers

Footnotes

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