



**ONDCP**  
Drug Policy Information Clearinghouse  
**FACT SHEET**

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## MDMA (Ecstasy)

As part of ongoing research, the White House Office of National Drug Control Policy (ONDCP) Drug Policy Information Clearinghouse has prepared this fact sheet to summarize current information on the effects, prevalence estimates, trafficking, and production of the designer drug MDMA (3,4-methylenedioxymethamphetamine). The fact sheet also discusses current legislation and law enforcement efforts to control the drug.

### Background Information

MDMA or “ecstasy” is a synthetic drug with both psychedelic and stimulant effects. The drug was created by a German company in 1912 to be used as a possible appetite suppressant. 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 May 1, 2001, on an emergency basis, increases the sentence for trafficking 800 pills (approximately 200 grams) of ecstasy by 300 percent, from 15 months to 5 years. It also increases the penalty for trafficking 8,000 pills by almost 200 percent, 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 that has psychedelic effects that can last between 4 and 6 hours and 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. There is also an extra risk involved with MDMA ingestion for people with circulatory problems or heart disease because of MDMA’s ability to increase heart rate and blood pressure.

Rave party attendees who ingest MDMA are also 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 conducted in 2001 by the National Institute of Mental Health supports earlier data showing that MDMA causes damage to the parts of the brain that are critical to thought and memory. The 2001 research found that MDMA damages neurons (nerve cells) that use serotonin to communicate with other neurons in the brain. Additional research indicates that MDMA also affects other neurotransmitters, such as dopamine and acetylcholine.

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 thinking they are really 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 overdose death.

Adulterants may be added to ecstasy without the user's knowledge. For example, in a few cities (Chicago, New York, and Washington, D.C.), heroin has been mentioned anecdotally as an adulterant to MDMA. Additional adulterants that have been reported across the country include caffeine, methamphetamine, and ephedrine.

In 1994, hospitals participating in the Drug Abuse Warning Network (DAWN) program reported 253 mentions of MDMA. These mentions refer to the number of times a reference to MDMA was made during a drug-related emergency department (ED) visit. By 2000, the number of MDMA ED mentions reported during the year reached 4,511 out of more than 1 million total drug mentions. This is a 58% increase over the 2,850 MDMA mentions reported in 1999. Preliminary data for January to June 2001 indicate that there were 2,385 ED MDMA mentions during that time.

During 2000, approximately 82% of the ED MDMA mentions were attributed to ED patients age 25 and under. MDMA overdose, was cited in 1,742 MDMA-related ED visits and was the most frequently mentioned reason for going to the ED after using MDMA.

During 1999, MDMA was mentioned in 42 of the drug abuse deaths reported to DAWN by 139 medical examiner (ME) facilities in 40 metropolitan areas across the United States. This is up from 9 MDMA ME mentions in 1998. The total number of ME drug mentions for all drugs during 1999 was 29,106.

DAWN's 2000 medical examiner report was completely redesigned from its previous format. The 2000 mortality report now includes information on "club drugs" as a group, combining all mentions of MDMA, ketamine, GHB (gamma hydroxybutyrate), GBL (gamma butyrolactone), and flunitrazepam (Rohypnol). In nearly all of the cases during 2000, club drugs were reported in combination with at least one other substance such as marijuana or cocaine.

As in previous years, club drugs accounted for very few deaths in any of the DAWN metropolitan areas. Out of the 43 total metropolitan areas studied during 2000, only 10 cities reported more than 5 mentions of club drugs in drug-related deaths.

## Prevalence Estimates

According to studies measuring drug use in the United States, MDMA use is heaviest among youth and young adults. The U.S. Department of Health and Human Services' National Household Survey on Drug Abuse found that 9.7% of 18- to 25-year-olds surveyed in 2000 had used MDMA at least once in their lifetimes. More than 6.4 million people age 12 and older reported that they had used MDMA at least once during their lifetimes. This is up from 5.1 million lifetime users in 1999.

**Percentage of Lifetime MDMA Use Among U.S. Population by Age Group, 1996–2000**

Age Group	1996	1997	1998	1999*	2000
12–17	1.1%	1.3%	1.6%	1.8%	2.6%
18–25	4.2	4.6	5.0	7.6	9.7
26–34**	2.5	3.1	2.6	1.5**	1.8**
35 and older**	0.7	0.5	0.5	— **	— **
Total population	1.5	1.5	1.5	2.3	2.9

\*Beginning with 1999, new methodology was used. Comparisons cannot be made with previous years.

\*\*For 1999 and 2000, the groups used to collect the data were ages 12 to 17, 18 to 25, and 26 and older. The 1.5% listed for 1999 and 1.8% for 2000 are for ages 26 and older, not just ages 26 to 34.

Source: U.S. Department of Health and Human Services.

The University of Michigan's Monitoring the Future Study found that MDMA use among high school students continued to increase in 2001. 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 2001, annual prevalence was up to 6.2% among 10th graders and 9.2% among 12th graders. Annual use among 8th graders also rose in 2001 to 3.5%, up from 3.1% in 2000. The study also showed that 11.7% of high school seniors surveyed in 2001 had used MDMA at least once in their lifetimes, up from 11% in 2000.

While no one individual grade showed a statistically significant increase in MDMA use, all have shown a continuing increase in both lifetime and annual prevalence. Taken across all three grades combined, this 1-year increase is statistically significant.

The Monitoring the Future Study also measured perceived harmfulness and disapproval of use by high school seniors and the availability of MDMA to these students. The study found that 45.7% of seniors in 2001 thought that trying MDMA once or twice was a great risk. This is up from 37.9% in 2000. A majority (79.5%) of high school seniors in 2001 disapproved of trying MDMA. More than half (61.5%) of high school

seniors in 2001 said MDMA was fairly easy or very easy to obtain, up from 40.1% in 1999 and 51.4% in 2000.

Percentage of High School Seniors Using MDMA by Frequency of Use, 2000–2001			
Frequency	2000	2001	%Change
Lifetime	11.0%	11.7%	+0.7
Annual	8.2	9.2	+1.0
30 days	3.6	2.8	-0.9

Source: University of Michigan.

Data on MDMA use by college students and young adults 19 to 28 years old was also captured in the study. In 2000, 13.1% of college students had tried MDMA at least once in their lifetimes. Among young adults, the percentage who had tried MDMA was 11.6% in 2000.

More than 80 percent of law enforcement, epidemiologic, and ethnographic respondents in the 20 Pulse Check cities across the country report that the availability of ecstasy increased between 1999 and 2000.

These sources indicate that ecstasy is frequently used in combination with other substances, especially other club drugs, a practice often referred to as “cafeteria-style use.” According to DAWN, more than 70% of 1999 ED visits involving club drugs such as MDMA also involved other drugs. In different cities around the country, ecstasy is sometimes combined with LSD (“candy flipping”), psilocybin mushrooms (“hippie flipping”), methamphetamine (“up ecstasy”), and heroin (“down ecstasy”). It is also reportedly combined with cocaine, diverted pharmaceuticals, cough syrup, Rohypnol, and antidepressants.

Frequency	College Students			Young Adults		
	1999	2000	%Change	1999	2000	%Change
Lifetime	8.4%	13.1%	+4.7 *	7.1%	11.6%	+4.6**
Annual	5.5	9.1	+3.6 *	3.6	7.2	+3.6**
30 Days	2.1	2.5	+0.4	1.3	1.9	+0.5

\*Level of significance of difference is .05.  
 \*\*Level of significance of difference is .001.  
 Note: Any apparent inconsistency between the change estimate and the prevalence estimates is due to rounding.  
 Source: University of Michigan.

## 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 (another MDMA effect); 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 actually be havens for the illicit sale and abuse of club drugs.

## Production, Trafficking, and Enforcement

MDMA is most often manufactured clandestinely in Western Europe, primarily in the Netherlands and Belgium. 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, record keeping, and suspicious order reporting requirements apply to those who import, export, manufacture, and distribute the chemicals being watched by DEA.

The United States also 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 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 also 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.

Domestically, DEA seized 196 MDMA tablets in 1993, 174,278 tablets in 1998, more than 1 million in 1999, and more than 3 million in 2000. The U.S. Customs Service (USCS) has 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. From January to May 2001, USCS had already seized more than 4 million MDMA tablets.

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, up from 5.6 million in 1998.

## Street Terms

Common terms for MDMA are “ecstasy,” “Adam,” and “XTC.” Other terms are given in the following box.

Slang Terms		
B-bombs	Bens	Clarity
Cristal	Decadence	Dex
Disco biscuit	E	Essence
Eve	Go	Hug drug
Iboga	Love drug	Morning shot
Pollutants	Scooby snacks	Speed for lovers
Sweeties	Wheels	X

## Conclusion

The synthetic drug MDMA is commonly found at rave parties, nightclubs, and more recently, other settings frequented by youth and young adults such as schools, malls, and private homes. The damaging effects of the

drug can be long lasting and are possible after 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.

In recent years, some initiatives have been developed to curb the use of MDMA and other club drugs and reduce the number of raves. For example, 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 to combat the increased use of club drugs. Through this initiative, “Club Drugs: Raves, Risks, and Research,” NIDA increased the 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.

As part of ONDCP’s National Youth Anti-Drug Media Campaign, a nationwide radio and Internet initiative was launched in August 2000 that focuses specifically on MDMA. This initiative was designed to educate people about MDMA’s dangers and change the misconception that MDMA is a harmless drug.

Also, cities and communities throughout the United States have made attempts to reduce the number of raves in their areas and have tried to curb the use of club drugs in these raves. For example, 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.

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