
Report to the Congress:

MDMA DRUG OFFENSES
Explanation of Recent Guideline Amendments

(as directed by section 3663(e) of the Ecstasy Anti-Proliferation Act of 2000,
Public Law 106–310)



UNITED STATES SENTENCING COMMISSION

May 2001

I. INTRODUCTION

A. Purpose of the Report

This report is submitted pursuant to section 3663(e) of the Ecstasy Anti-Proliferation Act of 2000, Pub. L. No. 106–310 (the “Act”), which requires the United States Sentencing Commission (the “Commission”) to:

1. prepare a report within sixty days of promulgating an amendment describing the factors and information considered by the Commission in promulgating amendments pursuant to this section; and
2. submit the report to (A) the Committee on the Judiciary, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate; and (B) the Committee on the Judiciary, the Committee on Commerce, and the Committee on Appropriations of the House of Representatives.

B. Statutory Directive

Section 3663(a) of the Act directed the Commission, pursuant to emergency authority under section 3664 of the Act and the Commission’s authority under section 994(p) of title 28, United States Code, to amend the Federal sentencing guidelines regarding any offense relating to the manufacture, importation, or exportation of, or trafficking in

- (1) 3,4-methylenedioxymethamphetamine;
- (2) 3,4-methylenedioxy amphetamine;
- (3) 3,4-methylenedioxy-N-ethylamphetamine;
- (4) paramethoxymethamphetamine (PMA); or
- (5) any other controlled substance, as determined by the Commission in consultation with the Attorney General, that is marketed as Ecstasy and that has either a chemical structure that is substantially similar to that of 3,4-methylenedioxymethamphetamine or an effect on the central nervous system substantially similar to or greater than that of 3,4-methylenedioxymethamphetamine,

including an attempt or conspiracy to commit such offenses, in violation of the Controlled Substances Act (21 U.S.C. 801 *et. seq.*), the Controlled Substances Import and Export Act (21 U.S.C. 951 *et. seq.*), or the Maritime Drug Law Enforcement Act (46 U.S.C. 1901 *et. seq.*).

Section 3663(b) of the Act, setting forth the general requirements, directed the Commission to (1) review and amend the Federal sentencing guidelines to provide for increased penalties such that those penalties reflect the seriousness of these offenses and the need to deter them; and (2) take any other action the Commission considered necessary for carrying out this section. The Act also required the Commission to consider a number of factors:

(1) the need for aggressive law enforcement action with respect to offenses involving the controlled substances described in subsection (a); and

(2) the dangers associated with unlawful activity involving such substances, including –

(A) the rapidly growing incidence of abuse of the controlled substances described in subsection (a) and the threat to public safety that such abuse poses;

(B) the recent increase in the illegal importation of the controlled substances described in subsection (a);

(C) the young age at which children are beginning to use the controlled substances described in subsection (a);

(D) the fact that the controlled substances described in subsection (a) are frequently marketed to youth;

(E) the large number of doses per gram of the controlled substances described in subsection (s); and

(F) any other factor that the Commission determines to be appropriate.

C. Organization of the Report

Part II of this report provides a brief explanation of the guideline amendments promulgated pursuant to the Act. The estimated impact of the amendments is discussed in Part III. Part IV examines characteristics of MDMA including a brief history of the drug and associated health hazards. Part V addresses the additional factors the Act directed the Commission to consider when establishing the appropriate revised penalty for MDMA trafficking offenses. Part VI provides concluding remarks.

II. EXPLANATION OF GUIDELINE AMENDMENTS PROMULGATED FOR DRUG OFFENSES

A. Commission Decision-Making Process

The Commission looked to a number of sources to help inform its decision-making process as to what should be the appropriate penalties for MDMA trafficking. Immediately upon enactment of the Act, the Commission began reviewing the available scientific and popular literature on MDMA, engaging the Department of Justice through its *ex officio* Commissioner and his staff, and soliciting the input of interested agencies. The Commission invited representatives of the Drug Enforcement Agency to describe to the Commission the trafficking pattern of MDMA and the challenges faced by law enforcement. The Commission also invited representatives of the

National Institute on Drug Abuse (NIDA) to describe the pharmacological effects and health hazards associated with MDMA abuse.

The Commission also went to great lengths to solicit and properly consider public input. The Commission promulgated a temporary amendment pursuant to a special statutory grant of emergency amendment authority, which exempts the agency from its usual notice and comment requirements for purposes of the temporary amendment (although not for the subsequent permanent amendment). Nevertheless, because the Commission values public input, the Commission traditionally attempts to solicit public comment, even when not required to do so. Accordingly, the Commission published a preliminary proposal with issues for comment in the *Federal Register* on January 26, 2001. This preliminary proposal would have set the penalties for MDMA trafficking equal to the penalties for heroin trafficking.

The Commission also agreed to a last minute request from the public, specifically the National Association for Criminal Defense Lawyers, to delay voting on the emergency amendment until after the Commission's annual public hearing on March 19, 2001. At the public hearing, the Commission heard testimony about MDMA from eight experts representing two-thirds of the total number of witnesses at the hearing. This testimony was supplemented by a large number of written submissions.

In response to the Commission's outreach, the agency received literally hundreds of letters, e-mails, and other written submissions that we considered from a diverse array of constituents, including clinicians, physicians, psychologists, academic researchers, users, defense attorneys, and other interest groups, in addition to the organizations and agencies that usually comment on proposed guidelines, such as the Department of Justice and the Federal Public and Community Defenders. In fact, the volume of public comment received on the proposed changes to the guidelines for MDMA trafficking far exceeds that for any issue this Commission has addressed since taking office in November 1999.

B. Emergency, Temporary Amendment

On March 20, 2001, pursuant to emergency amendment authority under section 3664 of the Act, the Commission in a 7-0 vote, promulgated a temporary sentencing guideline amendment to increase penalties for the manufacture, importation, exportation, or trafficking of MDMA. The emergency amendment to USSG §2D1.1 (Unlawful Manufacturing, Importing, Exporting, or Trafficking (Including Possession with Intent to Commit These Offenses); Attempt or Conspiracy) addressed the directive by amending the Drug Equivalency Tables in USSG §2D1.1, Application Note 10, to increase the marijuana equivalencies for the specified controlled substances. This action effectively increased substantially the penalties for offenses involving MDMA. The Commission specified an effective date of May 1, 2001, for this amendment.

After considering all of the input received from representatives of law enforcement, the defense bar, academia, and private citizens, the Commission decided against promulgating the published proposal to equate the penalties for MDMA trafficking with the penalties for heroin trafficking. Instead, the Commission voted for a penalty structure that is, gram for gram, somewhat

more severe than for powder cocaine, but less severe than for heroin. Under the Drug Equivalency Tables, one gram of powder cocaine has a marijuana equivalency of 200 grams and one gram of heroin has a marijuana equivalency of 1000 grams. Under the emergency amendment, one gram of MDMA has a marijuana equivalency of 500 grams.¹

The Commission did not equate the penalties for MDMA trafficking to the penalties for heroin trafficking because (1) there are many more heroin cases in the federal system than MDMA cases, (2) heroin is more addictive than MDMA, (3) heroin has many more emergency room visits and deaths associated with its use than MDMA because, unlike MDMA which generally is taken orally, heroin is injected, (4) heroin has more violence associated with both its users and distribution system than MDMA, in part because MDMA users typically do not resort to violence to support their drug use, and (5) heroin causes greater secondary health effects, such as the spread of HIV and hepatitis, because it is injected. The Commission chose a greater penalty structure for MDMA trafficking than for powder cocaine trafficking because (1) unlike MDMA, powder cocaine is not neurotoxic, (2) powder cocaine is not aggressively marketed to youth in the same manner as MDMA, and (3) powder cocaine is only a stimulant, but MDMA acts as both a stimulant and a hallucinogen.

The Commission believes a marijuana equivalency of 500 grams reflects the unique pharmacological and physiological harms of ecstasy, the fact that the drug is aggressively marketed to and used by our youth, and its importation and trafficking pattern.

C. Permanent Amendment

On April 6, 2001, the Commission repromulgated as a permanent amendment, without change, the emergency, temporary amendment that increased penalties for the manufacture, importation, exportation, or trafficking of MDMA. There were a combination of reasons supporting the Commission's decision to substantially increase the penalties in response to the congressional directive. Much of the evidence received by the Commission indicated that MDMA has powerful pharmacological effects, the capacity to cause lasting physical harm, including brain damage, and is being abused by increasing numbers of teenagers and young adults.

¹In order to set penalties in cases involving multiple drugs with differing penalty levels, the Commission established the concept of "marijuana equivalency." The marijuana penalties are used as a common standard to which all other drugs are related mathematically. For example, the five-year penalty for marijuana begins at 100,000 grams. The corresponding five-year penalty for powder cocaine is 500 grams. The "marijuana equivalency" for powder cocaine is: one gram of powder cocaine equals 200 grams of marijuana. In the powder cocaine example, the 500 grams is multiplied by 200 for a result of 100,000 grams (identical to the five-year marijuana quantity). This value (100,000 grams) can then be used to establish the penalty in the Drug Quantity Table in USSG §2D1.1.

For example, a case involves 600 grams of powder cocaine and 300 grams of heroin. The marijuana equivalency for powder cocaine is one gram = 200 grams marijuana. The equivalency for heroin is one gram heroin = 1,000 grams marijuana (heroin penalties are more severe than penalties for powder cocaine, therefore, the marijuana equivalency for heroin is greater). The quantity for each drug, as presented, would result in an offense level of 26. However, combining the drugs using the "marijuana equivalency" results in an equivalency score of 120,000 grams for the cocaine, 300,000 grams for the heroin, and a total marijuana equivalency of 420,000 grams of marijuana.. This "marijuana equivalency" quantity raises the offense level to 28

Additionally, based on information regarding MDMA trafficking patterns, the penalty levels chosen appropriately and sufficiently target serious and high-level traffickers by providing appropriate punishment, deterrence, and incentives for cooperation. The penalty levels chosen for MDMA offenses provide five-year sentences for serious traffickers – local distributors – (those whose offense conduct involved approximately 800 pills) and ten-year sentences for high-level traffickers – importers, upper- and middle-level distributors – (those whose offense conduct involved approximately 8,000 pills). This permanent amendment was submitted to Congress and will be effective on November 1, 2001, unless it is disapproved by Congress.

III. ESTIMATED IMPACT OF THE AMENDMENT

As explained *supra*, MDMA penalties under the sentencing guidelines are determined by using the Drug Equivalency Tables in USSG §2D1.1. Prior to the emergency amendment, one gram of MDMA was equivalent to 35 grams of marijuana.² The amendment unanimously approved by the Commission increased the marijuana equivalency penalty for one gram of MDMA to 500 grams.

To estimate the amendment's impact with respect to sentences imposed and in turn, the impact over time of more stringent sentences on the prison system, the Commission "re-sentenced" those offenders sentenced under USSG §2D1.1 in fiscal year 2000 for trafficking in MDMA. According to the Commission's prison impact model, the amendment will increase sentences for the 169 FY2000 MDMA trafficking offenders 115 percent, from an average of 34 months imprisonment to 73 months imprisonment. Based on this more than doubling of average sentence length, the prison impact model estimates that a total of 372 prison beds will be required ten years after implementation, with 270 prison beds required within five years.

The Commission's prison impact model likely understates the actual impact of the amendment because the estimates solely reflect increases to sentences of an assumed constant number of convicted offenders. In other words, no changes in law enforcement activity or prevalence of use were factored into the impact analysis.

IV. MDMA CHARACTERISTICS

A. Background

The German company E. Merck received a patent for the drug MDMA (3,4-methylenedioxymethamphetamine) in 1914 as an aid in the development of other therapeutic

²For comparison purposes, the marijuana equivalency of methamphetamine mixture is 2,000 grams; heroin is 1,000 grams; cocaine is 200 grams; and mescaline is 10 grams.

agents.³ By the late 1970s, the drug's potential for use in mental health treatment had been recognized by some professionals and its recreational properties recognized by the youth culture.⁴ During this period, possession and use of the drug was legal, and it was not until 1985 that the Drug Enforcement Administration (DEA) classified MDMA as a Schedule I drug "subject to criminal penalties similar to those for cocaine and heroin."⁵ The Schedule I status was achieved when the Director of DEA overruled the finding of a DEA administrative law judge who had placed the drug in Schedule III.⁶

This drug generally is found in pill form, each of which weighs approximately 250-300 mg, with MDMA accounting for approximately 75 to 125 mg of this weight. It has a chemical structure similar to methamphetamine and the hallucinogen mescaline.⁷ Users of the drug report an enhanced sense of pleasure and self-confidence, increased energy, feelings of peacefulness, acceptance, empathy, closeness with others, and a desire to be touched.⁸ MDMA also causes increased heart rate and blood pressure, restlessness, jaw clenching, changes in body temperature regulation, increased body temperature, muscle tension, next day hangover, and a strong urge to repeat use (although MDMA is not physically addictive).⁹

B. Health Hazards

A significant amount of research has been conducted on the patterns and consequences of MDMA use with much, although not all, of the research finding a range of physical and emotional hazards associated with its use. In addition to the effects mentioned earlier, the National Institute on Drug Abuse (NIDA) reports, in a brief summary of some of this work, that physical "problems are similar to those experienced by amphetamine and cocaine users . . . [and] can include muscle tension, involuntary teeth clenching, nausea, blurred vision, faintness, and chills or sweating." Unwanted psychological effects include "confusion, depression, sleep problems, anxiety, and paranoia during, and sometimes weeks after, taking the drug." Fatalities associated with MDMA use are generally associated with dehydration, hyperthermia, and heart or kidney failure arising

³John Cloud, *Ecstasy/Happiness is...a pill?/The Science*, TIME, June 5, 2000, at 62, 66.

⁴Grob, Charles S., *Deconstructing Ecstasy: The Politics of MDMA Research*, 8 ADDICTION RESEARCH 549-583 (2000).

⁵Ethan Brown, *Ecstasy: It's not just for club kids anymore*, NEW YORK, July 24, 2000, at 24, 26.

⁶Grob, *supra* note 4.

⁷National Institute on Drug Abuse (NIDA), National Institute of Health (NIH), NIDA Notes, *Facts About MDMA (Ecstasy)*, Pub. No. 99-3478, (November 1999) at 15.

⁸*Id.*

⁹http://www.erowid.org/chemicals/mdma/mdma_effects.shtml. This site has generally favorable attitudes toward substance use and provides information, with a mix of science, pseudo-science, and lore, on pharmacology, routes of administration, dosages, and effects of use on a wide range of illicit intoxicants.

from the disruption in the body's ability to thermally regulate itself and the frequent use of the drug in dance club settings in which the user dances for an extended period of time in hot and crowded conditions.¹⁰ Dysphoric aftereffects linked to MDMA include general fatigue, difficulty concentrating, depression, anxiety, irritability, and muscle aches.¹¹

Of great concern are the effects of MDMA on serotonin sites within the brain. Serotonin is a neurotransmitter in the brain that is important in memory and other functions. Chronic effects reported from the use of MDMA have centered largely on the depletion of serotonin levels and toxicity to serotonin neurons. A comprehensive review of the scientific literature reports findings from multiple scientific studies describing symptoms of acute toxicity from MDMA use, including mental status changes, hyperthermia, and other symptoms associated with *serotonin syndrome*.¹² These authors express concern that neither the amount of drug ingested nor the number of prior uses successfully predict the severity of the symptoms or their clinical course.¹³

The potential toxicity to serotonin neurons, however, has been the subject of some disagreement.¹⁴ A leading researcher in MDMA toxicity studies, and the focus of some of the controversy, has performed numerous studies on both animals and humans.¹⁵ Most recently, this researcher reports that MDMA use results in lasting deficiencies in that portion of the serotonin

¹⁰NIDA, *supra* note 7.

¹¹K. M. Hegadoren et al, *3,4-Methylenedioxy analogues of amphetamine: Defining the risks to humans*, 23 NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS 539-553, 540 (1999).

¹²Serotonin syndrome, a toxic hyperserotonic state, is a drug-related condition associated with the use of serotonin releasing drugs and pharmaceuticals. A variety of symptoms are experienced in several organ structures including cardiovascular, gastrointestinal, and motor, and can include changes in mental status (including confusion, agitation, and coma). Steve Nolan and J. Allen Scoggin, *Serotonin Syndrome: Recognition and Management*, 23 U.S. PHARMACIST 87-94 (February 1998). http://www.uspharmacist.com/NewLook/DisplayArticle.cfm?item_num=94.

¹³Hegadoren, *supra* note 11, at 543; Demirkian, Jankovic, and Dean describe a case study of a 19-year-old college student who, after ingesting a single dose of MDMA, presented to a health center with clinical features similar to serotonin syndrome. Meltem Demirkian et al, *Ecstasy Intoxication: An Overlap Between Serotonin Syndrome and Neuroleptic Malignant Syndrome*, 19 CLINICAL NEUROPHARMACOLOGY, 157-164, 157 (1996).

¹⁴*See, e.g.*, written statement of James P. O'Callaghan, PhD, Head, MOLECULAR NEUROTOXICOLOGY LABORATORY, TOXICOLOGY AND MOLECULAR BIOLOGY BRANCH, THE CENTERS FOR DISEASE CONTROL AND PREVENTION, *Defining Neurotoxicity: Lessons from MDMA and Other Amphetamines*, submitted to the U. S. Sentencing Commission on March 21, 2001; O'Callaghan reported the absence of certain chemical markers indicative of neurotoxicity. This finding along with other information indicates to the author that the research supporting toxicity has not definitively demonstrated MDMA neurotoxicity.

¹⁵George Ricaurte, M.D. and colleagues have performed numerous studies of the toxic effects of MDMA use on animals and humans. Their work was severely criticized by several medical/research professionals who publically commented to the Commission during its review of the MDMA penalties. However, as was noted by at least one critic, Dr. Ricaurte's work has appeared in peer-reviewed scientific journals of excellent reputation. The method of peer review and dissemination lends credence to this work.

nerve cell known as the axon – a consistent finding in all nonhuman species tested. Based on these data, it is argued that MDMA related toxicity found across species provides support for a toxicity risk in human users.¹⁶ This research team also provides a predictive model demonstrating that dosage levels producing serotonin toxicity in animal studies are clearly within the range of consumption reported by humans.¹⁷

The following summary, taken from an issue of *NIDA Notes*,¹⁸ reports on recent research involving positron emission tomography (PET) brain scans of 14 MDMA users. The brain scan comparison of MDMA users with non-users indicated that users had a significantly reduced number of serotonin transporters throughout the brain and that the magnitude of the loss was associated with greater use of the drug. NIDA also reported findings from a study using an MDMA-exposed baboon who demonstrated PET scan findings similar to those reported for human MDMA users. Upon autopsy, the baboon demonstrated actual loss of serotonin nerve endings.¹⁹

Some have suggested that the brain's elasticity and redundancy may mean that any neurotoxicity caused by the drug may not be meaningful. Recognizing this, the researchers compared the performance of human users with non-users on standardized memory tests. Users demonstrated "significant impairments in visual and verbal memory."²⁰ These deficits were also dose related; that is, greater impairment was associated with greater use. In a separate study of human cognition after MDMA use, researchers in Germany investigated performance on a broad series of memory and mental functioning tests comparing abstinent MDMA users with marijuana users and non-users. They reported that, although all three groups performed within the normal range, MDMA users performed more poorly than one or both comparison groups on certain complex tests of attention. They concluded that MDMA use may impair a subsystem termed

¹⁶George Ricaurte et al, (+ -) 3,4-methylenedioxymethamphetamine ('Ecstasy')-induced neurotoxicity: studies in animals, 42 NEUROPSYCHOBIOLOGY 5-10 (2000). Regarding the risk of toxicity in humans, they write that "unless some, as yet unidentified, factor renders humans uniquely insensitive to the toxic effects of MDMA, species differences not likely to be associated with protection from MDMA-induced brain 5-HT injury" (p. 8). 5-HT refers to 5-hydroxyindoleacetic acid, a metabolite of brain serotonin. Metabolites are commonly used to measure biological activity involving the primary substance from which it is derived. See also, D.L. Commins et al, Biochemical and histological evidence that methylenedioxymethamphetamine (MDMA) is toxic to neurons in the rat brain, 241 JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS 338-345 (1987).

¹⁷Ricaurte, *id.* at 8. The "Principles of Interspecies Scaling" explain that different dosage levels between species leading to toxicity is accounted for by known relationships between different body mass/surfaces and differences in their rates of drug elimination from the body. These principles permit prediction of dosage levels between species based on these known relationships.

¹⁸Robert Mathias, NIDA Notes, "Ecstasy" Damages the Brain and Impairs Memory in Humans, Pub. No. 99-3478, (November 1999) at 10-11.

¹⁹Ricaurte, *supra* note 16; his review also cites several animal studies demonstrating axon (nerve ending) loss in serotonin nerve cells due to MDMA exposure.

²⁰Mathias, NIDA Notes, *supra* note 18, at 11.

“working memory,” and that this form of disturbance is “likely related to the well-recognized neurotoxic potential of ecstasy.”²¹

Another point of controversy surrounding the MDMA research literature is whether loss of these serotonin sites, and the corresponding impairment, is permanent. Complete neuronal regeneration in rats 12 months after exposure to MDMA has been reported.²² However, a study involving squirrel monkeys found that some damage to serotonin sites persisted at least seven years after exposure to the drug.²³

V. ADDITIONAL REQUIREMENTS

In section 3663(c) of the Act, the Commission was directed to ensure that the Federal sentencing guidelines for MDMA drug offenses reflected the need for aggressive law enforcement and the dangers associated with the unlawful activity involving MDMA offenses. Specifically, these dangers included:

(A)(i) the rapidly growing incidence of abuse of the controlled substances

MDMA is estimated to be the fastest growing abused drug in the United States. According to the National Drug Intelligence Center (NDIC), a Department of Justice agency responsible for collecting strategic domestic drug counterintelligence information, the production, availability, and use of MDMA has increased at an alarming rate, making its potential threat equal to that of cocaine and heroin.²⁴ According to a University of Michigan survey conducted last year, 1.3 million of the nation’s high school students have experimented with MDMA at least once, and 450,000 students admit to current use.²⁵ The steady supply of MDMA has made it much easier for the drug to move beyond the club scene.²⁶ Thus, while MDMA has been widespread in dance clubs and at “rave” parties nationally, it also has been reported in other social settings, such as school areas and

²¹Euphrosyne Gouzoulis-Mayfrank et al, *Impaired cognitive performance in drug free users of recreational ecstasy (MDMA)*, 68 JOURNAL OF NEUROLOGY, NEUROSURGERY, PSYCHIATRY 719-725, 724 (2000).

²²George Battaglia et al, NIDA, *MDMA-Induced Neurotoxicity: Parameters of Degeneration and Recovery of Brain Serotonin Neurons*, 29 PHARMACOLOGY, BIOCHEMISTRY, & BEHAVIOR 269-274, 269 (1988).

²³G. Hatzidimitriou et al, *Altered serotonin innervation patterns in the forebrain of monkeys treated with (+/-)3,4 methylenedioxymethamphetamine seven years previously: factors influencing abnormal recovery*. 191 JOURNAL OF NEUROSCIENCE 5096-5107 (1999).

²⁴Jerry Seper, *Threat of ‘Ecstasy’ Reaching Cocaine, Heroin Proportions*, THE WASHINGTON TIMES, August 16, 2000, at A3.

²⁵Chitra Ragavan, *Cracking Down on Ecstasy*, U.S. NEWS & WORLD REPORT, February 5, 2001, at 14.

²⁶Del Quentin Wilber, *Club drug becomes suburban sensation*, BALTIMORE SUN, August 25, 2000, at A9.

shopping malls.²⁷

Consistent with this increase in prevalence, the number of federal MDMA trafficking cases has risen dramatically in a short period. The number of federal convictions for ecstasy trafficking reached 169 during fiscal year 2000, its highest level. Although ecstasy offenses still account for a very small proportion of federal drug trafficking defendants sentenced in federal court – approximately .05 percent of all federal drug trafficking cases – the rate of increase in ecstasy offenses is substantial. The 2000 figure represents a 48 percent increase above the 1999 figure of 114 cases, and a dramatic 745 percent increase above the 1998 figure of 20 cases.

(A)(ii) the threat to public safety that such abuse poses

The most immediate threat involves harm to the user. As described *supra* in Part IV B, users expose themselves to potential neuronal death of serotonin cells and impairment in thinking and memory. Additionally, use of the drug has required emergency medical care and has contributed to death in a small number of cases.

Nationally, MDMA-related hospital emergency department visits have skyrocketed in recent years, increasing more than ten-fold, from 250 in 1994 to 2,850 in 1999.²⁸ MDMA-related calls to poison control centers have also recently increased in several Community Epidemiology Work Group areas. In 1999 and 2000, nine deaths related to MDMA use were recorded in CEWG areas.²⁹ Deaths occurred in: Detroit/Wayne County (2); Miami (1); Philadelphia (3); Minneapolis/St. Paul (1); and Chicago (2).³⁰ Although increasing, emergency room admissions and deaths attributed to use of these substances continue to be less frequent than with other drugs of abuse. Instead, a more common experience is “Suicide Tuesday,” a brief, but deep depression occurring after use.³¹

The threat to public safety may extend beyond deleterious consequences to the user. The significant increases in the availability of MDMA, prevalence of use, and seizures by law enforcement, may be a prelude to the experience in Great Britain during the 1990s. Charles S.

²⁷CEWG, NIH, NIDA, *Epidemiologic Trends in Drug Abuse*, I Proceedings of the Community Epidemiology Working Group 76, June 2000. CEWG, sponsored by the National Institute on Drug Abuse, is tasked with monitoring trends in drug use by combining data reported by various sources and anecdotal findings in selected U.S. cities.

²⁸OFFICE OF APPLIED STUDIES, SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA), *Club Drugs*, The DAWN (Drug Abuse Warning Network) Report (December 2000) at 2. www.SAMHSA.GOV/OAS/DAWN/CLUBDRUG.HTM.

²⁹CEWG, *supra* note 27, at 76,75.

³⁰*Id.* at 75.

³¹Brown, *supra* note 5, at 30.

Grob, in a comprehensive review of the history and science on MDMA, reports that prevalence of MDMA use increased over 4,000 percent in the United Kingdom between 1990 and 1995. This expansion and the opportunity for large profit resulted in “criminal gangs rapidly taking control of the manufacturing and marketing of *Ecstasy*.”³²

(B) the recent increase in the illegal importation of the controlled substances

DEA has testified that 90 percent of the world’s MDMA supply is manufactured in clandestine laboratories in the Netherlands and Belgium.³³ Current MDMA trafficking has been compared to cocaine trafficking in the 1980s, which grew from “ad hoc smuggling by small-time dealers” into “organized trafficking by criminals.”³⁴ DEA reports that Israeli and Russian organized crime syndicates are responsible for the majority of the importation of MDMA into the United States. The largest American gateway for MDMA shipments appears to be New York. Miami, Orlando, and Memphis are also considered other major entry points.³⁵ Commission sentencing data are consistent with this DEA finding. For the last three years, Florida has experienced a greater number of federal ecstasy cases than any other state, with between 32 percent and 45 percent of all ecstasy cases in any given year. New York also has experienced a large proportion of federal ecstasy trafficking cases (28 percent in fiscal year 2000).

The entry of organized crime forces into the MDMA trade in recent years has streamlined smuggling and allowed dealers to meet growing demand. At a recent Congressional hearing, DEA Administrator Donnie Marshall described as “alarming” the widespread growth of MDMA use and reported that DEA seized over 3 million tablets of MDMA last year (compared to 1 million tablets the previous year).³⁶ At the same hearing, Acting Commissioner of the U.S. Customs Service Chuck Winwood reported that Customs agents seized over 9 million tablets last year, an almost three-fold increase from the 3.5 million seized in 1999 and an almost 2200 percent increase from the approximately 400,000 seized in 1997.³⁷

³²Grob, *supra* note 4, at 555.

³³*The Threat Posed by the Illegal Importation, Trafficking, and Use of Ecstasy and Other “Club Drugs”*: Hearing Before the House Subcomm. on Crime of the Committee on the Judiciary, 106th Cong. (June 15, 2000) (statement of Lewis Rice, Jr., Special Agent in Charge of the New York Field Office). <http://www.usdoj.gov/dea/pubs/cngrtest/ct061500.html>.

³⁴Statement of Chuck Winwood, Acting Commissioner of U.S. Customs, before the U.S. Senate Caucus on International Narcotics Control regarding *America at Risk: The Ecstasy Threat*, March 21, 2001, at 4.

³⁵*Ecstasy seizures suggest drug’s flow becoming epidemic*, CNN, U.S. NEWS & WORLD REPORT, April 3, 2000, at 2,1. <http://www.cnn.com/2000/US/04/03/designer.drug.deluge.ap/index.html>

³⁶Statement by Donnie Marshall, Administrator, Drug Enforcement Administration, before the U.S. Senate Caucus on International Narcotics Control regarding *America at Risk: The Ecstasy Threat*, on March 21, 2001, at 2.

³⁷Winwood, *supra* note 34, at 1.

DEA Administrator Marshall anticipated that the large profit potential of MDMA would attract other organizations based in Columbia, the Dominican Republic, Asia, and Mexico. Drug trafficking organizations involved in MDMA distribution are brought together by the enormous profits realized in these ventures. An MDMA pill costs \$.50 to \$1.00 to produce and is sold at wholesale prices of \$1.00 to \$2.00. After reaching the United States, the first level of distributor charges \$6.00 to \$8.00 per pill. The final retail price to the user is between \$25.00 and \$40.00 per pill.³⁸ With the drug's easy manufacture, relatively benign reputation, and huge markup, the MDMA business has even proved irresistible to many not otherwise involved in drugs.³⁹ Information on the age of drug traffickers collected by the Commission indicates that ecstasy traffickers generally are younger than traffickers of other major drugs. Over one-third of the federal offenders sentenced for ecstasy trafficking in fiscal year 2000 were between the ages of 21 and 25 years. The average age was 27 years. By comparison, the average age for federal offenders sentenced for trafficking heroin and methamphetamine was 33 years.

(C) the young age at which children are beginning to use the controlled substances

Despite recent modest decreases in substance use rates, a substantial proportion of school children have taken an illegal drug.⁴⁰ During this period, sharp increases in MDMA use among all grade levels, as well as young adults in their early 20s, has been noted.⁴¹ This finding of increasing MDMA use, and the additional finding of increasing availability, has been consistently reported by multiple sources following drug-taking behavior in the United States.

The National Household Survey on Drug Abuse (NHSDA) reports yearly on the nature and extent of drug use by the American household population aged 12 and older.⁴² The 1998 survey,

³⁸Marshall, *supra* note 36, at 5,4.

³⁹Chastity Pratt, *Awash in Ecstasy: Club Drug from Overseas Increasingly Found in Local Schools*, NEWSDAY, January 14, 2001, A5. <http://www.newsday.com>.

⁴⁰*Trends in Lifetime Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders*, Monitoring the Future Study 2000, THE UNIVERSITY OF MICHIGAN NEWS AND INFORMATION SERVICES, table 1. The Monitoring the Future study is a long-term, government-funded annual survey of students conducted by the University of Michigan. These data are one of several barometers on self-reported drug use and attitudes toward drug use in the United States. See also Johnston et al, *National Results on Adolescent Drug Use, Overview of Key Findings, 2000*, UNIVERSITY OF MICHIGAN INSTITUTE FOR SOCIAL RESEARCH (2001). <http://www.monitoringthefuture.org/data/00data.html#2000data-drugs>.

⁴¹Lloyd Johnston et al, "Ecstasy" use rises sharply among teens in 2000; use of many other drugs steady but significant declines are reported for some, UNIVERSITY OF MICHIGAN NEWS AND INFORMATION SERVICES (released December 14, 2000) at 3. <http://www.monitoringthefuture.org>.

⁴²*The National Household Survey on Drug Abuse* (NHSDA) is an annual survey conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). Copies of the latest survey (1999) are available from the NATIONAL CLEARINGHOUSE FOR ALCOHOL AND DRUG INFORMATION at 1-800-729-6686, or at

the latest for data relating to MDMA use, found that an estimated 3.4 million Americans (1.5 percent) had used MDMA at least once during their lifetime, with the heaviest use (5 percent or 1.4 million people) occurring among 18 to 25 year olds.⁴³

The National Center on Addiction and Substance Abuse at Columbia University recently conducted a national survey of teen attitudes toward substance abuse.⁴⁴ They report that over a quarter of American teens (28%) know a friend or classmate who has used MDMA, with 17 percent knowing more than one user.

The studies by the University of Michigan Institute for Social Research found that the popularity of MDMA is growing in each of the middle school and high school grades surveyed. Between 1999 and 2000, rates of MDMA use increased for eighth graders from 1.7 percent to 3.1 percent. Among tenth graders, MDMA use rose from 4.4 percent to 5.4 percent, and among twelfth graders, from 5.6 percent to 8.2 percent.⁴⁵

The Partnership for a Drug Free America released findings from their national study reporting that teenage MDMA use has doubled since 1995 to 10.0 percent of teens. They also discovered that 32 percent of teens reported having close friends who had used the drug (up from 26% in 1999 and 24% in 1998). Having close friends who use intoxicants historically has been correlated with increased risk of drug use. The Partnership concludes that “because an increasing number of adolescents are embracing Ecstasy, trial use of Ecstasy is now on par with teen trial usage rates of cocaine, crack, and LSD.” With the recent increases taken into consideration, more teens in the United States have experimented with Ecstasy than heroin.⁴⁶

(D) the fact that the controlled substances are frequently marketed to youth

It was the sense of Congress that “‘Ecstasy’ traffickers are targeting the Nation’s youth and the use of Ecstasy among youth in the United States is increasing even as other drug use among this

www.samhsa.gov.

⁴³*Id.* 1998.

⁴⁴*National Survey of American Attitudes on Substance Abuse VI: Teens*, THE NATIONAL CENTER ON ADDICTION AND SUBSTANCE ABUSE, Columbia University, The Robert Wood Johnson Foundation and SAMHSA (sponsors), (February 2001).

⁴⁵*Trends in Annual Use of Illegal Drugs for 8th, 10th, and 12th Graders, Monitoring the Future Study 2000*, THE UNIVERSITY OF MICHIGAN NEWS AND INFORMATION SERVICES (released December 14, 2000) at 3. See also Johnston et al, *National Results on Adolescent Drug Use, Overview of Key Findings, 2000*, UNIVERSITY OF MICHIGAN INSTITUTE FOR SOCIAL RESEARCH (2001). www.monitoringthefuture.org.

⁴⁶*Partnership Attitude Tracking Study, Spring 2000, Teens in Grades 7 through 12*, PARTNERSHIP FOR A DRUG-FREE AMERICA (released November 27, 2000) at 11; also see *Partnership Attitude Tracking Study, Teen Study 2000, Summary of Key Findings by Drug*, at 2.

population appears to be leveling off.”⁴⁷ The appeal of MDMA to the youth in America may result from its easy availability, perceived low risk of harm, reputation as a “feel good” drug, and its “brand name” identification.

There has been a dramatic increase in the perceived availability of MDMA in recent years.⁴⁸ “Club” and “Designer” drugs have become such an integral part of the “rave circuit” that there no longer appears to be an attempt to conceal their use; instead, drugs are sold and used openly at these parties.⁴⁹ Additionally, the distributors and their “runners” are generally in their teens because they are less likely to be suspected of drug trafficking and are subject to limited prosecution because of their age.⁵⁰ While in 1989 only 22 percent of twelfth graders said they could get the drug fairly or very easily, that proportion rose to 40 percent by 1999, jumping sharply again in 2000 to 51 percent.⁵¹

Many adolescents, rarely hearing reports of deaths or serious overdoses from MDMA alone, think the drug is harmless.⁵² Routinely, MDMA is marketed to teens as a “feel good” drug and is widely known as the “hug drug.”⁵³ “The young consumers of those pills know that MDMA can make a user feel euphoric. Adolescents say they like it because it erases inhibitions. They forget their zits, weight, self-consciousness or what others think of them. It makes a person want to touch and be touched (hence the nickname “the hug drug”).”⁵⁴

The recent CEWG study (June, 2000) found that MDMA pills often are sold using brand names imprinted on them that invoke successful business or wealth status. Other faddish aspects of MDMA sales include the frequent changing of pill or capsule colors. Depending on geographic locations, brand names such as “Mercedes-Benz,” “BMW,” “Teletubbies,” or “Smurfs” are imprinted on the pills.⁵⁵

(E) the large number of doses per gram of the controlled substances

⁴⁷Ecstasy Anti-Proliferation Act of 2000 Section 3663 (d)(2).

⁴⁸*Trends in Annual Use of Illegal Drugs for 8th, 10th, and 12th Graders*, *supra* note 45, at 1.

⁴⁹Statement by George J. Cazanevette, III, Special Agent in Charge, New Orleans Field Division, DEA, before the Subcommittee on Criminal Justice, Drug Policy and Human Resources on May 30, 2000, at 3.

⁵⁰*Id.* at 4.

⁵¹Johnston et al, *supra* note 41, at 5.

⁵²Pratt, *supra* note 39.

⁵³Cazanevette, *supra* note 49, at 3.

⁵⁴Pratt, *supra* note 39.

⁵⁵CEWG, *supra* note 27, at 79.

Although the Commission was required to consider the large dosage amount per gram of MDMA, the Commission found this information to be inaccurate. Rather, MDMA is generally found in pill form weighing approximately 250-300 mg, with MDMA accounting for approximately 75 to 125 mg of this weight.⁵⁶ Assuming one pill per dose, one gram of MDMA would produce three to four doses.

In determining an appropriate penalty, the Commission found more important and persuasive the fact that, because the pills are quite small, large numbers of doses can be transported and imported at one time. DEA reports that smuggling methods include: strapping packages of the drug onto the body – capacity of carrying 10,000 to 20,000 pills; carrying pills in special suitcases with false bottoms – capacity of carrying 20,000 to approximately 50,000 pills; and use of large containers – capacity of holding 100,000 to 1,000,000 pills.⁵⁷

(F) any other appropriate factors

In addition to the specified congressional factors, the Commission, in its determination of appropriate penalties for Ecstasy drug trafficking offenses, considered relevant legislative history, public comment, offender functional roles in the distribution network, and collateral consequences.

Legislative History: Recent Congressional activity indicated Congressional concern over the dramatic surge in the use of MDMA and other club drugs. Congressional hearings were held at which witnesses from the Commission, law enforcement agencies, researchers, and former MDMA users testified. Additionally, legislation was emerging from both Houses of Congress that would have required the Commission to increase MDMA penalties so that they would be comparable to the base offense levels for drug offenses involving methamphetamine mixture. In response to this emerging legislation, the Commission submitted to Congress a letter (and MDMA data analysis) expressing its shared sentiment with Congress about the disturbing trend of increasing availability and abuse of “club drugs” such as MDMA, but expressed concern about the degree of specificity contained in the proposed directives. Subsequently, Congress enacted and, the President signed into law, the MDMA provision providing general guidance to the Commission during its deliberation of appropriate MDMA trafficking penalties.⁵⁸

⁵⁶*Pharmacology, Use, and Abuse of Ecstasy*, statement by David V. Gauvin, DEA, before the U. S. Sentencing Commission, regarding proposed Ecstasy amendment, on March 9, 2001.

⁵⁷Rice, Jr., *supra* note 32, at 3; Winwood, *supra* note 34, at 3.

⁵⁸The Procedural Legislative History of the Ecstasy legislation follows: The Ecstasy Anti-Proliferation Act of 2000 was enacted into law on October 17, 2000, as Subtitle C of Title XXXVI of the Children’s Health Services Act, Pub. L. No. 106-310. With respect to the House of Representatives, on September 30, 1999, Representative Cannon (R-UT) introduced H.R. 2987, the Methamphetamine Anti-Proliferation Act of 1999, which did not contain provisions related to MDMA. On May 25, 2000, Representative Biggert (R-IL) introduced H.R. 4553, the Club Drug Anti-Proliferation Act of 2000, which, among other things, would have required the Commission to increase MDMA (and other specified drugs) penalties so that they were comparable to the base offense levels for drug offenses involving methamphetamine mixture. On June 15, 2000, the House Crime Subcommittee held a hearing on the threat posed by the illegal importation, trafficking, and the use of Ecstasy and other club-type drugs. On July 25, 2000, the House Judiciary Committee marked up H.R. 2987, relating to methamphetamine. At

Public Comment: The Commission received extensive public comment on the appropriate penalty for MDMA drug trafficking offenses. The comment was in response to an earlier proposal to equate MDMA penalties with those for heroin but also requesting comment on where on a sliding scale of guideline punishments, from that for mescaline to those for heroin, the specific penalties for MDMA should be established. Respondents included clinicians, physicians, psychologists, academic researchers, users, defense attorneys, and other interest groups, in addition to the organizations and agencies that usually comment on proposed guideline amendments, such as the Department of Justice, and the Federal Public and Community Defenders.

In reviewing the public comment and literature, and meeting with experts, the Commission noted that there were conflicting views about the extent of the physical and mental harm caused by MDMA. A number of researchers, clinicians, and other interest groups held the view that MDMA was non-addictive, did not produce violent behavior, and did not produce, in their opinions, either short-term or long-term harm to the human body.⁵⁹

Other information presented indicated, however, that MDMA use speeds the heart rate, increases blood pressure, dilates the pupils and bronchi, stimulates the brain to increase motor activity, causes jaw clenching and grinding of the teeth, and enhances the senses with perceptual changes. Additionally, the use of MDMA can disrupt the body's ability to regulate its temperature, contributing to overheating, dehydration, hyperthermia, heart or kidney failure, and even death.⁶⁰

Committee markup, an amendment in the nature of a substitute was offered to the text of H.R. 2987. This amendment, which was subsequently adopted, included the Ecstasy provisions from H.R. 4553. H.R. 2987, as amended, was reported out of Committee and placed on the House Union Calendar, Calendar No. 529. With respect to the Senate, on May 23, 2000, Senators Graham, Grassley, Thomas, Biden, and Bayh introduced S. 2612, the Ecstasy Anti-Proliferation Act of 2000, which, among other things, would have required the Commission to increase MDMA (and other specified drugs) penalties so that they were comparable to the base offense levels for drug offenses involving methamphetamine mixture. On July 25, 2000, the Senate Caucus on International Narcotics Control held a hearing on underestimating the threat of Ecstasy. On September 22, 2000, the Senate Committee on Health, Education, Labor, and Pensions was discharged from further consideration of H.R. 4365, the Children's Health Services Act. Senator Lott then brought this bill in the nature of a substitute to the Senate floor, which then contained the Ecstasy provisions. The Senate passed this bill by unanimous consent. The House passed H.R. 4365, as amended by the Senate, on the suspension calendar. President Clinton signed the Act as Public Law 106-310.

⁵⁹See letter from Barry Boss, Co-chair, *Practitioner's Advisory Group*, to the U. S. Sentencing Commission, regarding proposed Ecstasy amendment (February 5, 2001); *The Threat Posed by the Illegal Importation, Trafficking, and Use of Ecstasy and Other "Club Drugs": Hearing Before the House Subcomm. on Crime of the Committee on the Judiciary*, 106th Cong. (June 15, 2000) (written statement of Jonathan P. Caulkins, RAND, Drug Policy Research Center); Gary Greenberg, *Doctor X*, ROLLING STONE, April 26, 2001, at 53-56,69; Ragavan, *supra* note 24; written statement by Jon Sands, Assistant Federal Public Defender, to the U. S. Sentencing Commission, regarding proposed Ecstasy amendment (February 6, 2001); statement by Charles R. Schuster, F.A.S. Drug Policy Project, before the U. S. Sentencing Commission, regarding proposed Ecstasy amendment, on March 9, 2001; letter from Doug Shytte, University of South Florida, Department of Psychiatry & Behavioral Medicine, to U. S. Sentencing Commission, regarding proposed Ecstasy amendment (February 4, 2001).

⁶⁰CEWG, NIH, NIDA, *Epidemiologic Trends in Drug Abuse Advance Report*, June 2000 15, Community Epidemiology Working Group; statement of Senator Chuck Grassley, before the U.S. Senate Caucus on International Narcotics Control regarding *America at Risk: The Ecstasy Threat*, March 21, 2001, at 1; Marshall, *supra* note 36, at 3,4; statement

Some expert testimony also suggested a likelihood of brain cell and brain function impairment. Also, contrary to much of the public comment submitted, the Commission received information suggesting that MDMA is used compulsively by some and may produce dysphoria when use is discontinued.⁶¹

Many experts also commented that, while posing some risks to the user, MDMA was generally less dangerous than other drugs. Dr. David Nichols, a witness for the National Association of Criminal Defense Attorneys, spoke of the risk of stroke and cardiac arrest, tolerance as one uses the drug, and negative aftereffects such as depression.

Trafficking Pattern/Functional Role: The sentencing guidelines for other major drugs of abuse – as well as statutory mandatory minimum penalties set by Congress – generally attempt to distinguish between high level “kingpin” distributors and low level, local distributors. The penalties for drug trafficking generally are structured so that “major traffickers” (traffickers responsible for manufacturing or delivering large quantities) receive ten-year sentences, and “serious traffickers” (managers of retail level traffic and those involved in substantial street quantities) receive five-year sentences.

DEA representatives describe the relationship between number of pills handled (at a single point in time) and functional role in the distribution network as that listed in the table below:

Importers	50,000 to 100,000 pills
Upper- and middle-level distributors	5,000 to 10,000 pills
Local distributors	500 to 1,000 pills
Hand-to-hand dealers at a rave	50 to 100 pills

This information suggested that the guideline sentences for offenders with 500 to 1,000 pills – the local distributors – should be approximately five years, and the guideline sentences for offenders with 5,000 to 10,000 pills – the upper and middle level distributors – should be approximately ten years. As explained *supra* in Part II C, the penalty levels ultimately selected by the Commission are consistent with this trafficking structure.

Collateral Consequences: In determining the appropriate penalty structure for any drug, the Commission also weighs the collateral consequences associated with the drug’s use and distribution, such as violence and environmental harm. The Commission has not discovered

of Donald R. Vereen, Jr., M.D., before the U.S. Senate Caucus on International Narcotics Control regarding *America at Risk: The Ecstasy Threat*, March 21, 2001, at 1,2.

⁶¹Karl L. R. Jansen, *Ecstasy (MDMA) dependence*, 53 Drug and Alcohol Dependence 121-124 (1999).

evidence to suggest that, at this time, MDMA causes the same degree of collateral consequences caused by several other major drugs of abuse.

For example, unlike trafficking in other illicit substances, the Commission, to date, has not found information suggesting that substantial violence is associated with the trafficking of MDMA. However, recent incidents of lethal violence against MDMA dealers has been reported⁶² The lower presence of violence associated with MDMA offenses, compared to the violence associated with trafficking of other drugs, is supported by Commission data. In fiscal year 1999, Commission data indicated that federal offenders sentenced for MDMA trafficking received a sentencing enhancement for weapon involvement in only 1.9 percent of cases, compared to 21.6 percent for crack cocaine trafficking and 12.2 percent for drug trafficking overall. Furthermore, unlike users of other drugs, users of MDMA rarely commit crimes to support their consumption pattern.

In addition, MDMA (because it generally is not injected) does not result in some of the negative secondary health consequences found with other drug use, such as the increased incidence of HIV and hepatitis resulting from the use of contaminated needles. Finally, because MDMA is not currently produced in the United States, it does not pose the same risks to the environment as methamphetamine and amphetamine production.

VI. CONCLUSION

The challenge for the Commission was to establish a penalty structure that was sufficiently stringent to achieve the objectives set forth by Congress in the Ecstasy Anti-Proliferation Act and shared by the Commission, but also allow the sentencing guidelines to draw adequate penalty distinctions between drug offenders based on their functional role.

MDMA is a serious drug with unique properties that made setting the appropriate penalty structure a challenge. The Commission shares Congress's concern about the increase in trafficking and abuse, particularly by our youth, and the need for aggressive law enforcement to combat the growing problem. Factors considered by the Commission include: the significant increase in prevalence of use – particularly increases in use among young people; the growing availability of the drug; evidence supporting both short- and long-term health consequences of use, including brain damage; reports of compulsive use of the drug by some users; the current limited evidence suggesting collateral consequences resulting from distribution of the drug; and importation and trafficking patterns.

The revised guideline penalties for MDMA offenses generally provide five-year sentences for serious MDMA traffickers (those whose relevant conduct involved approximately 800 pills) and ten-year sentences for high-level traffickers (those whose relevant conduct involved approximately 8,000 pills). The Commission believes these guideline penalties are appropriately and sufficiently severe to target serious and high-level MDMA traffickers and that these heightened

⁶²Donna Leinwand, *Ecstasy drug trade turns violent*, USA TODAY, May 16, 2001, at A1.

penalties will provide appropriate punishment, deterrence, and incentives for cooperation.