

# DRUG ABUSE IN MIAMI AND SOUTH FLORIDA



James N. Hall<sup>\*\*\*</sup>  
Joe Spillane, Pharm.D.<sup>\*</sup>  
Madeline Camejo, Pharm.D.<sup>\*\*</sup>

*The combination of cocaine being consumed with various opioids (oxycodone, heroin, hydrocodone, or methadone) is fueling an increase in cocaine emergencies and deaths. The cocaine-abusing population continues to age with only 1 in 5 of cocaine emergency department (ED) cases involved patients under age 30. Local heroin ED mentions continued to increase in 2001 at one of the fastest growth rates in the nation. In addition, heroin-related deaths continue to rise in South Florida. Oxycodone is the cause of more fatalities than heroin, cocaine, or any other substance in Broward County during 2001. Predominantly white males, aged 30 years or older, are seeking treatment and visiting emergency departments because of heroin or oxycodone abuse. Oxycodone and other narcotic analgesics are continuing to be substituted for heroin and more recently - vice versa. Marijuana consequences leveled off or declined in 2001. Yet, the drug continues to place youth in harm's way as illustrated by the fact that 43% of all adolescent and young adult homicide victims (aged 13-29 years old) from Broward County in 2001 tested positive for marijuana, while only one tested positive for cocaine. Consequences for GHB and its related precursors have declined since peaking in the first half of 2000 when the drug was made a Schedule One federally controlled substance. MDMA problems continued to increase in the first half of 2001. Prior to September 11, ecstasy trafficking, availability, and use appeared at record levels. Since September 11 different methods of smuggling have surfaced. Abuse of other amphetamines besides ecstasy appears to be increasing. Many indicators point to a high level of alprazolam (Xanax) abuse.*

## INTRODUCTION

### Area Description

Located in the extreme southern portion of the Florida peninsula, Miami-Dade County has a population of nearly 2.3 million; 56 percent are Hispanic, 21 percent are White, 21 percent are Black, and 2 percent are Asian/Pacific Islander. Miami is Dade County's largest city, with 360,000 residents. More than 100,000 immigrants arrive in Florida each year; one-half establish residence in Miami-Dade County.

<sup>\*\*\*</sup> Mr. Hall is affiliated with Up Front Drug Information Center, Miami, Florida.

<sup>\*</sup> Dr. Spillane is affiliated with Nova Southeastern University College of Pharmacy and Broward General Medical Center, Ft. Lauderdale, Florida.

<sup>\*\*</sup> Dr. Camejo is affiliated with Broward General Medical Center and The Broward County United Way Commission on Substance Abuse, Ft. Lauderdale, Florida.

Broward County, situated due north of Miami-Dade, is composed of Ft. Lauderdale and 28 other municipalities and an unincorporated area. The county covers 1,197 square miles including 25 miles of coastline. According to the 2000 census, the population was 1,649,925. The population is roughly divided into 63% white, 21% black, and 17% Hispanic. Broward County is the second most populated county in Florida, and it accounts for approximately 10% of Florida's population. Broward was the top growth county in Florida in the 1990's adding 367,000 more people. Palm Beach County (population 1,154,464) is located due north of Broward County and is the third most populated county in the State. Together, the 5.4 million people of these 3 counties comprise 1/3 of the State's 16.3 million population.

Approximately 25 million tourists visit the area annually. The region is a hub of international transportation and the gateway to commerce between the Americas, accounting for sizable proportions of U.S. trade: 40 percent with Central America, 37 percent with the Caribbean region, and 17 percent with South America. South Florida's airports and seaports remain among the busiest in the Nation for both cargo and international passenger traffic. These ports of entry make this region a major port of entry for illicit drugs. Smuggling by cruise ship passengers is an important trend in South Florida drug trafficking apparently growing since airline security increases after September 11, 2001.

Several factors impact the potential for drug abuse problems in South Florida:

- Proximity to the Caribbean and Latin America exposes South Florida to the entry and distribution of illicit foreign drugs destined for all regions of the United States. Haiti remains a major link with Colombian traffickers.
- South Florida is a designated High Intensity Drug Trafficking Area and a leading U.S. cocaine importation center. It also became a gateway for Colombian heroin in the 1990s. Millions of 3-4 methylenedioxymethamphetamine (MDMA, "ecstasy" or "XTC") tablets originating in the Benelux countries enter the United States here, and most recently often from the Caribbean after having been flown there from Europe.

Extensive coastline and numerous private air and sea vessels make it difficult to pinpoint drug importation routes into Florida and throughout the Caribbean region.

## 2. Data Sources

**Broward Addiction Rehabilitation Center:** Broward County addiction treatment data 2001.

**Broward County Medical Examiner Department, Drug Deaths 1999 –2000:** a review of all deaths in Broward County directly caused by or associated with drugs.

**Broward General Medical Center (BGMC) Emergency Department Drug Abuse Case Review:** a review of all drug abuse cases presenting to the Emergency Department for the four semi-annual periods from the first half of 2000 through 2001.

**Broward Sheriff's Office Crime Lab:** reports of illicit substances analyzed 1999-2001.

**Florida Department of Law Enforcement Medical Examiners Commission, 2001 Report of Drugs Identified in Deceased Persons By Florida Medical Examiners:** data on drug fatalities.

**Florida Youth Surveys on Substance Abuse 2002 and 2001:** Prevalence data on drug use among Florida school students in Grades 6–12.

**Miami-Coalition School Survey:** Prevalence and risk factor data among Miami-Dade public and parochial middle and high school students.

**Miami-Dade County Medical Examiner's Department**—This source provided data on drug-induced deaths from 1990 to 2001 for Miami-Dade County.

**Spectrum Programs Inc.** –Addiction treatment data from 1999 through 2001.

**Substance Abuse and Mental Health Services Administration Drug Abuse Warning Network (DAWN):** —DAWN ED drug mentions through June 30, 2001 (09/2001 update).

## DRUG ABUSE TRENDS

### Cocaine/Crack

South Florida cocaine abuse rates continue among the highest in the nation as indicated by emergency department visits, crime lab data, and drug abuse treatment admissions. Cocaine deaths increased in 2001, with a growing number of the cases involving cocaine in combination with an opioid. Older patients continue to dominate those seeking emergency medical care and addiction treatment for cocaine abuse.

There were 45 cocaine-induced deaths in Miami-Dade County in 2001 reflecting a 50-percent increase over the 30 cocaine-induced deaths in 2000. The 2001 rate is similar to that for 1999, when there were 43 deaths, and for 1998, when there were 39 such deaths. The number of cocaine-related deaths remained stable with 149 cases in 2001 compared to 144 in 2000, yet this number declined 45-percent since 1998 when there were 273 cocaine-related deaths.

Cocaine abuse was the primary cause of death for 45 decedents in Miami-Dade County during 2001. Heroin was also detected in two of these cases. Cocaine was also detected in 17 (37 percent) of the 32 heroin-induced deaths during the year. Other drugs detected in cocaine-induced death cases included three cases with oxycodone, two cases with methamphetamine and one case with MDMA. Six of the cocaine-induced cases also reported other nonspecific, poly-drug mixtures.

In Broward County, there were a total of 57 cocaine-induced fatalities among the 94 cocaine-related deaths reported during 2001. In 2000, there were 40 cocaine-induced deaths among the 80 cocaine related-deaths, suggesting that cocaine is more likely to be the cause of death when detected in recent cases. A review of the 33 cocaine-induced deaths during the last six months of 2001 reveals that 14 (42 percent) of the cases also tested positive for heroin or oxycodone. Of

these 14 cases, there were 6 where cocaine and heroin were considered causes of death, 7 deaths with cocaine and oxycodone as causes, and 1 other death where cocaine, oxycodone, and heroin were all considered causes. During the second half of 2001, 4 of the 19 (21 percent) cocaine-without-heroin-or-oxycodone decedents were black, whereas only 1 of the 14 (7 percent) cocaine-with-heroin-or-oxycodone was black. It appears as though the recent increase in cocaine-deaths may be at least partly attributable to the opioid-cocaine combinations.

Among the 243 cocaine-related decedents in both Broward and Miami-Dade Counties combined during 2001, less than 2 percent were below 18 years of age, 11 percent were aged 18-25 years, 25 percent were aged 26-34, 47 percent were aged 35-50, and 15 percent were older than 50 years.

In Miami-Dade County during the first half of 2001, there were 2,165 cocaine and crack ED mentions in the DAWN system. These cases represent a 4-percent decrease over the cocaine/crack ED mentions in the previous 6 months and a 32-percent increase since the first half of 1997. The rate of ED cocaine mentions per 100,000 population had been trending up since 1996, reaching a peak of 225 in 2000; it then declined to an annual rate of 196 in the first half of 2001. The only demographic group showing an increase in cocaine ED mentions was for those aged 55 years and older, rising 90 percent from the first half of 2000 to the same time period in 2001.

A daily review of all emergency department charts at Broward General Medical Center (BGMC) was conducted to gauge illicit substance abuse related emergency department cases in 2001. A total of 69,892 charts were reviewed, and 3.5% or 2,420 cases of drug abuse were found. This was an average of approximately 6.5 per day. During 2000, 3.1 percent of all ED cases involved illicit substance use.

Cocaine was clearly the most commonly involved illicit drug, accounting for 1,290/2,420 (53%) of the drug abuse cases in 2001. A profile of the 606 cocaine cases from the second half of reflects 73 percent of the Broward patients were male while 47 percent were white, 46 percent were black, and 7 percent were Hispanic/other. Cocaine using patients seeking emergency department treatment at BGMC were 30 years of age or older in 81 percent of these cases, which continues a trend towards older cocaine ED patients. Only 3 percent were less than 20 years old, 16 percent were in their twenties, 43 percent were in their thirties, 31 percent in their forties, and 7 percent were fifty years old or older.

The most common reasons for coming to the Broward ED for cocaine were as follows:

1. Depression/suicidal - 37 percent
2. Dependence/seeking detox - 8 percent
3. Trauma/accidents - 8 percent
4. Chest pain/cardiac problems – 7 percent
5. Psychosis/ schizophrenia/ hallucinations – 6 percent
6. Gastrointestinal complaints –2 percent.

Crack cocaine was specifically mentioned in 32 percent of the cases in the last half of 2001. Cocaine was taken in combination with alcohol in 42 percent of the cases. This dangerous combination forms a co-metabolite, cocaethylene, which can dramatically increase toxicity. Another combination involved cocaine and marijuana in 23 percent of all cocaine cases,

Addiction treatment profiles were compiled using data from two major treatment providers: the Broward Addiction Recovery Center (BARC) and Spectrum. A comparison to 2000 data is not appropriate, because BARC data were not available for that period.

In the second half of 2001, 22 percent of treatment admissions sample were for cocaine abuse, compared with 27 percent in 2000 and 16 percent in 1999. On the 606 cocaine treatment clients in the second half of 2001, 43 percent of were white, 38 percent were Black, and 19 percent were Hispanic/other. In these same facilities, 66 percent of the admissions were age 35 or older, 25 percent were aged 26 to 34 years, 8 percent were 18-25 years, and 1 percent was under 18 years of age.

Powder Cocaine and Crack are still described as “widely available” throughout Florida. Cocaine is still the most commonly analyzed substance by the Broward Sheriff’s Office Crime Lab where it accounted for 79 percent of all items analyzed in the last half of 200.

Crack cocaine sells for \$5-\$20 per 0.1gm amount roughly 80% pure in Miami. Powder cocaine sells for \$40-60 per gram (approx 80% purity). The cocaine kilogram price range remained fairly stable at \$18-22,000 as per law enforcement officials.

The fact that South Florida’s airports and seaports remain among the busiest in the nation for both cargo and international passenger traffic and the massive internal conspiracy problems in those ports of entry combine to keep this region as a major port of entry for illicit drugs. Cruise ship smuggling is mentioned as an important trend by law enforcement in South Florida. Local emergency departments have taken care of several cruise ship body packers in 2001, whereas prior to that, they were all from air travel.

The Florida Youth Survey on Substance Abuse for 2000 and 2001 show that less than 1 percent of middle school students statewide reported past-30-day use of powder cocaine, with a decline in 2001. The same survey revealed that approximately 0.5 percent of Florida middle school students reported current crack cocaine abuse, with a slightly rising trend observed in 2001. Current powder cocaine use was reported by about 2 percent of Florida high school students, and crack use was reported by about 0.5 percent. Both powder cocaine and crack use declined for high school students in 2001. The 2001 Miami-Dade School Survey conducted by The Miami Coalition For A Safe And Drug-Free Community revealed that 1.8 percent of middle and high school students reported current cocaine use. This rate has remained stable over the past six years, yet the “perceived risk of harm from cocaine use” declined a full ten-percentage points from 1997 to 2001.

## **Heroin**

Miami led the nation with the greatest growth in DAWN heroin ED mentions, increasing 2400 percent from 1990 to 2000. That growth stabilized in Miami-Dade County during 2001 as heroin abuse spread north with rising consequences for Broward and Palm Beach Counties fueling a 30 percent increase in heroin-induced deaths Statewide. A major opiate epidemic has settled into South Florida with the greatest rates of consequences in Palm Beach County, immediately north of Broward County. The majority of opiate addiction treatment admissions and most narcotic-related deaths continue to be older, white males. Most emergency department visits for heroin or

oxycodone are for withdrawal or because the patient is seeking detoxification. Oxycodone, hydrocodone, and methadone problems continue as these drugs are being abused in combination with and partially supplanting heroin. It's quite possible that heroin is starting to be substituted for narcotic analgesics and particularly, oxycodone that may be becoming harder to obtain.

Miami-Dade County reported heroin was detected in 51 decedents during 2001. It was the cause of death in 32 of those cases. Both these numbers represent significant declines over the previous year. During 2000, the 72 heroin-related fatalities included 61 heroin-induced deaths identified in Miami-Dade County. The 2001 deaths represent the fewest number attributed to heroin for the County since 1996 when there were 31 heroin-induced deaths. Of the 32 heroin-induced deaths in 2001, other drugs were detected in 26 cases including 17 with cocaine, 3 cases with oxycodone, 2 with MDMA, and 1 with methamphetamine. Thirteen of the heroin-induced cases also reported other nonspecific, poly-drug mixtures.

There were 53 deaths in Broward County during 2001 in which heroin was detected. Of these cases, there were 51 in which heroin was considered a cause of death. In 14 of these deaths, the combination of cocaine and heroin was determined to be the cause. Hydrocodone, oxycodone, methadone, and benzodiazepines were combined in some of the heroin deaths and 7 of the deaths were related to heroin alone. Heroin combined with alcohol and benzodiazepines and methadone in various combinations accounted for the remaining heroin deaths.

Broward heroin decedents remain predominately white, 93 percent in 2001, 92 percent in 2000, and 95 percent in 1999. Eighty percent of the decedents were male in 2001 that was also similar to the last several years.

Among the 104 heroin-related decedents in both Broward and Miami-Dade Counties combined during 2001, none were below 18 years of age, 12 percent were aged 18-25 years, 18 percent were aged 26-34, 57 percent were aged 35-50, and 13 percent were older than 50 years.

From 1995 to 2000, Miami-Dade County recorded the greatest number of heroin deaths of any county or medical examiner district in the State. In 2000, there were 61 heroin-induced deaths in Miami-Dade County and 24 in Broward, whereas in 2001 there were 32 in Miami-Dade and 51 in Broward County. In the year 2001, Miami-Dade County ranked fifth in the State for heroin deaths behind Palm Beach County (57 deaths), Broward County (51 deaths), Orlando (34 deaths), and Tampa (34 deaths).

In Miami-Dade County, DAWN rates of heroin ED mentions per 100,000 population have been trending up since 1994, increasing dramatically from 48 in 1999 to 75 in 2000. Miami exhibited the greatest increase nationally in heroin ED mentions between 1990 and 2000, rising 2400 percent. In the first half of 2001, there were 824 heroin ED mentions representing a 21-percent increase over the same period in 2000. Males accounted for 82 percent of the 2001 ED patients, 59 percent were White, non-Hispanic, 24 percent were Black, and 17 percent were Hispanic. One-third of the patients were aged 26-34 years and another third were aged 35-44 years; one-fourth were over the age of 45 years, and 9 percent were aged 18-24 years. Addiction/dependence was cited by 95 percent of the ED patients as the motive for use of heroin and two-thirds were seeking detoxification.

Based on a daily review of all emergency department charts at Broward General Medical Center for the last half of 2001, there were a total of 70 heroin cases (6 percent of all illicit substance

abuse). This was down slightly from the first half of 2001 with 89 cases (7 percent) but the total for 2001 of 159 cases was up 15 percent from last year when there were 138 for the entire year.

The heroin cases in the last half of 2001 were predominantly older white males experiencing withdrawal and/or seeking detoxification. Males accounted for 67 percent of the ED patients; and 64 percent were white. There were no teenagers, while 27 percent of patients were in their twenties, 37 percent were in their thirties, 30 percent were in their forties, and 6 percent were fifty years of age or older.

Heroin was the sole drug of abuse (with or without alcohol) in 40 percent of the ED cases, cocaine was a co-exposure in 30 percent, heroin was used with a benzodiazepine in 24 percent of cases, and heroin was used with marijuana in 9 percent. Alcohol was involved in 31 percent of cases. The most common reason for the patient to visit the ED was withdrawal/seeking detox in 39 percent of the cases. Depression accounted for 34 percent of these cases, followed by altered mental status 16 percent, and 6 percent were in the emergency department for medical clearance for jail or rehabilitation. Psychosis accounted for only 3 percent of the heroin ED cases.

Addiction treatment clients for primary heroin abuse during 2001 totaled 358 or 5 percent of the treatment sample reviewed. One-half of these clients were over the age of 35 years, one-third were aged 25-34 years, and the remaining 17 percent were aged 18-24 years. White, non-Hispanics accounted for 62 percent of the heroin treatment clients, Hispanics for 27 percent and Blacks for 11 percent.

During 2001, there were only 149 heroin cases worked by the Broward Crime Lab, compared with 188 such cases during 2000. The decline may be related in part to a change in operating procedure at the Crime Lab. Last year, the lab examined all non-cannabis cases submitted. In 2001, however, the lab is only working cases filed by the State Attorney's Office, and of those, only the items requested. This change has resulted in a 20-percent decrease in the total number of items tested.

Colombian heroin is still described as widely available in South Florida, with ethnographers saying it has become more available and more pure between 2000 and 2001. South Florida heroin prices have remained steady at about \$60,000–\$65,000 per kilogram over the past year after declining sharply several years ago. Purity at the kilogram level is estimated to range from 70 to 95 percent pure heroin. According to the national Domestic Monitoring Program, Miami's street purity is estimated at 17 to 23 percent pure with the lowest price per milligram pure at \$1.03 in the region's history. A bag of heroin (roughly 20% purity) weighing about one-tenth of a gram sells for \$10 as the most common unit of street heroin.

The 2001 Florida Youth Survey on Substance Abuse shows that less than one-third of 1 percent of both middle and high school students report past-30-day use of heroin, a slight decrease from 2000 for middle school students and a sharp decrease for high school students. Current heroin use was reported by 1.1 percent of Miami-Dade middle and high school students in the 2001 Miami Coalition Survey.

## **Other Opiates**

Deaths from opiates other than heroin have been tracked in Florida since 2000. Methadone-related deaths increased 71-percent statewide between 2000 and 2001 rising from 209 to 357. It was the cause of death for half of those cases. The number of oxycodone and hydrocodone deaths rose 45-percent from 660 in 2000 to 957 in 2001. The two drugs were not tracked separately in 2000. There were 537 oxycodone-related deaths in 2001 and 420 for hydrocodone. The specified drug was the cause of death in 59 percent of the oxycodone cases and 35 percent of the hydrocodone deaths. Oxycodone deaths declined 14-percent between the first and second half of 2001 as public awareness increased about this emerging drug problem.

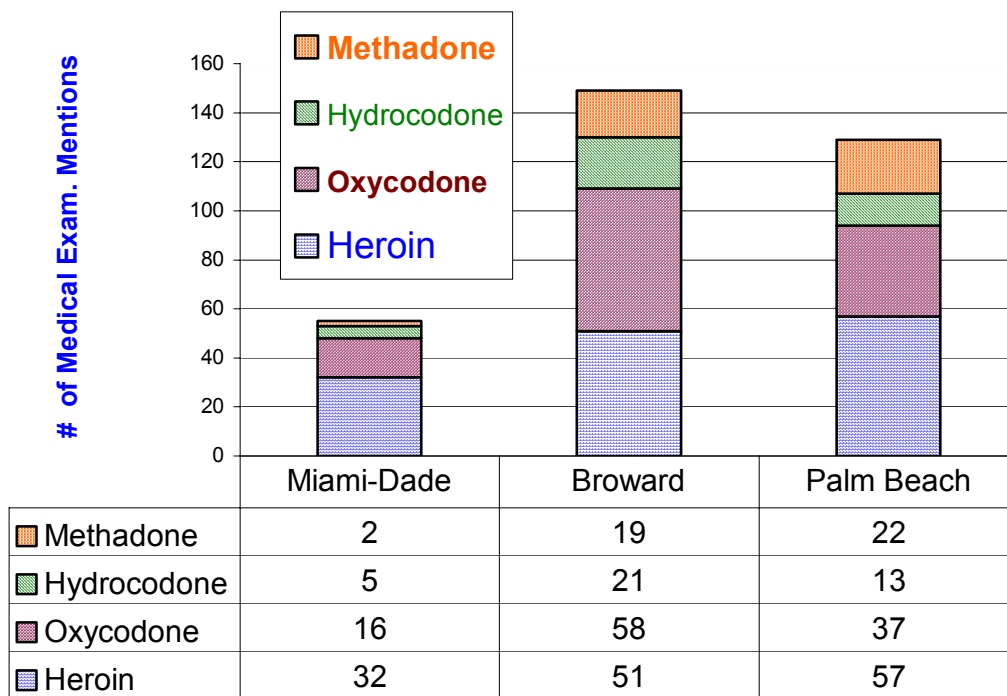
Miami-Dade reported 24 oxycodone-related deaths in 2001 with 16 induced deaths. Broward County recorded 73 related deaths with 58 oxycodone-induced deaths. In Palm Beach County, there were 57 related and 37 induced deaths from oxycodone.

Miami-Dade reported 13 hydrocodone-related deaths in 2001 with 5 induced deaths. Broward County recorded 28 related deaths with 21 hydrocodone -induced deaths. In Palm Beach County, there were 41 related and 13 induced deaths from hydrocodone.

Miami-Dade reported 2 methadone-related deaths in 2001 both of which were considered induced deaths. Broward County recorded 22 related deaths with 19 methadone-induced deaths. In Palm Beach County, there were 43 related and 22 induced deaths from methadone.

A summary of 2001 narcotic-induced deaths from the Florida Medical Examiners Commission reveals Broward had a total of 149 deaths dominated by oxycodone, while heroin led in Palm Beach County with 129 narcotic deaths and in Miami-Dade that had 55 such deaths.

### Narcotic Induced Deaths 2001



Information is available about the 34 oxycodone-induced deaths from Broward County in the second half of 2001. There were 3 teenagers, eight decedents were in their twenties (24%), seven were in their thirties (21%), fifteen decedents (44%) in their forties, and four decedents

(12%) were fifty or older. Males accounted for 79 percent of the decedents and 91 percent were white. As with most fatal overdoses, these deaths rarely involve one drug alone. In fact, only one of the 34 oxycodone-caused deaths in the last half of 2001 involved oxycodone alone. In 62 percent of the cases, alprazolam (Xanax) was also involved identified by either on toxic screen or by history, and in 18 percent of the cases, heroin and oxycodone combined to cause the death. Hydrocodone, cocaine, and alcohol were also combined with oxycodone in several deaths. In addition, there were five other non-oxycodone deaths where hydrocodone was considered a cause of death, and 10 non-oxycodone deaths where methadone was considered a cause during the second half of 2001 in Broward County.

The number of DAWN narcotic analgesic ED mentions in Miami-Dade County doubled between 1996 and 2000 rising from 120 mentions to 242. The 2000 rate continued in the first half of 2001 with 128 narcotic analgesics ED mentions. The number of ED mentions for narcotic analgesics combinations also increased 49-percent from 86 to 128 between 1996 and 2000. National increases in ED mentions for these categories over the same time period parallel the Miami trend.

Nationally, all hydrocodone ED mentions increased 84-percent rising from 10,473 in 1996 to 19,221 in 2000. All oxycodone ED drug mentions increased 239 percent, from 3,190 in 1996 to 10,825 in 2000, and there was a 68-percent increase from 1999 to 2000. While DAWN data for specific narcotic medications are not available at the local level, review of the national data reveals these increases in narcotic ED mentions have been fueled by the drug oxycodone alone, rather than in combination medications. The dramatic rise in abuse of narcotic medication since 1996 may be explained by the introduction that same year of the sustained-release form of oxycodone that does not contain another analgesic such as aspirin or acetaminophen. Nationally, the DAWN ED mentions for oxycodone (alone, not-in-combination products) rose 3,692-percent from 100 to 3,792 mentions between 1996 and 2000.

There were a total of 104 oxycodone overdose ED cases treated at Broward General Medical Center in 2001. Males accounted for 71 percent of the clients and 84 percent were white. The ages of these patients ranged from 18 to 58 years old. There were 3 teenagers, 20 patients in their twenties, 22 in their thirties, 54 were in their forties, and 5 were fifty years of age or older. The brand-name product, OxyContin, was specifically mentioned in 71 percent of these cases. The route of administration was unclear upon reviewing most charts.

In 40 percent of these cases the reason for visiting the ED was dependence/withdrawal. In 30 percent of the cases the drug's use was clearly non-medical, in 14 percent of cases the oxycodone was being used for other psychic effects (such as excessive amounts for pain etc.), and also in 14 percent of cases the oxycodone was taken in a suicidal gesture.

Twenty-six percent of the oxycodone ED patients presented with central nervous system depression, and 5 percent of the patients presented because of convulsions. Naloxone was administered to 14 percent of these ED cases. Twenty-nine percent of these patients required hospital admission, and the remaining patients were treated and released from the emergency department. Co-ingestants in these cases include benzodiazepines in 30 percent of the cases, (especially alprazolam –5 percent of all cases), marijuana in 14 percent, cocaine in 17 percent, other opioids such as heroin or methadone in 13 percent, and hydrocodone in 10 percent of the 2001 Broward oxycodone ED episodes.

The Broward Sheriff's Office Crime Lab worked 95 oxycodone cases in the last 6 months of 2001; this compares to 80 such cases in the first 6 months, 71 in the last 6 months of 2000, and 69 in the first 6 months of 2000. There were also 69 hydrocodone cases in the last 6 months of 2001, 44 in the first 6 months of 2001, 58 in the last 6 months of 2000, and 69 in the first half of 2000.

## **Marijuana**

Cannabinoids were detected in 707 deaths in Florida in 2001, an 18-percent increase over the 652 marijuana related deaths in 2000.

In Miami-Dade County marijuana ED mentions reported by DAWN increased 148-percent between 1994 and 2000 reaching 1,768 mentions and then stabilized in the first half of 2001 with 909 mentions. In 2000 Miami ranked third in the DAWN system for the highest rate of marijuana ED cases at 91 mentions per 100,000 population behind Philadelphia at 101 mentions and Detroit at 99. A profile of the cases from the first half of 2001 reveals that 74 percent were male, 37 percent were White, 45 percent were Black, and 18 percent were Hispanic. Ten percent of these marijuana ED patients were age 12-17 years, 26 percent were aged 18-25 years, and 24 percent were aged 26-34, and 40 percent were aged 35 and older.

In Broward there were 832 marijuana ED cases in 2001, representing 34 percent of all drug ED mentions. Marijuana was the only illicit drug (with or without alcohol) in 41 percent of the cases.

Seventy-five percent of the patients were male, and 57 percent were White, 34 percent were Black, and 9 percent were Hispanic or other. Ten percent were teenagers, 29 percent were in their twenties, 30 percent were in their thirties, 21 percent were in their forties, and 10 percent were fifty years of age or older.

More than a third of the Broward marijuana ED cases were in combination with cocaine, which was discussed briefly in the cocaine section of this report. Marijuana was also found in combination with MDMA or amphetamines in 16 additional cases. In 14 percent of these cases, alcohol was the only documented co-ingestant with marijuana.

The most common reasons for Broward marijuana ED visits in the second half of 2001 were as follows:

1. Depression/suicidal (31 percent),
2. Psychiatric related (hallucinations, anxiety, bizarre behavior, delusions etc.) (10 percent)
3. Trauma (9 percent)
4. Altered mental status (8 percent)
5. Chest pain (5 percent).

Marijuana is still the most popular drug among young people visiting the emergency department. More than half (53 percent) of all illicit substance abuse cases in the age group 12-25 years of age, involved marijuana. This compares to 35 percent with cocaine, 29 percent with benzodiazepines, with 64 percent of these being alprazolam. MDMA was involved in 6 percent of the marijuana ED cases, and 6 percent were with heroin. This totals to more than 100% because some cases are combinations.

In 2001 there were 2,257 addiction treatment clients (25 percent of the study treatment sample) citing marijuana as the primary drug of abuse. Forty-three percent of these clients were Black, 41 percent were White, and 16 percent were Hispanic or other. In contrast to cocaine and heroin, patients seeking treatment for marijuana tend to be younger; 48 percent were aged 17 or younger, and 30 percent were aged 18-25 years.

In Broward County in 2001, there were 23 homicides with victims who were 13-29yrs old. Of these, 10/23 (43 percent) tested positive for marijuana. Only one tested positive for cocaine and this was a 22 year old, white male who also tested positive for methylated amphetamines.

Marijuana is still described as widely available throughout Florida with local commercial, sinsemilla, and hydroponic grades available. A ¼ ounce of Sinsemilla (at an estimated 10-18 percent THC) sells for \$100- \$120.

In 2001, 49 percent of 12<sup>th</sup> graders nationally said they had tried marijuana at least once. This was the fourth highest rate since 1987, only 1997, 1998, and 1999 were higher. Also in the 2000 National Household Survey, among 12-17 year olds who said that their parents would strongly disapprove of even trying marijuana once, 7 percent had used some illicit drug within the last month. Among the same age group, those who said their parents would not strongly object, 31 percent had used some illicit drug within the last 30days. The Miami Coalition Survey reveal a continuing downward trend in marijuana current use among middle and high school students declining from 13.4 percent in 1995 to 9.4 percent in 2001. Yet, the perceived use of marijuana by friends and ease in obtaining the drug increase between 1999 and 2001.

### **Gamma Hydroxybutyrate (GHB)**

GHB, an anesthetic, is a commonly abused substance in South Florida. The drug is known by numerous street names including “liquid X,” “G,” “scoop,” “Somatomax,” and “Georgia home boy,” and there are several compounds that are converted by the body to GHB. Two important precursors to GHB are being abused as well: gamma butyrolactone (GBL) and 1,4 butanediol (BD).

BD-containing products may list active ingredients as tetramethylene glycol; sucol B; 1,4-butylene glycol; butane-1; 4 diol; butylene glycol; and 1,4-tetramethylene glycol. Brand names of BD-containing products include, Zen, Serenity, Somatopro, InnerG, NRG3, Enliven, Growth Hormone Release Extract (GHRE), Thunder Nectar, Weight Belt Cleaner, Rest-Q, X-12, Dormir, and Amino Flex, Orange FX, Rush, Lemon fX Drop, Cherry fX, Bomb, Borametz, Pine Needle Extract, Promusol, and BVM. Artfully worded labels often state that the product does not contain GHB or 2(3) furanone dihydro. These labels may also state that the product is a cleaner and harmful if swallowed. However, BD-containing products have been sold in health food stores with dietary supplements. A 32 ounce bottle typically sells for \$40–\$70, a price similar to that for GBL and GHB-containing products, but far out of proportion to what most reasonable people would pay for a “cleaner.”

These drugs have become popular in the techno-dance scene and at other parties. Commonly used with alcohol, they have been implicated in drug-facilitated rapes and other crimes. They have a short duration of action and are not easily detectable on routine hospital toxicology

screens. GHB was federally controlled as a Schedule One drug in March 2000, a critical turning point for the data presented herein.

In all of Florida, GHB-related deaths increased from 23 in 2000 to 28 in 2001. However, there were only 8 GHB deaths in the second half of 2001 that is a 60-percent decrease from the first six months. This same pattern is observed in the ED data from the previous year discussed below.

There was one GHB death in Maim-Dade in 2001 occurring in February 2001. There were 3 GHB deaths in 2000.

In Broward County there were no deaths where GHB was considered a cause in 2001. From 1996-December 31, 2000, in Broward County, there have been a total of 11 deaths that involved GHB in some way (two in 1996, two in 1997, three in 1998, one in 1999, and three in 2000).

In nine of these cases, GHB was mentioned as one of the causes of death. In one other case, the patient was admitted to a hospital for GHB intoxication, appeared to have recovered from that and subsequently succumbed due to other reasons. In one other death, the patient was brought dead on arrival to the BGMC emergency department as a multiple drug overdose including GHB by history, however; the medical examiner found GHB to be non-contributory.

Eight of the nine GHB caused fatalities involved co-ingestants including alcohol, cocaine, marijuana, benzodiazepines, opioids, carisoprodol (Soma), sertraline (Zoloft), and MDMA (ecstasy). Alcohol was detected in 7/9 cases from 90-340 mgs/dl (legally drunk in Florida is 80mgs/dl). One recent fatality involved no co-ingestants and no alcohol. This case is important to point out because it refutes the commonly espoused misperception that GHB is only fatal when another CNS depressant is also taken with GHB.

Across the country, there had been a dramatic increase in DAWN GHB ED mentions from 56 in 1994 to 4,969 in 2000. Although, ecstasy has probably received a lot more media attention and perhaps more use, there were more GHB ED visits than ecstasy in 2000 and every year prior to that as well. Yet, in the first half of 2001, there were 1,610 GHB ED mentions nationally and 2,385 MDMA ED mentions.

In Miami-Dade County DAWN ED mentions for GHB rose from 2 in the last half of 1997 to 28 in the half of 2000, before declining to 17 mentions in the last half of 2000 and 17 again in the first six months of 2001.

During the last six months of 2001, the Broward General Medical Center Emergency Department treated 39 people with GHB or GHB precursor overdose. This compares with 32 in the first six months of 2001 and 77 in all of 2000.

In most of the GHB overdose cases during the last half of 2001, the reason for the ED visit was decreased responsiveness/coma usually lasting less than three hours.

The ages of the GHB toxicity patients ranged from 18-44 years with an average of 28.5 years. There was one teenager (3 percent), 21 (54 percent) in their 20's, 14 (36 percent) in their 30's, and three in their 40's (8 percent). Thirty-two of these GHB overdose patients were men (82

percent) and 7 (18 percent) women, and 34/39 (87 percent) were White, non-Hispanic, 4/39 (10 percent) were Black, non-Hispanic, and race/ethnicity was unknown in 1/39 (3 percent) of the cases.

A urine toxicology screen was amphetamine positive in 11/39 (28 percent), cocaine positive in 8/39 (20 percent), and marijuana positive in 4/39 (10 percent). A urine toxicology screen was not obtained on every case.

Alcohol was involved in 18/39 (46 percent) of the cases by history or because an alcohol level was obtained. The GHB cases where a blood alcohol level was obtained ranged from 0-273 mgs/dl.

The location of the incident requiring the ED visit was a local bar or nightclub or the beach in 12/39 (31 percent) cases, and in a car in 4/39 (10 percent). Many, 19/29 (49 percent) presented to the ED between 11PM and 6 AM.

Eleven (28 percent) of the 39 patients were completely comatose (Glasgow Coma Scale of 3). Airway assistance (nasal trumpet, oxygen etc) was required on three patients. At least 3 (8 percent) of the patients vomited. Most patients were treated and released in several hours from the ED. However, two of the 39 patients required hospital admission, and 6 patients (15 percent) required endotracheal intubation.

During 2001, there were 3 GHB, 13 GBL, and 7 butanediol cases analyzed by the Broward Crime Lab. There were only three GHB cases and 1 gamma butyrolactone GBL cases analyzed by the Crime Lab in the second-half of 2000. This compares to 12 GHB related cases and 1 GBL case analyzed at Crime Lab in the first-half of 2000.

Ethnographers in Miami report a slight decline in GHB availability in South Florida and the drug sells for \$5-\$10 a “swig” or “hit”, with a 32oz bottle of GBL or 1,4 Butanediol for \$40-70.

### **3,4 Methylenedioxymethamphetamine (MDMA)**

MDMA, (3,4 –Methylenedioxymethamphetamine), also known as “ecstasy” is a methylated amphetamine which has become popular as a club drug and at techno-dance events such as raves and private parties. The psychoactive, synthetic, DEA Schedule I drug has gained the reputation as a “hug drug” which can promote empathy, relaxation, and sexuality. Many indicators such as crime lab statistics, drug confiscations in the area, and national survey data point to an increased abuse of this drug. For the first time, in 2000, more teens said they had abused ecstasy than cocaine.

Each pill generally contains 75-125mgs of MDMA. Wholesale prices in the United States are approximately \$8 per pill for 100 units, but they may retail in clubs and “raves” for \$10-50. As per local law enforcement sources, South Florida ecstasy prices may have started to drop in the first half of 2001, reflecting increased supply. In addition, giveaway deals are often brokered to establish future customers.

The major source of the designer logo emblazoned pills seems to be clandestine labs in Western Europe especially the Netherlands and Belgium. Although, not verified, there are rumors of clandestine labs in South Florida attempting MDMA production.

There were 14 methylated amphetamine-related deaths in Miami-Dade County in 2001 of which 5 were considered to have been caused by the drug. There were four such related deaths in Broward County in 2001 of which two were caused by the drug. In all of Florida there were 147 methylated amphetamine-related deaths in 2001 and in 37 of these cases the drug was considered the cause of death.

In Miami-Dade County, there were 99 MDMA ED mentions reported by DAWN in the first half of 2001, a 130-percent increase from the first half of 2000. There were a total of 105 MDMA mentions in all of 2000.

Broward Hospital had 79 cases involving MDMA ('ecstasy') during 2001 that can be divided into three major categories; (1.) Those where ecstasy is specifically mentioned in the medical record and the patient tests positive for amphetamines (there were 18 of these cases), (2.) Those where ecstasy is mentioned but the tox screen is either not obtained or negative for amphetamines (there were 43 of these cases), and (3.) Those cases where ecstasy was not specifically mentioned but was suspected based on circumstances and the urine tox screen is positive for amphetamines (there were only 18 of these cases). In the previous 6-month period, there were 13 cases where ecstasy was suspected but not mentioned and the tox screen was amphetamine positive. One recent change may be that many of the amphetamine positive tox screens represent methamphetamine or another amphetamine, so that we cannot assume its MDMA anymore.

There were fewer Broward ED MDMA cases in the second half of the 2001 than the first six months. It is suspected that this is an effect of increased airport security since September 11. Actually, only 14 of the 79 ED cases presented after September 11<sup>th</sup>. Most of the above mentioned cases were young white, non Hispanic kids, 89 percent were white not Hispanic, 22 percent were in their teens, 61 percent were in their 20's, 15 percent were in their 30's, and one patient who said he was using ecstasy was fifty-three. Many of the cases involved a combination of ecstasy and some other drug of abuse, including alcohol in 45 percent of the case, marijuana in 36 percent of the cases, GHB in 32 percent of cases, cocaine in 35 percent, benzodiazepines (especially alprazolam/Xanax) in 20 percent of cases.

The reason for the MDMA emergency department visit was altered mental status/decreased responsiveness in 40 percent of the cases. Depression/suicidal ideation was the presenting complaint in 20 percent of the cases and 16 percent of the cases were in the ED due to anxiety, agitation, confusion, paranoia or bizarre behavior. All except one of these patients were treated and discharged from the emergency department without requiring hospital admission.

Based on the national System to Retrieve Information on Drug Evidence (STRIDE), the State of Florida is the highest MDMA trafficking area in the country, followed by New York and California. As per the US Customs Service, national MDMA tablet seizures have increased from 400,000 in 1997 to 750,000 in 1998, to 3,500,000 in 1999, to 9,300,000 in 2000. As per the DEA Source Determination Program, MDMA samples in 2000 showed that 12 percent of samples contained amphetamine or methamphetamine but no MDMA, 5 percent contained no

controlled substances, and 3 percent were determined to be other substances (caffeine, ephedrine, dextromethorphan, and diphenhydramine, etc.) but sold as ecstasy. The average dose of MDMA containing tablets was 87 mgs. In 2000, 63 percent of tablets were smuggled into the US by airline passengers, 27 percent by express mail, and 10 percent by shipping. The most common departure points for MDMA smuggled into the country were the Netherlands 77 percent, Belgium 8 percent, Germany 3 percent, and Spain 3 percent.

As of January 1, 2000, the Broward Sheriff's Office (BSO) Crime Lab began to report about MDMA separately. During 2000, MDMA accounted for 244 cases. For comparison, during the same year, heroin only accounted for 188 cases, LSD accounted for 52 cases, methamphetamine accounted for 23 cases, ketamine accounted for 28 cases, and GHB/GBL for 16 cases. So in 2000, the BSO Crime lab conducted more "ecstasy" cases than heroin, LSD, GHB, or methamphetamine. During 2001, 253 "ecstasy" cases were conducted which was more than heroin, LSD, GHB, GBL, butanediol, and methamphetamine combined.

According to the national Monitoring the Future Study, MDMA was at an all-time high in prevalence among 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders in 2001—again much more than cocaine among these age groups. In addition, there has been a sharp increase in the availability of ecstasy. In 1999, 40 percent of those teens surveyed said that ecstasy was fairly or very easy to get, by 2001, 62 percent claimed the drug was fairly or very easy to get. With this increased availability has come a decrease in price and giveaway deals that could result in new legions of users. Ecstasy is being used at private parties now as much as at raves. MDMA current use was reported by 2.8 percent of Miami-Dade 7<sup>th</sup> to 12<sup>th</sup> graders in the 2001 Miami Coalition Survey.

The first report of internal body-packing involving ecstasy comes out of Miami in the last part of 2001. An individual flew from Canada into Miami after having swallowed numerous packets containing MDMA. The objective, apparently, was to retrieve the pills from his feces for illicit distribution. This case is interesting, because it happened after September 11<sup>th</sup>, and given the increased security measures, the high demand, and high profit potential, this could become a more routine smuggling method in the future.

### **Amphetamine/Methamphetamine**

Methamphetamine has traditionally been a much larger issue in California, Texas, Nevada, and even in the Midwest than it has on the East coast. Even in the State of Florida, most amphetamine/methamphetamine cases were on the west coast in the Tampa area and in rural Polk County. There are some preliminary indications that that may be changing. First, despite cutting back on their caseload in 2001, there was an increase in the number of methamphetamine cases conducted by Broward Crime Lab from 30 in 2000 to 39 in 2001. In addition, local law enforcement and ethnographers report a recent increase in crystal methamphetamine use particularly among gay men where it is referred to as "Tina". Finally, assuming the increased airport and port security since September 11 will result in a decreased supply of foreign made MDMA, more easily produced, domestic amphetamines and methamphetamines are likely to be substituted to capitalize on available profits.

Either d-methamphetamine or l-methamphetamine was identified in 44 of the 147 methylated amphetamine-related deaths in Florida during 2001. Both types were found in 36 of the decedents and d-methamphetamine was found in combination with MDMA in one death case.

There was a 31-percent decrease in the number of amphetamine-related ED mentions in Miami-Dade County as reported by DAWN between the first half of 2000 and the same period in 2001, going from 45 to 31 mentions. Over the same periods, there was an 86-percent increase in the number of methamphetamine-related ED mentions, rising from 7 to 13. It is still unclear how hospital staffs classify which cases are for amphetamines and which are for methamphetamines.

**In the last six months of 2001, there were more Broward County ED cases where amphetamines of some type were either mentioned in the history or detected on tox screen, than there were “ecstasy” cases.** There were a total of 29 such cases in the last six months of 2001. These were predominantly white males, 26/29 (90 percent) were White and 22/29 (76 percent) were male. There were 4 in their twenties, 13 in their thirties, nine in their forties, and 3 in their fifties. Most cases were amphetamine positive on tox screen 23/29 (79 percent), and in most cases the exact form of the amphetamine was not documented. However, a smokable form of methamphetamine was specifically documented in 3 cases. Cocaine was a co-intoxicant in 8/29 (28 percent), marijuana in 6/29 (21 percent), GHB in 3/29 (10 percent), benzodiazepines in 6/29 (21 percent), and heroin or oxycodone in 3/29 (10 percent). Four patients came to the ED for altered mental status, and 5 patients came in for GI problems, and five for depression. Other common chief complaints included chest pain 4/29, overdose 2/29, and other psychiatric problems.

Methylphenidate (Ritalin) has also received local and national media attention as being abused by college students either orally or crushed up and snorted. Hotline calls and student personnel administrators at local universities confirm the suspected abuse of methylphenidate. The University of Miami and University of Florida will include questions about its abuse in future substance abuse surveys on campus.

### **Lysergic Acid Diethylamide (LSD)**

LSD, a synthetic hallucinogen popularized in the 1960s in the United States, is usually abused orally in small tablets (“microdots”), in thin squares of gelatin (“windowpanes”), or blotter paper. It is not easily detected on most hospital urine toxicology screens. The drug became popular again in the 1990s at lower doses as a stimulant and “mild” hallucinogen.

There were 34 LSD ED mentions in Miami-Dade County in the first half of 2001, a slight increase over the rate that has been observed since 1997. There were 6 LSD cases reported in Broward during the same time period.

LSD appears to be losing popularity among young people. According to the national 2000 Monitoring the Future Survey, the percent of 12th graders saying that they had tried LSD within the last year dropped significantly from 8.8 percent in 1996 to 6.6 percent in 2000. In 2001, The Miami Coalition School Survey found only 1.7 percent of 7<sup>th</sup>–12<sup>th</sup> graders reported current LSD use, down from 3.8 percent in 1995.

There were 22 LSD samples identified by the Broward Sheriff’s Office Crime Lab in the first 6 months of 2001, which compares with 52 LSD cases in 2000.

## **Benzodiazepines**

For a variety of reasons, it is much more difficult to track benzodiazepine abuse than other forms of substance abuse. However, there are certainly, some indicators that benzodiazepines in general and alprazolam (Xanax) in particular is a substantial problem. First, Broward crime lab conducted 258 alprazolam case investigations in the first six months of 2001 and 244 in the second half of 2001. This is roughly twice as many as ecstasy, and more than twice as many as oxycodone. In fact, the Broward Sheriff's Office Crime Lab worked more alprazolam cases in 2001 than any other drug except cocaine.

There were 1,378 mentions of benzodiazepines among the 1,304 decedents in Florida during 2001 whose deaths were caused by one or more drugs. This is a 5-percent increase over 1,314 mentions in 2000. Of the 2001 deaths, there were 297 cases (22 percent) in which a benzodiazepine was identified as the cause of death.

Nationally, DAWN data reveal that alprazolam is the 5<sup>th</sup> most commonly mentioned drug in ED visits across the country. This ranks behind cocaine, alcohol in combination, marijuana, and heroin. These rankings are the same in Miami-Dade County where DAWN benzodiazepines-related ED mentions totaled 502 in the first half of 2001, representing a 6-percent increase over the same period in 2000.

Alprazolam seems to be popular among opioid abusers—it was involved in 21 of the 34 Broward oxycodone deaths in the second half of 2001 as well as many of the heroin deaths. Benzodiazepines were involved in 14/46 (30 percent) oxycodone hospital ED cases in the last 6 months of 2001, and the specific benzodiazepine, alprazolam was involved in 10/46 (22 percent) of the oxycodone cases.

Alprazolam seems to be very popular among high school students as well. A fourteen year old and a thirteen year old girl became lethargic requiring the use of activated charcoal and supportive care after taking alprazolam together at the skating rink. Also, per discussions with Broward High School Substance Abuse Counselors, the most common drugs of abuse among high school youth are alcohol, marijuana, and Xanax. Students refer to them as “Zany Bars” or just “bars”.

## **Body-packing**

A body packer is an individual who ingests packets of illicit drugs in an effort to smuggle those drugs into this country, and often body packers apprehended from Hollywood/Ft. Lauderdale International Airport are brought to Broward General Medical Center (BGMC) for treatment. During the last six months of 2001, there were 17 body-packers treated at BGMC, and 14/17 (82 percent) had ingested latex covered packets of cocaine. There were 11/17 (65 percent) men and 6/17 (35 percent) women, and they claimed to have ingested anywhere from 38-115 of these packets, with an average of 73 in those cases where a history of the amount was available. The average age of these individuals was 29.6 years of age. The races/ethnicity of these body packers were; 7/17 (41 percent) were black, 6/17 (35 percent) were white, 2/17 (12 percent) were Hispanic, and for 3/17 (18 percent) race was unknown. In each of the cocaine body-packing cases, where the country of origin was documented, it was Jamaica, and every case where a drug was documented it was cocaine.

For inquiries regarding this report, please contact James N. Hall, Up Front Drug Information Center, 12360 SW 132nd Court, Suite 215, Miami, Florida 33137, Phone: (786) 242-8222, Fax: (786) 242-8759, e-mail: <upfrontin@aol.com>.