Drug Abuse in Miami and South Florida

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ABSTRACT

The use of cocaine with various opioids (oxycodone, heroin, hydrocodone, or methadone) is fueling an increase in emergencies and deaths. The cocaine-abusing population continues to age, with only one in five of cocaine emergency department (ED) cases involving patients younger than 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 was the cause of more fatalities than heroin, cocaine, or any other substance in Broward County during 2001. Predominantly White males, age 30 or older, are seeking treatment and visiting emergency departments because of heroin or oxycodone abuse. Oxycodone and other narcotic analgesics continue to be substituted for heroin, and more recently, vice versa. Marijuana indicators were relatively stable in 2001. Yet, the drug continues to place youth in harm's way as illustrated by the fact that 43 percent of all Broward County adolescent and young adult homicide victims (age 13–29) 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 I federally controlled substance. MDMA problems continued to increase in the first half of 2001. Prior to September 11, 2001, ecstasy trafficking, availability, and use appeared at record levels. Since then, different methods of smuggling have surfaced. Abuse of amphetamines other than 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 2.6 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 residency in Miami-Dade County.

Broward County, situated due north of Miami-Dade, is composed of Ft. Lauderdale, 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 63 percent White, 21 percent Black, and 17 percent Hispanic. Broward County is the second most populated county in Florida and accounts for approximately 10 percent of Florida's population. Broward was the top growth county in Florida in the 1990s, 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 constitute one-third 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 the Nation'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 and has apparently been growing since airline security increases after September 11, 2001.

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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 methylenedioxymethamphetamine (MDMA, "ecstasy," or "XTC") tablets originate in the Benelux countries and often—most recently—are flown to the Caribbean before entering the United States in South Florida.

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

Data Sources

This report describes current drug abuse trends in Miami and South Florida, using the data sources summarized below.

- **Drug Treatment data** were provided by the Broward Addiction Recovery Center (BARC) for 2001 and by Spectrum Programs, Inc., for 1999 through 2001.

- **Drug-related mortality data** were provided by the Broward County Medical Examiner Department in "Drug Deaths 1999–2000," a review of all deaths in Broward County directly caused by or associated with drugs; the Florida Department of Law Enforcement Medical Examiners Commission, 2001 Report of Drugs Identified in Deceased Persons by Florida Medical Examiners; and the Miami-Dade County Medical Examiner's Department for 1990 to 2000.

- **Emergency department drug mentions data** were derived from the Broward General Medical Center (BGMC) Emergency Department Drug Abuse Case Review, which is a review of all drug abuse cases presenting to the emergency department (ED) for the four semiannual periods from the first half of 2000 through 2001; and from the Drug Abuse Warning Network (DAWN), Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA) for 1994 through the first half of 2001. Data for 2001 are preliminary.

- **Drug analyses data** were derived from reports of illicit substances analyzed in 1999–2001 by the Broward Sheriff's Office (BSO) Crime Lab and the System to Retrieve Information on Drug Evidence (STRIDE).

- **Heroin price and purity data**, preliminary for 2001, were obtained from the DEA's Domestic Monitor Program (DMP).

- **Drug seizure information** was available from the U.S. Customs Service.

- **School survey data** were from two sources: the Florida Youth Surveys on Substance Abuse for 2000 and 2001, which provide prevalence data on drug use among Florida students in grades 6–12, and the 2001 Miami-Dade School Survey conducted by The Miami Coalition for A Safe and Drug-Free Community which provides prevalence and risk-factor data on Miami-Dade public and parochial middle and high school students. Student drug-use data were also derived from the Monitoring the Future (MTF) Study conducted by the Institute for Social Research, University of Michigan in 2001.

Other information on drug use patterns was derived from ethnographic research.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine and Crack

South Florida cocaine abuse rates continue to rank among the highest in the Nation, as indicated by ED visits, crime lab data, and drug 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 among those seeking emergency medical care and addiction treatment for cocaine abuse.

There were 45 cocaine-induced deaths in Miami-Dade County in 2001, a 50-percent increase over the 30 cocaine-induced deaths in 2000 (exhibit 1). The 2001 number is similar to that for 1999, when there were 43 cocaine-induced deaths, and for 1998, when there were 39 such deaths. The number of cocaine-related deaths remained stable, with 149 cases in 2001 compared with 144 in 2000. The number of

cases in 2001 reflects a 39-percent decline from 1998, when there were 246 cocaine-related deaths.

In Miami-Dade County in 2001, heroin was detected in 2 of the 45 decedents whose primary cause of death was cocaine abuse. Additionally, cocaine was detected in 17 (37 percent) of the 32 heroin-induced deaths during the year. Other drugs detected in cocaine-induced deaths included oxycodone (three cases), methamphetamine (two cases), and MDMA (one case). (In Florida, a drug is considered to be a cause of death if it is detected in an amount considered to be a lethal dose by the local medical examiner.) Other nonspecific, polydrug mixtures were also detected in six of the cocaine-induced cases.

In Broward County, 57 cocaine-induced fatalities were among the 94 cocaine-related deaths reported during 2001. In 2000, 40 cocaine-induced deaths were 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 6 months of 2001 reveals that 14 (42 percent) of the decedents also tested positive for heroin or oxycodone. Among these 14 decedents, cocaine and heroin were considered causes of death in 6 cases, cocaine and oxycodone were the causes in 7, and cocaine, oxycodone, and heroin were all considered causes in 1 death. During the second half of 2001, 4 of the 19 cocaine-*without*-heroin-or-oxycodone decedents (21 percent) were Black, whereas only 1 of the 14 cocaine-with-heroin-or-oxycodone decedents (7 percent) 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 combined 243 cocaine-related deaths in both Broward and Miami-Dade Counties during 2001, fewer than 2 percent were younger than 18, 11 percent were 18–25, 25 percent were 26–34, 47 percent were 35–50, and 15 percent were older than 50.

In Miami-Dade County during the first half of 2001, there were 2,165 cocaine/crack ED mentions in the DAWN system (exhibit 2). These cases represent a small, nonsignificant decrease from the previous 6 months. However, annual data show significant increases in cocaine/crack ED mentions between 1994 and 2000 (59 percent), between 1998 and 2000 (23 percent), and between 1999 and 2000 (9 percent). The rate of ED cocaine mentions per 100,000 population trended up significantly between 1994 and 2000, reaching a peak of 225 in 2000. The preliminary rate in the first half of 2001 was 98. The demographic group showing a significant increase in cocaine ED mentions was those age 55 and older, with mentions rising 90 percent between the first halves of 2000 and 2001.

A daily review of all ED charts at BGMC was conducted to gauge illicit substance abuse-related ED cases in 2001. A total of 69,892 charts were reviewed, and drug abuse was identified in 3.5 percent (2,420 cases). This was an average of approximately 6.5 drug abuse cases 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 (53 percent) of the BGMC drug abuse cases in 2001. Among the 606 cocaine cases in the second half of 2001, males accounted for 73 percent, Whites for 47 percent, Blacks for 46 percent, and Hispanics/others for 7 percent. Eighty-one percent of the cocaine-using BGMC patients were age 30 or older, continuing a trend towards older cocaine ED patients. Only 3 percent were younger than 20, 16 percent were in their twenties, 43 percent were in their thirties, 31 percent were in their forties, and 7 percent were age 50 or older.

The most common reasons for visiting the BGMC ED for cocaine use were as follows:

- Depression/suicidal—37 percent
- Dependence/seeking detoxification—8 percent
- Trauma/accidents—8 percent
- Chest pain/cardiac problems—7 percent
- Psychosis/schizophrenia/hallucinations—6 percent
- Gastrointestinal complaints—2 percent

Crack cocaine was specifically mentioned in 32 percent of the BGMC ED cases in the second half of 2001. Cocaine was used in combination with alcohol in 42 percent of these cocaine ED cases. This dangerous combination forms a cometabolite, coca-ethylene, which can dramatically increase toxicity. Another combination involved cocaine and marijuana (23 percent of all cocaine cases).

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

In the second half of 2001, cocaine abuse accounted for 22 percent of the treatment admissions sample from both BARC and Spectrum, compared with 27 percent in 2000 and 16 percent in 1999. Of the 606 cocaine treatment clients in the second half of 2001, 43 percent 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 26–34 years, 8 percent were 18–25, and 1 percent were younger than 18.

Powder cocaine and crack are still described as "widely available" throughout Florida. Cocaine remains the most commonly analyzed substance by the BSO's Crime Lab, where it accounted for 79 percent of all items analyzed in the last half of 2000.

Crack cocaine sells for $5–$20 per one-tenth gram and is roughly 80 percent pure in Miami. Powder cocaine sells for $40–$60 per gram (approximately 80 percent pure). The cocaine kilogram price range remains fairly stable at $18,000–$22,000, according to law enforcement officials.

This region is a major port of entry for illicit drugs because South Florida's airports and seaports remain among the busiest in the Nation for both cargo and international passenger traffic, and because of the wide-scale smuggling by air and sea cargo handlers in those ports of entry. Cruise ship smuggling is mentioned as an important trend by law enforcement in South Florida. Local EDs have taken care of several cruise ship cocaine bodypackers in 2001; prior to that, the ED bodypacking cases were from air travel.

The Florida Youth Surveys on Substance Abuse for 2000 and 2001 show that fewer 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 current 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 revealed that 1.8 percent of middle and high school students reported current cocaine use. This rate has remained stable over the past 6 years, yet the "perceived risk of harm from cocaine use" declined a full 10 percentage points from 1997 to 2001.

Heroin

Miami led the Nation with the greatest growth in DAWN heroin ED mentions, increasing significantly, by 463 percent between 1994 and 2000. That growth stabilized in Miami-Dade County during 2001 as heroin abuse spread north, with rising consequences for Broward and Palm Beach Counties that fueled a 30-percent increase in heroin-induced deaths statewide. A major opiate epidemic has settled into South Florida, with the greatest consequences appearing in Palm Beach County, immediately north of Broward County. Older, White males continue to account for the majority of opiate addiction treatment admissions and most narcotic-related deaths. Most ED visits for heroin or oxycodone are for withdrawal or because the patient is seeking detoxification. Oxycodone, hydrocodone, and methadone problems continue because these drugs are being abused in combination with and partially supplanting heroin. It is quite possible that users are beginning to substitute heroin for narcotic analgesics and particularly for oxycodone, which may be getting harder to obtain.

Miami-Dade County reported that heroin was detected in 51 decedents during 2001. It was the cause of death in 32 of those cases (exhibit 3). Both these numbers represent significant declines over the previous year. During 2000, the 72 heroin-related fatalities in Miami-Dade County included 61 heroin-induced deaths. 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 decedents in 2001, other drugs were detected in 26, including cocaine in 17, oxycodone in 3, MDMA in 2, and methamphetamine in 1. Other, nonspecific polydrug mixtures were also detected in 13 of the heroin-induced cases.

In Broward County during 2001, heroin was detected in 53 deaths. In 51 of these cases, 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, while seven were related to heroin alone. Heroin combined with various mixtures of alcohol, benzodiazepines, and methadone accounted for the remaining heroin-related deaths.

Broward County heroin decedents remained predominately White—93 percent in 2001, 92 percent in 2000, and 95 percent in 1999. Eighty percent of the decedents in 2001 were male, similar to the last several years.

Of the 104 heroin-related decedents in Broward and Miami-Dade Counties combined during 2001, none were younger than 18, 12 percent were age 18–25, 18 percent were 26–34, 57 percent were 35–50, and 13 percent were older than 50.

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 County, but in 2001 there were 32 in Miami-Dade and 51 in Broward. In 2001, Miami-Dade County ranked fifth in the State for heroin deaths, behind Palm Beach County (57 deaths), Broward County (51), Orlando (34), and Tampa (34).

In Miami-Dade County, DAWN rates of heroin ED mentions per 100,000 population have trended up since 1994, increasing significantly from 48 in 1999 to 74 in 2000, with Miami reporting the largest percentage increase in heroin ED mentions nationally during that time period (463 percent). In the first half of 2001, there were 824 heroin ED mentions, representing a 21-percent increase over the same period in 2000 (exhibit 2). Males accounted for 82 percent of these 2001 heroin ED mentions, a significant increase from the first half of 2000. Among the heroin ED mentions, White non-Hispanics accounted for 58 percent, Blacks for 24 percent, and Hispanics for 17 percent. The number of Hispanic mentions increased significantly (93 percent) between the first halves of 2000 and 2001. One-third of the patients were age 26–34, another third were 35–44, one-fourth were older than 44, and 9 percent were 18–24. Data on episode characteristics show that dependence accounted for 95 percent of the "drug use motive" for heroin; two-thirds of the mentions cited "seeking detoxification" as the reason for ED contact.

Based on a daily review of all ED charts at BGMC for the second half of 2001, there were 70 heroin cases (6 percent of all illicit substance abuse cases), a slight decline from the first half of 2001, when there were 89 cases (7 percent). However, the total for 2001, 159 cases, represented a 15-percent increase from 2000, when there were 138 heroin cases.

The BGMC heroin cases in the second half of 2001 were predominantly older White males experiencing withdrawal and/or seeking detoxification. Males accounted for 67 percent of the ED patients; 64 percent were White. There were no teenagers; 27 percent of patients were in their twenties, 37 percent were in their thirties, 30 percent were in their forties, and 6 percent were age 50 or older.

Heroin was the sole drug of abuse (with or without alcohol) in 40 percent of the heroin BGMC ED cases, and cocaine was a coexposure in 30 percent; heroin was used with a benzodiazepine in 24 percent of cases and 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 detoxification (39 percent of the cases). Depression accounted for 34 percent of the cases, followed by altered mental status (16 percent); 6 percent were in the ED 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 BARC and Spectrum treatment sample reviewed. One-half of these clients were older than 35, one-third were age 25–34, and the remaining 17 percent were 18–24. White non-Hispanics accounted for 62 percent of the heroin treatment clients, Hispanics for 27 percent, and Blacks for 11 percent.

During 2001, only 149 heroin cases were analyzed by the BSO 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 noncannabis cases submitted. In 2001, however, the lab worked only 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 became more available and purer 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. According to the DMP, Miami's heroin street purity is estimated at 17–23 percent, with the lowest price per milligram pure in the region's history ($1.03). A bag of heroin (roughly 20 percent 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 fewer than one-third of 1 percent of both middle and high school students reported 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 survey conducted by The Miami Coalition.

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 in one-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 hydrocodone-related deaths. The specified drug was the cause of death in 59 percent of the oxycodone-related cases, and hydrocodone was the cause of death in 35 percent of the hydrocodone-related deaths. Oxycodone deaths declined 14 percent between the first and second halves of 2001 as public awareness increased about this emerging drug problem.

Miami-Dade County reported 24 oxycodone-related deaths in 2001; 16 were oxycodone-induced deaths (exhibit 4). Broward County recorded 73 oxycodone-related deaths, with 58 oxycodone-induced deaths. In Palm Beach County, there were 57 oxycodone-related and 37 oxycodone-induced deaths.

Miami-Dade County reported 13 hydrocodone-related deaths in 2001, of which 5 were hydrocodone-induced. Broward County recorded 28 hydrocodone-related deaths, of which 21 were hydrocodone-induced. In Palm Beach County, 13 of the 41 hydrocodone-related deaths were hydrocodone-induced.

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

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

Information on the 37 oxycodone-induced deaths from Broward County in the second half of 2001 shows that 3 decedents were teenagers (8 percent), 8 were in their twenties (22 percent), 7 were in their thirties (19 percent), 15 were in their forties (41 percent), and 4 (11 percent) were age 50 or older. Males accounted for 79 percent of the decedents, and 91 percent were White. As with most fatal overdoses, these deaths rarely involved one drug alone. In fact, only 1 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 a toxicology 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 narcotic analgesics deaths in which hydrocodone was considered the cause of death, and 10 deaths in which methadone was considered the cause in the second half of 2001.

The number of DAWN narcotic analgesics ED mentions in Miami-Dade County increased 181 percent between 1994 and 2000, rising from 86 mentions to 242. In the first half of 2001, there were an estimated 128 narcotic analgesics ED mentions (exhibit 2). The number of ED mentions for narcotic analgesic combinations also increased significantly (49 percent), from 86 to 128 between 1994 and 2000. National increases in ED mentions for these categories over the same time period parallel the Miami trend.

Nationally, all ED mentions of drugs containing hydrocodone/combinations increased 116 percent, from 9,320 in 1994 to 20,098 in 2000. Oxycodone/combinations ED drug mentions increased 166 percent, from 4,069 in 1994 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, a review of the national data reveals that 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 in that year of the sustained-release form of oxycodone, OxyContin, which 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.

A total of 104 oxycodone overdose ED cases were treated at BGMC 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. There were 3 teenagers, 20 patients in their twenties, 22 in their thirties, 54 in their forties, and 5 age 50 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 BGMC 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 exces-

sive amounts used for pain relief). In 14 percent of cases, the oxycodone was taken in a suicidal gesture.

Twenty-six percent of the oxycodone ED patients at BGMC presented with central nervous system depression, and 5 percent visited the ED 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 included benzodiazepines (in 30 percent of the cases, and especially alprazolam, in 5 percent of all cases), marijuana (14 percent), cocaine (17 percent), other opioids such as heroin or methadone (13 percent), and hydrocodone (10 percent).

The BSO Crime Lab worked 95 oxycodone cases in the second half of 2001, compared with 80 such cases in the first half, 71 in the second half of 2000, and 69 in the first half of 2000. There were also 69 hydrocodone cases in the second half of 2001, 44 in the first half of 2001, 58 in the second half of 2000, and 69 in the first half of 2000.

Marijuana

Cannabinoids were detected in 707 deaths in Florida in 2001, an 8-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 seemingly stabilized in the first half of 2001 at 909 (exhibit 2). In 2000, Miami ranked third in the DAWN system for the highest rate of marijuana ED mentions (91 per 100,000 population), behind Philadelphia at 101 mentions and Detroit at 99. A demographic 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, 26 percent were 18–25, 24 percent were 26–34, and 39 percent were age 35 and older.

At the BGMC, there were 832 marijuana ED cases in 2001, representing 34 percent of all drug ED mentions. Seventy-five percent of the patients were male. Whites accounted for 57 percent of marijuana ED cases, Blacks for 34 percent, and Hispanics or "others" for 9 percent. 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 age 50 or older.

Marijuana was the only illicit drug (with or without alcohol) in 41 percent of the BGMC ED marijuana cases. More than one-third of the Broward marijuana ED cases involved marijuana 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 the cases, alcohol was the only documented coingestant with marijuana.

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

- Depression/suicidal—31 percent
- Psychiatric-related (e.g., hallucinations, anxiety, bizarre behavior, delusions)—10 percent
- Trauma—9 percent
- Altered mental status—8 percent
- Chest pain—5 percent

Marijuana is still the most popular drug among young people visiting the emergency department. More than one-half (53 percent) of all illicit substance abuse cases in the 12–25 age group involved marijuana. By comparison, 35 percent of all such cases in this age group involved cocaine; 29 percent involved benzodiazepines, of which alprazolam accounted for 64 percent; and 6 percent each involved MDMA and heroin. (These figures total more than 100 percent because some cases are combinations.)

In 2001, 2,257 addiction treatment clients (25 percent of the study treatment sample) cited 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, those seeking treatment for marijuana tended to be younger: 48 percent were age 17 or younger, and 30 percent were 18–25.

In Broward County in 2001, 23 homicides involved victims who were age 13–29. Of these, 10 (43 percent) tested positive for marijuana. Only one tested positive for cocaine: 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. One-quarter ounce of sinsemilla, with an estimated tetrahydrocannabinol (THC) content of 10–18 percent, sells for $100–$120.

In the 2001 MTF Study, 49 percent of 12th graders nationally said that they had tried marijuana at least once. This was the fourth highest rate since 1987; only 1997, 1998, and 1999 rates were higher. In the 2000 National Household Survey, among 12–17-year-olds who said their parents would strongly disapprove of them even trying marijuana once, 7 percent had used an illicit drug within the last month. Among the same age group, those who said their parents would not strongly object, 31 percent had used an illicit drug within the last 30 days. The Miami-Dade Survey revealed a continuing downward trend in current marijuana use among middle and high school students, 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 increased 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 (1,4 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, 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 declared a federally controlled Schedule I drug in March 2000, a critical turning point for the data presented in this report.

In all of Florida, GHB-related deaths increased from 23 in 2000 to 28 in 2001. However, there were only eight GHB deaths in the second half of 2001, a 60-percent decrease from the previous 6 months. This same pattern is observed in the ED data from the previous year discussed below.

GHB deaths in Miami-Dade County declined from three in 2000 to one in 2001.

In Broward County in 2001, there were no deaths in which GHB was considered a cause. From 1996 to 2000, 11 deaths involved GHB (2 in 1996, 2 in 1997, 3 in 1998, 1 in 1999, and 3 in 2000). In nine of these cases, GHB was mentioned as one of the causes of death. In another case, the patient was admitted to a hospital for GHB intoxication, appeared to have recovered, and subsequently succumbed for other reasons. In one other death, the patient was brought to BGMC ED dead on arrival from a multiple drug overdose that included GHB by history; however, the medical examiner found GHB to be noncontributory.

Eight of the nine GHB-caused fatalities involved coingestants, including alcohol, cocaine, marijuana, benzodiazepines, opioids, carisoprodol (Soma), sertraline (Zoloft), and MDMA. Alcohol was detected in seven cases, with the concentrations raging from 90 to 340 milligrams per deciliter. (Legally drunk in Florida is identified as an alcohol concentration of 80 milligrams per deciliter.) One recent fatality involved no coingestants and no alcohol. This case is important because it refutes the commonly espoused misperception that GHB is fatal only when it is used with another central nervous system depressant.

Across the country, there was a dramatic increase (8,773 percent) in DAWN GHB ED mentions, from 56 in 1994 to 4,969 in 2000. Although ecstasy has probably received more media attention and may haven used more, there were more GHB than ecstasy ED visits in 2000 and in most years prior to 2000. However, in the first half of 2001, there were 1,610 GHB ED mentions nationally compared with 2,385 MDMA ED mentions, with neither showing a significant change from the first half of 2000.

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

(exhibit 2). The decrease between the first halves of 2000 and 2001 was statistically significant.

During the second half of 2001, the BGMC ED treated 39 people with GHB or GHB precursor overdose. This compares with 32 in the first half of 2001 and 77 in all of 2000. In most of the GHB overdose cases during the second half of 2001, the reason for the ED visit was decreased responsiveness/coma usually lasting less than 3 hours.

The ages of the GHB toxicity patients at BGMC in the last half of 2001 ranged from 18 to 44, with an average of 28.5 years. There was 1 teenager (3 percent); 21 (54 percent) were in their twenties, 14 (36 percent) were in their thirties, and 3 (8 percent) were in their forties. Thirty-two of these GHB overdose patients were men (82 percent); 34 (87 percent) were White non-Hispanic, 4 (10 percent) were Black non-Hispanic, and race/ethnicity was unknown in 1 (3 percent) of the cases.

Among the GHB BGMC patients in the last half of 2001, a urine toxicology screen was amphetamine-positive in 11, cocaine-positive in 8, and marijuana-positive in 4. A urine toxicology screen was not obtained for every case.

Alcohol was involved in 18 of the 39 cases, confirmed either by history or through an alcohol level test. In the GHB cases for which a blood alcohol level was obtained, the level ranged from 0 to 273 milligrams per deciliter.

The location of the incident requiring the ED visit was a local bar or nightclub or the beach in 12 cases (31 percent), and a car in 4 (10 percent). Nineteen persons (49 percent) presented to the ED between 11 p.m. and 6 a.m.

Eleven (28 percent) of the 39 patients were completely comatose (Glasgow Coma Scale of 3). Airway assistance (e.g., nasal trumpet, oxygen) was required on three patients. At least three (8 percent) of the patients vomited. Most patients were treated and released from the ED within several hours. However, 2 of the 39 patients required hospital admission, and 6 patients (15 percent) required endotracheal intubation.

During 2001, 3 GHB, 13 GBL, and 7 BD cases were analyzed by the BSO Crime Lab. Only three GHB cases and one GBL case were analyzed by the crime lab in the second half of 2000, compared with 12 GHB-related cases and 1 GBL case during the first half of the year.

Ethnographers in Miami report a slight decline in GHB availability in South Florida, noting that the drug sells for $5–$10 per "swig" or "hit," with a 32-ounce bottle of GBL or 1,4 BD selling for $40–$70.

Methylenedioxymethamphetamine (MDMA or Ecstasy)

MDMA, a methylated amphetamine, 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" that can promote empathy, relaxation, and sexuality. Many indicators such as crime lab statistics, drug confiscations in the area, and national survey data point to increased abuse of this drug. For the first time, in 2000 more teens said they had abused MDMA or ecstasy than cocaine.

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

The major sources of the designer logo-emblazoned pills seem to be clandestine labs in Western Europe, especially the Netherlands and Belgium. There are unverified rumors of clandestine labs in South Florida attempting MDMA production.

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

In Miami-Dade County, 99 MDMA ED mentions were reported by DAWN in the first half of 2001, a 130-percent increase from the first half of 2000 (exhibit 2). A total of 105 MDMA mentions were reported for all of 2000, a significant increase from the 2 reported in 1994.

BGMC reported 79 cases involving MDMA during 2001. These can be divided into three major categories: those in which ecstasy was specifically mentioned in the medical record and the patient

tested positive for amphetamines (18 cases); those in which ecstasy was mentioned but the toxicology screen was either not obtained or negative for amphetamines (43 cases); and those cases in which ecstasy was not specifically mentioned but was suspected, based on circumstances and the fact that the urine screen was positive for amphetamines (18 cases). In the previous 6-month period, there were 13 cases in which ecstasy was suspected but not mentioned and the toxicology screen was amphetamine positive. One recent change may be that many of the amphetamine-positive toxicology screens represent methamphetamine or another amphetamine, so one cannot assume it is MDMA.

There were fewer BGMC ED MDMA cases in the second half of 2001 than in the first half. It is suspected that this is an effect of increased airport security since September 11, 2001. Only 14 of the 79 ED cases presented after September 11. Most of the above-mentioned cases were White non-Hispanic youth: 89 percent were White non-Hispanic, 22 percent were in their teens, 61 percent were in their twenties, 15 percent were in their thirties, and one patient who was 53. Many of the cases involved a combination of ecstasy and some other drug of abuse, including alcohol (45 percent); marijuana (36 percent); GHB (32 percent); cocaine (35 percent); and benzodiazepines, especially alprazolam/Xanax (20 percent of cases).

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

Based on information provided by the DEA's STRIDE program, the State of Florida is the highest MDMA trafficking area in the country, followed by New York and California. According to the U.S. Customs Service, the quantity of MDMA tablets seized nationally increased from 400,000 in 1997 to 750,000 in 1998, 3,500,000 in 1999, and 9,300,000 in 2000. According to data from law enforcement sources, analysis of alleged MDMA samples in 2000 showed that 12 percent contained amphetamine or methamphetamine but no MDMA, 5 percent contained no controlled substances, and 3 percent were determined to be other substances (e.g., caffeine, ephedrine, dextromethorphan, and diphenhydramine) but were sold as ecstasy. The average dose of a tablet containing MDMA was 87 milligrams. In 2000, 63 percent of tablets were smuggled into the United States by airline passengers, 27 percent by express mail, and 10 percent by ship. 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 BSO Crime Lab began to report MDMA separately. During 2000, MDMA accounted for 244 cases. For comparison, during the same year, heroin accounted for only 188 cases, lysergic acid diethylamide (LSD) for 52 cases, methamphetamine for 23 cases, ketamine for 28 cases, and GHB/GBL for 16 cases. During 2001, 253 ecstasy cases were conducted, which was more than cases for heroin, LSD, GHB, GBL, BD, and methamphetamine combined.

According to the national MTF Study, MDMA use was at an all-time high among 8th, 10th, and 12th graders in 2001—higher than cocaine use 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. This increased availability has resulted in price decreases 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 7th–12th graders in the 2001 survey conducted by the Miami Coalition.

The first report of internal bodypacking involving ecstasy originated in Miami in the last part of 2001. An individual flew into Miami from Canada 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, 2001; given the increased security measures, high demand, and high profit potential, bodypacking could become a more routine smuggling method in the future.

Other Stimulants

Methamphetamine has traditionally been a much larger issue in California, Texas, Nevada, and even in the Midwest than it has been 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 this may be changing. First, despite a cutback in the BSO Crime Lab caseload in 2001, the

number of methamphetamine cases conducted by the lab increased to 39 from 30 in 2000. In addition, local law enforcement officials and ethnographers report a recent increase in crystal methamphetamine use, particularly among gay men, who refer to the drug as "Tina." Finally, assuming that the increased airport and port security since September 11, 2001, 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 1 death case.

Between the first halves of 2000 and 2001, the number of amphetamine-related DAWN ED mentions in Miami-Dade County declined from 45 to 31 (exhibit 2). Over the same time period, there was a significant 86-percent increase in the number of methamphetamine-related ED mentions, 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 6 months of 2001, there were 29 BGMC ED cases in which amphetamines of some type were either mentioned in the history or detected in a toxicology screen, more than the total for "ecstasy" cases. Of the 29 cases, 90 percent were White and 76 percent were male. Four were in their twenties, 13 were in their thirties, nine were in their forties, and 3 were in their fifties. Most cases were amphetamine-positive on their toxicology screens (23, or 79 percent); in the majority of cases, the exact form of the amphetamine was not documented. However, a smokable form of methamphetamine was specifically documented in three cases. Cocaine was a cointoxicant in eight cases (28 percent), marijuana in six (21 percent), GHB in three (10 percent), benzodiazepines in six (21 percent), and heroin or oxycodone in three (10 percent). Four patients came to the ED for altered mental status, five for gastrointestinal problems, and five for depression. Other common chief complaints included chest pain (n=4), overdose (n=2), and other psychiatric problems.

Methylphenidate (Ritalin) has also received local and national media attention as being abused by college students either orally or crushed and used intranasally. Hotline calls and student personnel administrators at local universities confirm the suspected abuse of methylphenidate. The University of Miami and the 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"), 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 DAWN ED mentions in Miami-Dade County in the first half of 2001, a significant increase over the 24 reported in the first half of 2000 (exhibit 2). Six LSD cases were reported by the BGMC during the same time period.

LSD appears to be losing popularity among young people. According to the national 2000 MTF Study, the percentage of 12th graders saying 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-Dade School Survey found that only 1.7 percent of students in grades 7 to 12 reported current LSD use, down from 3.8 percent in 1995.

The BSO Crime Lab identified 22 LSD samples in the first 6 months of 2001, compared with 52 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, particularly alprazolam, are a substantial problem. The BSO Crime Lab conducted 258 alprazolam case investigations in the first half of 2001 and 244 in the second half. This is roughly double the cases involving ecstasy, and more than double those involving oxycodone. In fact, the BSO Crime Lab worked more alprazolam cases in 2001 than those for 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, a benzodiazepine was identified as the cause of death in 297 cases (23 percent).

Nationally, DAWN data reveal that alprazolam is the fifth 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 benzodiazepine-related ED mentions totaled 502 in the first half of 2001, representing a nonsignificant 6-percent increase over the same period in 2000 (exhibit 2).

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

Alprazolam seems to be very popular among high school students as well. Two girls, one age 14 and the other 13, became lethargic and required the use of activated charcoal and supportive care after taking

alprazolam together at a skating rink in Broward County during the second half of 2001. Also, according to Broward High School substance abuse counselors, the most common drugs of abuse among high school youth are alcohol, marijuana, and Xanax. Students refer to Xanax tablets as "zany bars" or "bars."

Bodypacking

A bodypacker is an individual who ingests packets of illicit drugs in an effort to smuggle those drugs into this country. Often, bodypackers apprehended from the Hollywood/Ft. Lauderdale International Airport are brought to BGMC for treatment. During the last 6 months of 2001, 17 bodypackers were treated at BGMC; 14 (82 percent) had ingested latex-covered packets of cocaine. There were 11 men (65 percent) and 6 women (35 percent), and they claimed to have ingested 38–115 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. Of the 17 bodypackers, 7 (41 percent) were Black, 6 (35 percent) were White, 2 (12 percent) were Hispanic, and 2 (12 percent) were of unknown race. For each of the cocaine bodypacking cases in which the country of origin was documented, it was Jamaica. For every case in which a drug was documented, it was cocaine.

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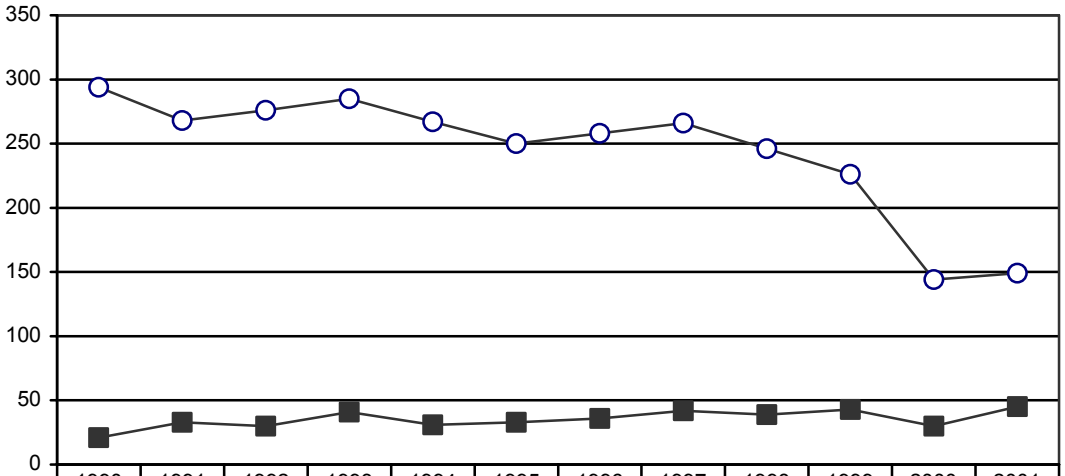
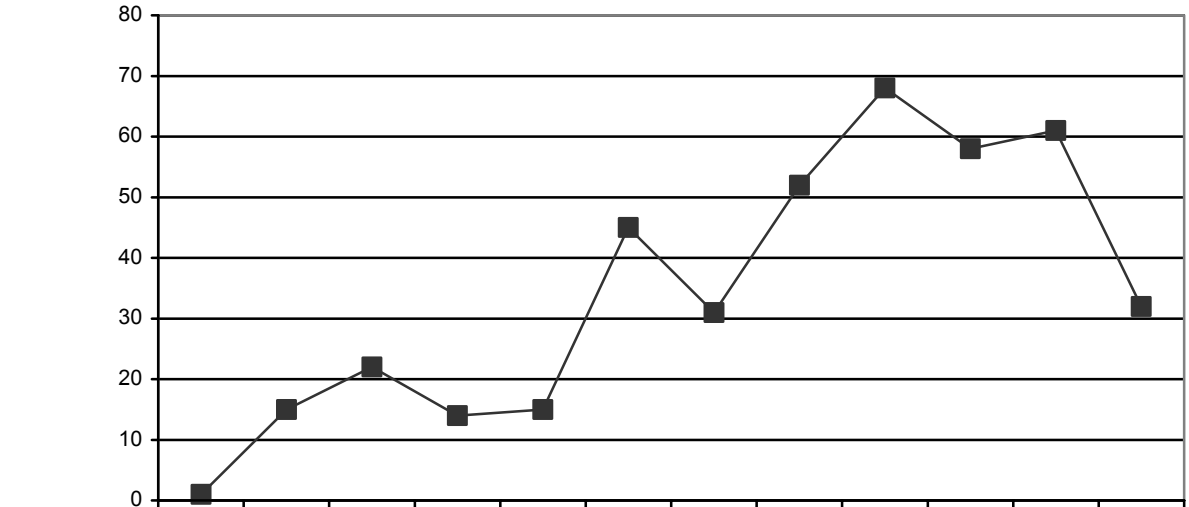
Exhibit 1. Number of Cocaine-Related and Cocaine-Induced Deaths in Miami-Dade County: 1990–2001



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Related	294	268	276	285	267	250	258	266	246	226	144	149
Induced	21	33	30	41	31	33	36	42	39	43	30	45

SOURCES: Miami-Dade Medical Examiner's Department and Florida Medical Examiners Commission

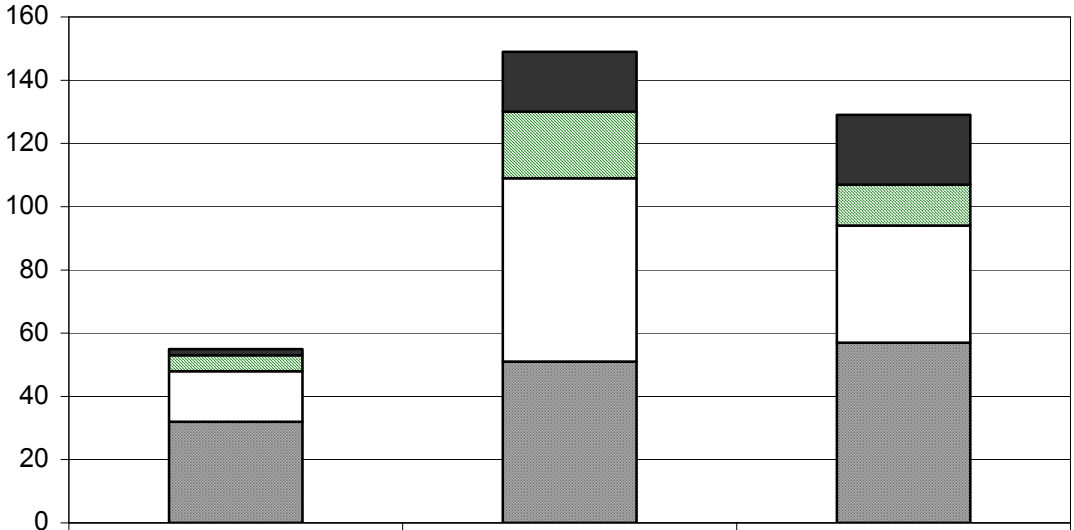
Exhibit 3. Number of Heroin-Induced Deaths in Miami-Dade County: 1990–2001



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Induced	1	15	22	14	15	45	31	52	68	58	61	32

SOURCE: Miami-Dade Medical Examiner's Department and Florida Medical Examiners Commission

Exhibit 4. Number of Narcotic-Induced Death Mentions in Three Florida Counties: 2001



	Miami-Dade	Broward	Palm Beach
Methadone	2	19	22
Hydrocodone	5	21	13
Oxycodone	16	58	37
Heroin	32	51	57

SOURCE: Florida Medical Examiners Commission