

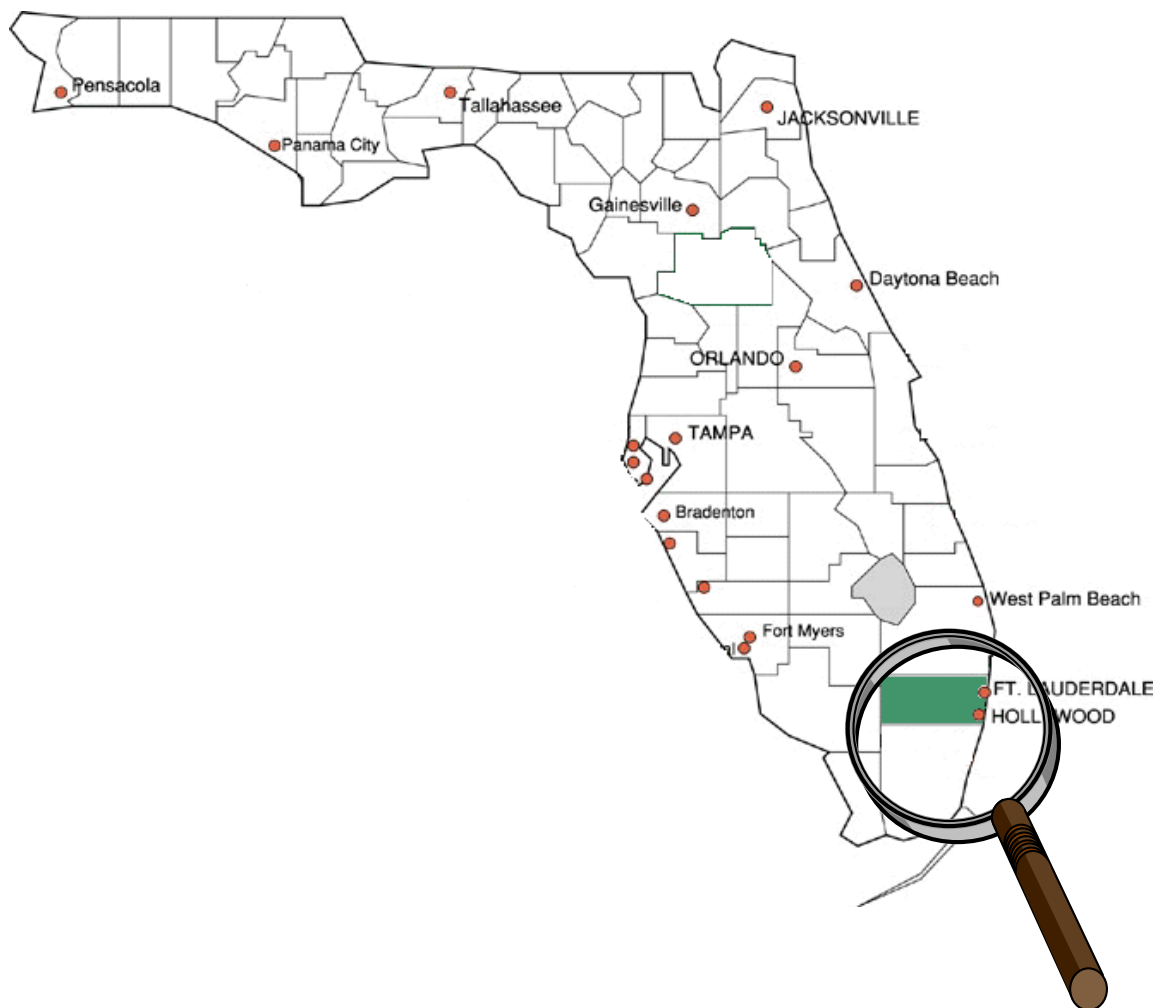
Indicators of Substance Use and Abuse in Broward County

2009

SEMI-ANNUAL REPORT

January 1, 2009 to June 30, 2009

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United Way of Broward County Commission on Substance Abuse

**Center for the Study & Prevention
of Substance Abuse
Memorial Healthcare System**



**Florida Department of
Children & Families
Nova Southeastern University**

Drug Abuse in Broward County, Florida: January to June 2009

James N. Hall¹

Executive Summary

As a 30-year *cocaine epidemic* appears to be entering its declining phase, an *opiate epidemic* involving pain medications and/or heroin looms on the horizon for the new decade. The nonmedical use of over-the-counter and prescription pharmaceuticals is a factor in the initiation of opiate abuse.

Softening of attitudes about the harmfulness and social acceptance of marijuana has occurred as both its use and consequences are increasing among all age groups locally and nationally. Discussions about marijuana policy often ignore that 60-percent of first time users are 17 years of age or younger. The most current research reveals more serious life-long consequences among the youngest initiates of cannabis use as well as alcohol or other substances.

Changes in the chemistry of drugs sold as “ecstasy” or methamphetamine are contributing to increased risk and rising consequences. Adulterants and substitution of the ingredients sold as these drugs have risen in recent years as their trafficking is more global in the internet age. While the supply and availability of these *methylated amphetamines* have declined in the United States since 2005, new chemicals, many not yet illegal, are sold as “ecstasy” or “speed.” Thus, new chemicals and new international drug trafficking organizations could make stimulants and hallucinogen-type drugs far more available in the new decade.

Abstract of Findings

Since peaking in early 2007, cocaine consequences continued to decline during the first half of 2009. Heroin indicators declined in early 2009 following modest increases in the previous year. Deaths related to the nonmedical use of prescription opioids in the first half of 2009 increased across the State while declining in Broward County. Medical Examiner occurrences of the 2 benzodiazepines, alprazolam (e.g. *Xanax*) and diazepam (e.g. *Valium*) declined during the first half of 2009 in Broward County but increased slightly statewide. Adolescent marijuana use is trending upward as perceived risks about it are declining according to the most recent Florida and national school surveys. MDMA is found in-combination with 1-benzylpiperazine (*BZP*) and methamphetamine as all three drugs have been detected in ecstasy tablets. Emerging issues include (1) the relationship of declining cocaine indicators to lower purity of the drug coming from South American and increasing reports of contaminants found in it like levamisole, and (2) the *expansion phase* of an *opiate epidemic* may be underway as nonmedical use of prescription opioids among those dying from heroin is observed in medical examiner reports.

Updated Drug Abuse Trends and Emerging Patterns: Crack/Powder Cocaine – Cocaine-related deaths declined 42-percent in Broward County and 1-percent across the State between the last half of 2008 and the first half of 2009. It was considered to be the cause of death in half of the Broward cases (27 of 55) and a third of cocaine medi-

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cal examiner reports for all of Florida (236 of 724). Cocaine accounted for 5,560 reports in the Broward 2008 Drug Abuse Warning Network (DAWN) emergency department (ED) Final Estimates. The proportion of cocaine preliminary ED reports among 8 key substances declined from 30 percent in the first half of 2008 to 22 percent in the first half of 2009. Polysubstance use is linked to a majority of cocaine consequences. Levamisole and other adulterants are reported in more than half of cocaine toxicology reports. **Heroin:** Deaths in which heroin was detected increased 22-percent statewide but declined 55-percent in Broward County during the first half of 2009 compared to the previous 6 months. At least one or more prescription opioid was also detected in 53 percent of local heroin deaths during 2008, indicating concurrent heroin and opioid use. Heroin consequences are more prevalent in neighboring Miami-Dade County than elsewhere in Florida. **Other Opiates/Narcotics:** Broward County and most of the State have higher numbers and per capita rates of nonmedical prescription opioid consequences than Miami-Dade County. Opioid-related deaths declined during the first half of 2009 with 159 occurrences of opioids identified among deceased persons in Broward during the first half of 2009. Half of the nation's top 50 dispensing physicians of oxycodone (*e.g. Percocet, OxyContin, or Roxicodone*) were located in Broward County during the six months from October 2008 to March 2009. In that six-month period, the 25 Broward "pill mill" physicians dispensed directly from their offices 5¹/₄ million dose units (pills) of oxycodone. **Benzodiazepines:** Alprazolam continues as the most frequently cited benzodiazepine observed in most abuse indicators followed by clonazepam (*i.e., Klonopin*). There were 158 occurrences of either alprazolam or diazepam identified among deceased persons in Broward during the first

half of 2009, a 37-percent decrease over the numbers for the second half of 2008. ED reports for nonmedical benzodiazepine misuse remained stable in the first half of 2009. **Marijuana:** Indicators of marijuana consequences remain stable and high, ranking first in primary treatment admissions (including alcohol). Marijuana accounted for 2,928 ED reports in the Broward 2008 DAWN Final Estimates. The 2009 Florida Youth Substance Abuse Survey reported increases in past 30-day use of marijuana for 8th and 12th graders statewide, reversing what had been a declining trend over the past decade. These state findings paralleled the national results of the 2009 Monitoring the Future Survey that revealed use has increased as beliefs about the perceived harmfulness of using marijuana regularly has declined about 5 percentage points since 2000 for 8th, 10th, and 12th grade levels. **Methamphetamine:** Consequences of methamphetamine abuse remain low with less than one percent of preliminary ED reports. However, those reports doubled in Broward County from 8 to 17 between the second half of 2008 and the first half of 2009. Statewide, methamphetamine-related deaths decreased 29-percent from 55 in the last half of 2008 to 39 in the first half of 2009. **MDMA (ecstasy):** Methamphetamine and BZP continue to be detected in ecstasy tablets. Statewide, MDMA-related deaths decreased 45-percent from 22 in the last half of 2008 to 12 during the first half of 2009. **Emerging Patterns:** (1) The continued decline of cocaine consequences may be related to declining purity of the drug as trafficked from Colombia. Increasing samples of cocaine adulterated before reaching the United States with levamisole illustrates declining cocaine purity. (2) Toxicology reports of opioid use among heroin decedents suggest the prescription drug misuse problem may be escalating as an *Opiate Epidemic*. (3) Most drug deaths are preventable with early interventions.

INTRODUCTION

This report was prepared in January 2010 and reviews data from the first half of 2009 with short-term trends from the previous semi-annual reporting period about drug-related deaths, medical emergencies, addiction treatment admissions, and law enforcement intelligence. Information is presented by primary substance of abuse, with topics including cocaine, heroin, prescription narcotic opioids, methamphetamine, marijuana, gamma hydroxybutyrate (GHB), 3,4 methylenedioxymethamphetamine (MDMA or “ecstasy”), benzodiazepines, and muscle relaxants. While the information is classified by a single drug or category, the reader should note an underlying problem of polysubstance abuse as mentioned throughout this report. Exhibits for the report follow the narrative text.

Area Description

Located in the extreme southern portion of the Florida peninsula, Broward County, situated in southeast Florida, is composed of Ft. Lauderdale plus 28 other municipalities and an unincorporated area. The County covers 1,197 square miles, including 25 miles of coastline. According to 2008 census estimates, the population was 1,751,234. The population is roughly 48 percent White non-Hispanic, 25 percent Black non-Hispanic, 23 percent Hispanic, and 3 percent Asian/Pacific Islanders. One-fourth of the county’s population is foreign born. Broward County is the second most populated county in Florida after Miami-Dade County and accounts for almost 10 percent of Florida’s population.

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

- 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.

- South Florida is a designated High Intensity Drug Trafficking Area and one of the Nation’s leading cocaine importation centers. It also remains a gateway for Colombian heroin since the 1990s.
- Extensive coastline and numerous private air and sea vessels make it difficult to pinpoint drug importation routes into Florida and throughout the Caribbean region.
- Lack of a prescription monitoring system in Florida in the time periods covered by this report made the State a source for diverted medications in the eastern United States. A prescription monitoring system was enacted in July 2009 and is expected to be operational by December 2010.

Data Sources

This report describes current drug abuse trends in Broward County, using the data sources summarized below:

- **Drug-related mortality data** were provided by the Florida Department of Law Enforcement (FDLE) Medical Examiners Commission’s *2009 Interim Report of Drugs Identified in Deceased Persons between January and June 2009*.
- **Emergency Department (ED) data** were derived for Broward County from the Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration (SAMHSA). The data represent drug reports involved in drug-related visits for illicit drugs (derived from the category of “major substances of abuse,” excluding alcohol) and the nonmedical use of selected prescription drugs (derived

from the category of “other substances”). Drug reports exceed the number of ED visits because a patient may report use of multiple drugs (up to six drugs plus alcohol). Unweighted, preliminary Broward County ED data for the first half of 2009 are from the DAWN *Live!* restricted-access online query system administered by the Office of Applied Studies (OAS), SAMHSA. Eligible hospitals in only the Ft. Lauderdale Division totaled 27; hospitals in the DAWN sample numbered 21, with the number of EDs in the sample also totaling 21. (Some hospitals have more than one emergency department.) During January to June 2009, nine EDs reported data each month. The completeness of data reported by participating EDs varied by month (exhibit 1). Exhibits in this paper for the first half of 2009 Broward County data reflect cases that were received by DAWN as of December 22, 2009. Based on the DAWN *Live!* reviews, cases may be corrected or deleted; thus, the unweighted data presented in this paper are subject to change. Data derived from DAWN *Live!* represent drug reports in drug-related ED visits. The DAWN *Live!* data are unweighted and, thus, are not estimates for the reporting area. DAWN *Live!* data cannot be compared to DAWN data from 2002 and before, nor can preliminary data be used for comparison with future data. Only weighted DAWN data released by SAMHSA can be used for trend analysis as provided. Weighted DAWN data for calendar year 2008 are included in this report and provide estimates of the total number of drug-related ED visits for selected substances for all of Broward County in that year. A full description of the system can be found on the DAWN Web site <<http://dawninfo.samhsa.gov>>.

- **Drug treatment data** on primary admissions to all publicly-funded addiction treatment programs in Broward County during the first half of 2009 were provided by the Florida Department of Children and Families.
- **Crime lab drug analyses data** were derived from the Drug Enforcement Administration’s (DEA’s) National Forensic Laboratory Information System (NFLIS) Report for Broward, Miami-Dade, and Palm Beach Counties from January through June 2009.
- **Drug pricing data** for South Florida were derived from the National Drug Intelligence Center (NDIC), *National Illicit Drug Prices*, June 2009.
- **Heroin price and purity information** is from the U.S. Drug Enforcement Administration (DEA) Domestic Monitor Program (DMP).
- **Data on the prevalence of substance use by middle and high school students (1)** in Broward County and all of Florida are respectfully from the 2008 and 2009 Florida Department of Children and Families’ Florida Youth Substance Abuse Surveys, and (2) for the nation from the National Institute on Drug Abuse’s Monitoring the Future Survey.

Other information on drug use patterns was derived from ethnographic research and callers to local drug information hotlines as well as the United Way of Broward County Commission on Substance Abuse’s Emerging Issues Task Force.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Declines in indicators of cocaine abuse in Broward County began in the first half of 2008 and has continued through 2009. Declines in the purity of retail cocaine may explain reduced consequences in the past two year. As wholesale kilo prices increase, cocaine traffickers are adding more adulterants or “cuts” at processing sites in Colombia reducing street purity in the United States. Declines in consequences of cocaine use have also been observed nationwide since 2007. The rise in US wholesale cocaine prices is attributed to a shift in global trafficking patterns as more cocaine from Colombia is directed to a higher profit European market in part due to a decline in the value of the US dollar compared to the Euro.

Yet, South Florida’s cocaine epidemic is still characterized by consequences that rank among the highest in the Nation. Cocaine abuse indicators had been rising since 2000 across the State but remained relatively stable in Broward County at high numbers through 2007. Even with recent declines, cocaine still dominates most consequences of drug abuse with 35 percent of drug-related deaths (among cocaine, heroin, and nonmedical use of prescription drugs), 22 percent of drug emergency department (ED) reports among 8 substance categories (including alcohol and nonmedical use of prescription drugs), 14 percent of all primary treatment admissions, and 62 percent of crime lab cases. The majority of cocaine deaths, medical emergencies, and addiction treatment reports are among those older than 35. Many of the indicators reflect cocaine use in combination with other drugs, including prescription opiates and benzodiazepines.

Throughout Florida, the number of *cocaine-related* deaths decreased 1.4-percent in the first half of 2009 as compared with the previous six months, continuing a downward trend since 2007. There were 724 cocaine-related deaths across Florida in the first half of 2009 as compared to 734 in the second half of 2008. The 2,179 cocaine-related deaths in all of 2007 were the highest number since the drug has been tracked beginning in the late 1980s. The number of cocaine deaths had increased 97-percent between 2001 and 2007; the key factor for that rise was a 105-percent increase of deaths with cocaine-in-combination with other drugs, particularly prescription medications. Among the 724 cocaine-related deaths in Florida during the first half of 2009, 79 percent of the cases involved cocaine-in-combination with at least one other drug.

In Florida, a drug is considered to be a cause of death and termed a *drug-induced death* if it is detected in an amount considered a lethal dose by the local medical examiner (ME). Among the 724 cocaine-related deaths statewide in the first half of 2009, 236 or 33 percent were considered to be *cocaine-induced*.

There were 55 deaths related to cocaine use in Broward County during the first six months of 2009, representing a 43-percent decrease over the 96 reported in the second half of 2008 (exhibit 2). Cocaine was detected at a lethal level in 49 percent of the cases in the first six months of 2009. Cocaine was found in combination with another drug in 89 percent of the cases (exhibit 3). None of the cocaine-related fatalities was younger than 18; 9 percent were age 18–25; 31 percent were 26–34; 40 percent were 35–50; and 20 percent were older than 50. Cocaine deaths in Broward County during the first half of 2009 ranked sixth among the 24 medical examiner districts in the State. Mi-

ami-Dade County ranked first with 84 deaths in which cocaine was detected.

Measures of drug-related medical consequences are from the DAWN system described in the Data Sources section on pages 3 and 4 above. DAWN *Live!* provides preliminary, unweighted data with the actual number of emergency department (ED) reports from a sample of 9 Broward County hospitals. These data are available within 6-12 weeks of the ED visits. Estimates for the total Broward population are published by the SAMHSA generally within 12-14 months.

The DAWN weighted estimate of 5,560 cocaine ED reports for Broward County during 2008 (exhibit 4) accounted for 40 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines).

During the first six months of 2009, unweighted data from DAWN *Live!* showed 980 cocaine reports from a sample of 9 Broward emergency departments EDs (exhibit 5). Cocaine was the second most frequently cited substance after the category of alcohol-in-combination with another drug in local DAWN *Live!* ED cases. Among 8 major substances of abuse, cocaine represented 22 percent of the unweighted ED reports in the first half of 2009, down from 27 percent in the second half of 2008 and 30 percent in the first half of 2008.

There were 265 primary admission for crack cocaine and an additional 66 for powder cocaine accounting for a total of 331 (or 14 percent) of the 2,313 primary treatment drug mentions (including alcohol) or 19 percent (excluding alcohol) from the Broward County treatment admissions reported by the Florida Department of Children and Families during the first half of 2009 (exhibit 6).

Cocaine continued to be the most commonly analyzed substance by the crime labs in Broward, Miami-Dade, and Palm Beach Counties. It accounted for 8,073 items, or 62 percent, of the 13,106 total samples tested during the first half of 2009. In all of 2008, cocaine accounted for 65 percent of all crime lab cases in the three counties.

Powder cocaine and crack continued to be reported as “widely available” throughout Florida. According to the National Drug Intelligence Center (NDIC), in South Florida powder cocaine sells for \$15,250–\$17,500 per kilogram wholesale, \$700–\$1,200 per ounce, and \$40–\$100 per gram retail. Crack cocaine sells for \$750 per ounce, \$20–\$75 per gram, and \$10 per “rock.”

The veterinary de-wormer, *Levamisole*, and other adulterants are reported in more than half of cocaine toxicology reports. Levamisole in cocaine has been linked to the serious infections and the blood disorder, agranulocytosis among cocaine and crack users in other parts of the United States and Canada.

Any lifetime use of cocaine among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 3.8 percent in Broward County and 5.5 percent in all of Florida. Results from the same survey for any current use of cocaine among high school students in the past 30 days were 1.2 percent in Broward and 1.6 percent Statewide.

The Opiates: Heroin and the Nonmedical Use of Prescription Opioids

In previous editions of this report, heroin and other opiates (narcotic analgesics) have been discussed separately. Trends over the past few years suggest that nonmedical prescription opioid use is occurring among heroin users. Thus, both illicit heroin and prescription opioids are linked in the expansion phase of a new Opiate Epidemic.

Deaths caused by heroin declined dramatically in Florida between 2001 and 2007 then increased both statewide and in Broward County in 2008 before declining again in the first half of 2009. Substantial increases in abuse and consequences of narcotic analgesic medications have occurred since 2000 and were previously linked to declining heroin problems. Increasing heroin consequences may also be attributed now to abusers of prescription opioids who are using heroin for their narcotic dependency. Poly-drug abuse patterns have facilitated first-time use of opiate drugs, including heroin. Most heroin ED patients and addiction treatment admissions continue to be among older, White males.

South American heroin has been entering the area over the past two decades. Kilo-level seizures and reports of Mexican Black Tar heroin have occurred in South Florida since 2008.

Throughout Florida, the number of *heroin-related* deaths increased 22-percent during the first half of 2009 as compared as compared to the previous six months, following two-years of increases since 2006. There were 61 heroin-related deaths across Florida from January to June 2009. Heroin continued to be the most lethal drug, with 87 percent ($n=53$) of heroin-related deaths in the first half of 2009 being caused by the drug. Polysubstance abuse was noted in 88 per-

cent of the heroin-related deaths statewide in the first half of 2009.

During the first six months of 2009 in Broward County heroin was found at a lethal dose level in 3 of the 4 deaths in which it was detected. Other drugs were detected in all of the cases (exhibit 3). None of the heroin-related fatalities was younger than 25 years and one (25 percent) was age 26–34, two (50 percent) were age 35–50, and one (25 percent) was older than 50. The 4 heroin-related deaths in Broward during the first half of 2009 reflect a 64-percent decrease over the 11 heroin deaths in the previous six months. Lethal heroin deaths peaked in Broward County in 2001 with 51 fatalities.

Deaths related to most prescription opioids increased across Florida in the first half of 2009 as compared to the previous semi-annual reporting period following steady increases since 2000. Between 2007 and 2008, reports in all of Florida related to the category of prescription opioids detected among deceased persons increased 8-percent, from 5,059 to 5,454, following a 15-percent rise between 2006 ($n=4,386$) and 2007. Reports of hydrocodone (*Vicodin*, *Lortab*), oxycodone (*OxyContin*, *Roxicodone*, *Percocet*), and methadone (*Dolophine*) identified among decedents have been tracked in Florida since 2000. Beginning in 2003, morphine (*MS Contin*, *Roxanol*), propoxyphene (*Darvon*), fentanyl (*Fentora*), hydromorphone (*Dilaudid*, *Palladone*), meperidine (*Demerol HCl*), tramadol (*Ultram*), and other opioids were included in the Florida Medical Examiners Commission's surveillance monitoring program. Deaths related to 5 prescription narcotics totaled 159 in Broward County, and 181 in Palm Beach County, and 81 in Miami-Dade County in the first half of 2009.

Across Florida, deaths related to oxycodone increased 14-percent between the second half of 2008 and the first half of 2009

($n=890$), and deaths related to hydromorphone ($n=116$) increased 15-percent. Methadone deaths increased 7-percent to 496 in the first half of 2009, hydrocodone deaths ($n=434$) increased 5-percent, and fentanyl deaths ($n=110$) increased 9-percent. The three most lethal prescription narcotics statewide were (1) methadone that caused 73 percent ($n=364$) of the deaths related to it, (2) oxycodone that was the cause of 56 percent ($n=499$) of its related deaths, and (3) fentanyl that caused 56 percent ($n=62$) of the deaths related to it.

Medical examiner occurrences in Florida for all opioid analgesics totaled 2,495 during the first half of 2009, compared with 1,923 alcohol medical examiner mentions. Most of the statewide opioid analgesics mentions were polydrug episodes, including 91 percent of the oxycodone ME cases, 89 percent of the hydrocodone ME cases, 88 percent of the methadone ME cases, 80 percent of morphine cases, and 77 percent of propoxyphene deaths.

Broward County recorded 89 oxycodone-related deaths during the first half of 2009 (exhibit 3), of which 75 percent were oxycodone induced. Most of these deaths (93 percent) involved oxycodone found in combination with at least one other drug. Broward County recorded 24 hydrocodone-related deaths during the first half of 2009, and 38 percent were hydrocodone induced. There were also 20 methadone-related deaths of which 60 percent were considered methadone induced. Broward also had 16 morphine-related deaths half of which were morphine induced. There were 10 propoxyphene-related deaths in Broward County of which 30 percent were considered to be a lethal dose. These 159 combined mentions represented a 31-percent decrease over the 231 such deaths in the second half of 2008.

A review of the 17 heroin related deaths in Broward County during 2008 revealed that more than half or 9 of the decedents also had at least one of 11 prescription opioids present at the time of death (exhibit 7). Such findings would suggest that concurrent or sequential use of heroin and opioid analgesics is occurring as an extremely high risk polysubstance pattern of the emerging Opiate Epidemic.

A 2008 study of 207 drug overdose deaths in Palm Beach County found that 85 percent had more than one drug present at the time of death. The study was conducted by Dr. Gary Martin of Lynn University and the Palm Beach County Sheriff's Office. The average decedent was a 39 year-old white, male with a high school diploma or a GED who died at home during sleep with others present who were aware of the fatal drug use and had recognized distress (exhibit 8). At least a third of the decedents had a history of substance abuse as well as drug-related arrests, some substance abuse and/or mental health treatment, and were under the care of a physician. Most had experienced a non-fatal drug overdose. The report identifies most drug overdose deaths are preventable, particularly with early intervention and public education.

The DAWN weighted estimate of 539 heroin ED reports for Broward County during 2008 (exhibit 4) accounted for 4 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines).

During the first half of 2009, unweighted DAWN *Live!* data for Broward County showed 143 heroin ED reports (exhibit 5). Among 8 major substances of abuse (including alcohol-in combination with another drug), heroin represented 3 percent of the ED reports.

The DAWN weighted estimate of 2,364 ED reports for nonmedical use of prescription opioids in Broward County during 2008 (exhibit 4) accounted for 17 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines). The Broward County per capita rate of 37.9 oxycodone ED reports per 100,000 population in 2008 was above the national rate of 34.6 such reports per 100,000 population.

Unweighted DAWN *Live!* data for Broward County show 752 opioid analgesic reports in the first half of 2009 (exhibit 5) as compared to 143 reports for heroin. Among the narcotic analgesic reports, 399 (or 53 percent) were oxycodone ED reports. The total also includes 71 methadone ED reports, 37 hydrocodone reports, 27 morphine reports, 21 hydromorphone reports, 10 fentanyl reports, 8 buprenorphine ED reports, and 170 unspecified opioid reports.

A comparison of opiate DAWN *Live!* ED reports for heroin and narcotic analgesics in Broward and Miami-Dade Counties during the first half of 2009 are contrasted in exhibit 9. Heroin accounts for 73 percent of opiate unweighted ED reports in Miami-Dade County. While in Broward County, prescription opioids accounted for 84 percent of opiate ED reports.

There were 47 primary admissions for heroin and 144 admissions for prescription opioids together accounting for 8.3 percent of the 2,313 primary treatment drug mentions (including alcohol) or 11 percent (excluding alcohol) from the Broward County treatment admissions reported by the Florida Department of Children and Families (exhibit 6).

Heroin accounted for 369 crime lab cases in Broward, Miami-Dade, and Palm Beach Counties during the first half of 2009. There were an additional 198 cases for oxycodone

and 4 other opioids. These 567 opiate cases accounted for 4 percent, of the 13,106 total samples tested. There were an additional 706 items identified as non-specified controlled substances many of which are presumed to also have been prescription opioids.

The most current data on heroin purity are for 2007 from the 2008 DEA Heroin Domestic Monitoring Program. In 2007, 33 qualified heroin samples were purchased in South Florida. Thirty-one samples were classified as South American heroin and ranged in purity from 5.2 to 60.5 percent pure, with an average purity of 18.1 percent. In South Florida, South American heroin cost an average of \$1.48 per milligram pure. From 2006 to 2007, the average purity for South American heroin in South Florida decreased by 6.3 percentage points and the average price dropped by \$0.27 per milligram pure. Two samples of Mexican heroin also were purchased, the first occurrence of this type for South Florida within the history of the program. The Mexican heroin samples had an average purity of 4 percent and cost of \$2.31 per pure milligram. According to NDIC, heroin prices at all levels in 2008 remained unchanged from those in 2007 with 1 kilogram of heroin selling for \$42,000–\$70,000 in the region and for \$1,800 per ounce; retail prices are roughly \$35–\$50 per gram. The most common street unit of heroin is a bag of heroin (roughly 15–20 percent purity) weighing about one-tenth of a gram that sells for \$10.

The 2008 Florida Youth Survey on Substance Abuse reported that 0.9 percent of Broward high school students had used heroin at least once in their lifetime, up from 0.4 percent in 2006. Heroin use in the past 30 days was reported by 0.4 percent of Broward high school students in the past 30 days in 2008, up from 0.2 percent in 2006.

The 2008 Florida Youth Survey on Substance Abuse reported that 6.2 percent of Broward high school students had used a prescription pain medication non-medically at least once in their lifetime, up from 5.2 percent in 2006. Non-medical use of a pain medication in the past 30 days was reported by 2.3 percent of Broward high school students in the past 30 days in 2008, stable with 2.2 percent in 2006.

Marijuana

Consequences of marijuana use and addiction continue as declines in its rates of use among youth since 2000 have halted and started to increase in recent state and national surveys. Marijuana is used by more Americans, particularly youth, than any other illicit drug.

Cannabinoids were detected in 418 deaths statewide in Florida during the first half of 2009, representing a 6-percent increase compared to the 396 such reports the previous six months.

The DAWN weighted estimate of 2,928 marijuana ED reports for Broward County during 2008 (exhibit 4) accounted for 21 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines).

Unweighted DAWN *Live!* data for Broward showed 652 marijuana reports in the first six months of 2009 (exhibit 5) from the 9 hospital sample. Among 8 major substances of abuse, marijuana represented 15 percent of the unweighted ED reports in the first half of 2009.

There were 833 primary admission for marijuana accounting for 36 percent of the 2,313 primary treatment drug mentions (including

alcohol) or 48 percent (excluding alcohol) from the Broward County treatment admissions reported by the Florida Department of Children and Families during the first half of 2009 (exhibit 6).

Marijuana continued to be the second most commonly analyzed substance by the crime labs in Broward, Miami-Dade, and Palm Beach Counties. It accounted for 2,477 items, or 19 percent, of the 13,106 total samples tested during the first half of 2009. In all of 2008, marijuana accounted for 17 percent of all crime lab cases in the three county area.

Marijuana is still described as widely available throughout Florida, with local commercial, sinsemilla, and hydroponic grades available. As of 2008 in South Florida, the cost for a pound of commercial grade marijuana was \$650. Hydroponic and sinsemilla grades sold for \$2,500–\$4,000 per pound (down from a range of \$3,500–\$4,000 in 2007). The ounce price for commercial grade marijuana continued to be \$100–\$150. Sinsemilla sold for \$400–\$500 per ounce. Depending on its potency, marijuana may sell for \$5–\$20 per gram.

The 2008 Florida Youth Survey on Substance Abuse reported that 27.9 percent of Broward County high school students had used marijuana at least once in their lifetime up from 24.8 percent in 2006. Among middle school students, 6.7 percent reported lifetime marijuana use in 2008, above the 4.9 percent in 2006. Marijuana use in the past 30 days was reported by 14 percent of Broward County high school students in 2008, up from 11.4 percent in 2006. Among middle school students, current past 30-day use was reported at 3.5 percent in 2008, up from the 2.5 percent in 2006. The 2008 survey found that 8.1 percent of Broward County high school students had use mari-

juana by the age 13 or younger, down from 9.4 percent in 2006.

Modest increases in marijuana use among national and Florida adolescents in 2009 reverse what had been a declining trend over the past decade. The 2009 Florida Youth Substance Abuse Survey (FYSAS) reported increases in any past 30-day use of marijuana for most middle and high school grades (exhibit 10). The 2009 Monitoring the Future (MTF) survey revealed a steady increase in past 30-day marijuana use among national 12th graders since 2006 and a one-year rise between 2008 and 2009 for 8th and 10th graders (exhibit 10). Use has increased as beliefs about the perceived harmfulness of using marijuana regularly has declined about 5 percentage points since 2000 for all 3 grade levels. Trends in the use of other drugs were declining or stable.

Methamphetamine

Nationally methamphetamine problems have diminished since the second half of 2006 as domestic production in clandestine labs has been significantly curtailed following laws controlling sales of pseudoephedrine, a key ingredient in the manufacture of methamphetamine. Yet, other methods of “cooking meth” could restart domestic production. A second factor in declining consequences of methamphetamine is the rising awareness of its harm.

Indicators of methamphetamine abuse remain at low levels. Most methamphetamine seen in South Florida is high-grade Mexican-manufactured “ice” trafficked from Atlanta. Mexican drug trafficking organizations are also supplying powdered methamphetamine directly to local Latino populations of Central and South American nationalities. As well, methamphetamine is now seen in “ecstasy”

tablets believed to be from Canada that may or may not also contain MDMA.

Methamphetamine-related deaths decreased 29-percent in Florida between the second half of 2008 (n=55) and first half of 2009 (n=39) Methamphetamine was considered the cause of death in 7 of the 39 cases (18 percent) from January to June 2009. There were also 60 amphetamine-related deaths in the first half of 2009 across Florida, a 17-percent decline compared to the previous six months. Amphetamine was considered the cause of death in 15 percent of the 60 cases from January to June 2009.

Unweighted data accessed from DAWN *Live!* reveal 17 methamphetamine-related ED reports during the first half of 2009 in Broward County (exhibit 5) up from 8 reports in the previous six months. There were also 24 amphetamine-related Broward ED reports during the first half of 2009 as compared to 28 in the second half of 2008.

There were 10 primary admission for methamphetamine accounting for 0.4 percent of the 2,313 primary treatment drug mentions (including alcohol) from the Broward County treatment admissions reported by the Florida Department of Children and Families during the first half of 2009 (exhibit 6).

Methamphetamine ranked as the tenth most commonly analyzed substance by the crime labs in Broward, Miami-Dade, and Palm Beach Counties. It accounted for 47 items or 0.3 percent of the 13,106 total samples tested during the first half of 2009. In all of 2008, methamphetamine accounted for 0.6 percent of all crime lab cases in the three counties.

In South Florida, methamphetamine has some of the highest prices in the Nation, at \$15,000–\$30,000 per pound for powder Mexican methamphetamine as of December 2008 and unchanged from 2007 with Mexi-

can ice continuing to sell for \$2,100 per ounce. Powered methamphetamine sells for \$200 per gram.

The 2008 Florida Youth Survey on Substance Abuse reported that 1 percent of Broward County high school students had used methamphetamine at least once in their lifetime, the same as in 2006. Use among middle school students was higher with 1.2 percent reporting lifetime methamphetamine use in 2008, down from 1.9 percent in 2006. Methamphetamine use in the past 30 days was reported by 0.5 percent of Broward County high school students in 2008, up from 0 percent in 2006. Current methamphetamine use among middle school students was 0.6 percent reporting past 30-day use in 2008, up from 0.3 percent in 2006. Prescription amphetamine use was higher than methamphetamine use with 3.2 percent of high school students reporting any lifetime use in 2008, up from 2.2 percent in 2006. Current, past 30-day prescription amphetamine use among Broward County high school students also rose from 0.4 percent in 2006 to 0.9 percent in 2008.

Methamphetamine abuse and related sexual activity have contributed to sharp increases in sexually transmitted diseases in South Florida, particularly among men who have sex with men (MSM). Local public health officials consider methamphetamine-related sexual behavior as a key factor in why South Florida ranks among the highest in the nation for per capita rates of HIV infection. A study conducted from 2004-2005 as part of the CDC-funded National HIV Behavioral Surveillance System found that among a South Florida sample of 946 men who have sex with men, 18% reported using crystal methamphetamine in the 12 months prior to their interview. This rate is among the highest reported among the different national sites of the study.

Methylenedioxymethamphetamine (MDMA, or “Ecstasy”)

Measures of MDMA abuse have stabilized at relative low numbers since 2006. Ecstasy pills generally contain 75–125 milligrams of MDMA, although pills are often adulterated and may contain other drugs being sold as “ecstasy.” Methamphetamine and the stimulant, BZP (1-Benzylpiperazine), are increasingly reported in “ecstasy” pills with or without MDMA.

There were 12 MDMA-related deaths statewide in Florida during the first six months of 2009, with the drug being cited as the cause of death in 3 of these cases. There were also 6 methylenedioxyamphetamine (MDA)-related deaths statewide in Florida during the same time period and 6 other methylated amphetamines identified in deceased persons. MDMA deaths decreased 45-percent and MDA deaths decreased 54-percent between the last six months of 2008 and the first half of 2009.

The DAWN weighted estimate of 220 MDMA ED reports for Broward County during 2008 (exhibit 4) accounted for 1.6 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines).

In the first half of 2009, unweighted DAWN *Live!* data revealed 63 MDMA reports in Broward County (exhibit 5) as compared to 43 in the previous six months.

The NFLIS reported that the Broward, Miami-Dade, and Palm Beach Counties’ Crime Labs analyzed 163 MDMA exhibits, representing 1.2 percent of all substances analyzed in the first half of 2009. There were also 87 items analyzed as BZP. In South Florida, ecstasy tablets sell for \$4–\$5 per tablet wholesale (in bulk) and \$15 retail for

a single pill. These prices have declined since 2006.

The 2008 Florida Youth Survey on Substance Abuse reported that 4.7 percent of Broward County high school students had used ecstasy at least once in their lifetime up from 2.8 percent in 2006. Ecstasy use in the past 30 days was reported by 1.6 percent of Broward County high school students in 2008, up from 1.2 percent in 2006.

Gamma Hydroxybutyrate (GHB)

Abuse of the anesthetic GHB has declined significantly in recent years. There are several compounds that are converted by the body to GHB, including gamma butyrolactone (GBL) and 1,4 butanediol (1,4 BD). Over the past few years, GHB abuse involves the abuse of 1,4 BD. Commonly used with alcohol, these substances have been implicated in drug-facilitated rapes and other crimes. GHB was declared a federally controlled Schedule I drug in March 2000, and indicators of its abuse have declined since that time. More recently, GHB and its related substances are reported to be used by those seeking to come down from stimulant effects of methamphetamine.

There were two GHB-related death statewide during the first half of 2009 and the drug was considered the cause of death in one of those cases. There were 3 GHB-related deaths statewide in 2008, 5 in 2007; 4 in 2006; and 9 deaths in 2005. In all of Florida, GHB-related deaths increased from 23 in 2000 to 28 in 2001 and then declined to 19 in 2002 before declining to 11 in 2003 and 2004.

Unweighted data accessed from DAWN Live! for Broward County reveal 13 GHB-related ED reports in the first half of 2009, up from 10 in the second half of 2008.

The NFLIS reported there were 6 cases of 1,4 BD analyzed by the crime labs in the 3 South Florida counties in the first half of 2009, and 2 GBL cases.

The 2008 Florida Youth Survey on Substance Abuse reported that 0.4 percent of Broward high school students had used GHB at least once in their lifetime, the same percent who also reported GHB use in the past 30 days.

Nonmedical Use of Prescription Benzodiazepines

Benzodiazepines in general and alprazolam (*Xanax*) in particular are a substantial problem. There were 2,148 reports of a benzodiazepine present in deceased persons across Florida during the first half of 2009, representing a 5-percent increase over the 2,043 such cases in the previous six months. Of the benzodiazepine occurrences in the first half of 2009, a benzodiazepine was identified as causing 470 deaths (28 percent) with a total of 566 lethal benzodiazepine occurrences. Among the benzodiazepine medical examiner reports statewide, 942 were attributed to alprazolam and 453 were attributed to diazepam (*Valium*) with 37 percent of the alprazolam occurrences and 25 percent of the diazepam reports considered lethal doses.

In Broward County, there were 106 alprazolam-related deaths during the first half of 2009, of which 58 percent were alprazolam-induced. Ninety-two percent of the deaths involved at least one other drug (exhibit 3). There were also 52 diazepam-related deaths in Broward County; 44 percent were caused by the drug; 88 percent of these deaths involved at least 1 other drug. These 158 combined mentions for alprazolam or diazepam represented a 37-percent decrease over the 250 such deaths in the previous six months. One (or 0.6 percent) of the combined mentions in the first half of 2009 involved a per-

son younger than 18; 8 percent of the decedents were between 18 and 25, 17 percent were age 26–34, 37 percent were age 35–50, and 37 percent were older than 50.

The DAWN weighted estimate of 2,274 ED reports for nonmedical use of prescription benzodiazepine in Broward County during 2008 (exhibit 4) accounted for 16 percent of all ED reports among 6 substances (4 illicit drugs [cocaine, marijuana, heroin, MDMA] and nonmedical use of prescription opioids and benzodiazepines).

Unweighted DAWN *Live!* data for Broward County show 693 nonmedical benzodiazepine reports (exhibit 5) in the first half of 2009. Non-medical reports include those for overmedication, malicious poisoning, and “other case types”. Generally, “other case types” are considered intentional substance abuse. Of the total 693 reports, 29 percent did not identify the specific benzodiazepine. Among the 489 reports where the drug was named, 378 (or 77 percent) were alprazolam ED reports. The total also includes 40 clonazepam (*Klonopin*) reports, 32 lorazepam (*Ativan*), 26 diazepam reports, and 12 temazepam (*Restoril*).

There were 17 primary admissions for benzodiazepines reported from Broward County treatment admissions provided by the Florida Department of Children and Families during the first half of 2009.

The NFLIS reported 315 benzodiazepine exhibits (or 2.7 percent of all items tested) during the first half of 2009 in Broward, Mi-

ami-Dade, and Palm Beach Counties, including 284 alprazolam items, 16 diazepam samples, 10 clonazepam items, and 2 other benzodiazepines.

The 2008 Florida Youth Survey on Substance Abuse found that 2.1 percent of Broward County high school students and 0.5 percent of middle school students reported nonmedical use of a “prescription depressant (e.g., *Xanax*)” at least once in the past 30 days. The 2008 combined prevalence for all Broward County students was 1.4 percent down from 1.6 percent reported in 2006.

Muscle Relaxants

Muscle relaxants may be abused in combination with MDMA and other drugs. There were 245 deaths related to carisoprodol or meprobamate across Florida in the first half of 2009, of which 45 (or 18 percent) were considered to be caused by the drug. The number of these deaths increased by 33-percent as compared to the 184 such deaths in the previous six months.

Unweighted DAWN *Live!* data for Broward County in the first half of 2009 show 92 reports on nonmedical use of muscle relaxants. Carisoprodol was specifically cited in 85 percent of the reports.

Exhibit 1 DAWN ED Ft.Lauderdale Division Sample and Reporting Information: January – June 2009

Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
			90–100%	50–89%	<50%	
27	21	21	6	1-2	1-2	12

¹ Short-term, general, non-Federal hospitals with 24-hour emergency departments based on the American Hospital Association Annual Survey.

² Some hospitals have more than one emergency department.

SOURCE: DAWN *Live!*, OAS, SAMHSA, updated December 22, 2009

Exhibit 2 Number of Cocaine Reports Detected among Decedents in South Florida: 1991-2009

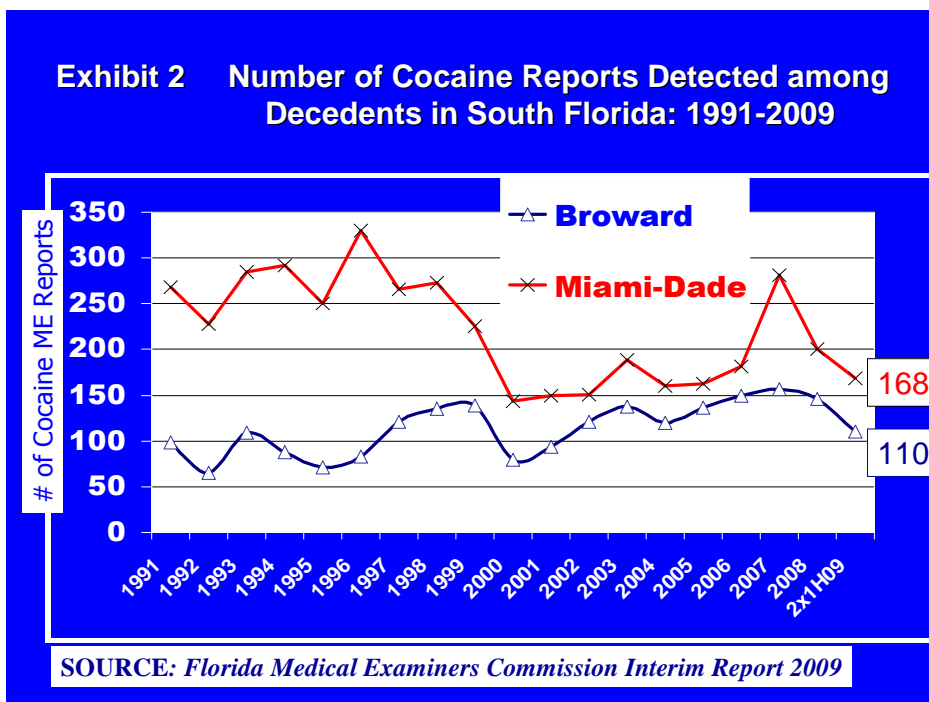
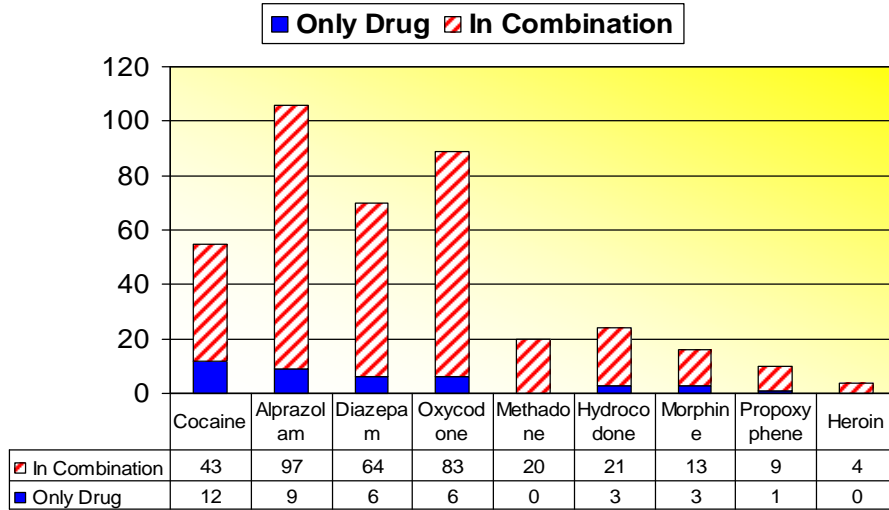
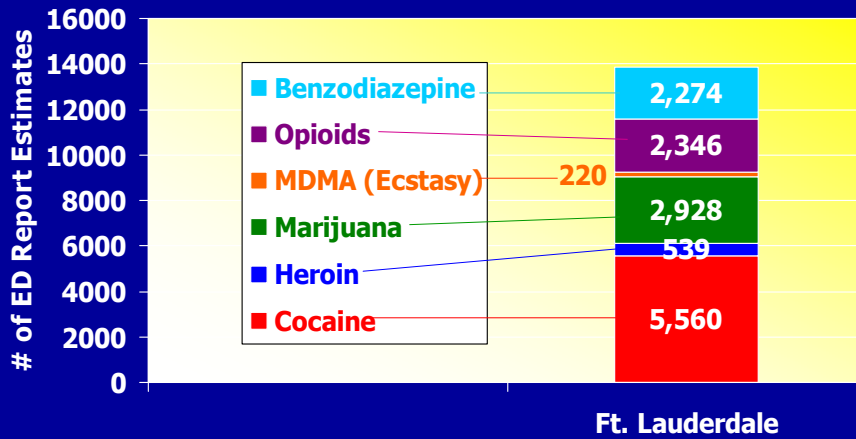


Exhibit 3 Number Drugs Detected Among Broward County Decedents By Single Drug or In-Combination Jan – Jun 2009



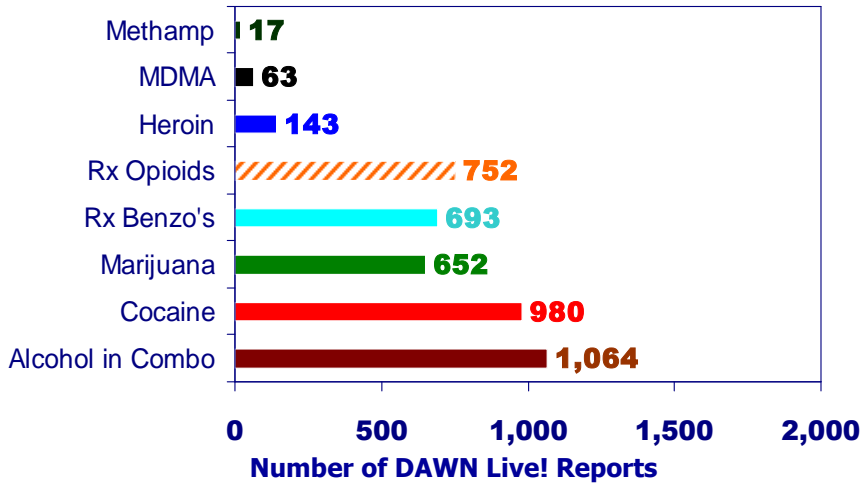
SOURCE: FDLE Florida Medical Examiners Commission Interim Report 2009

Exhibit 4 Number of DAWN Weighted Estimate ED Reports by Drug in Broward County: 2008



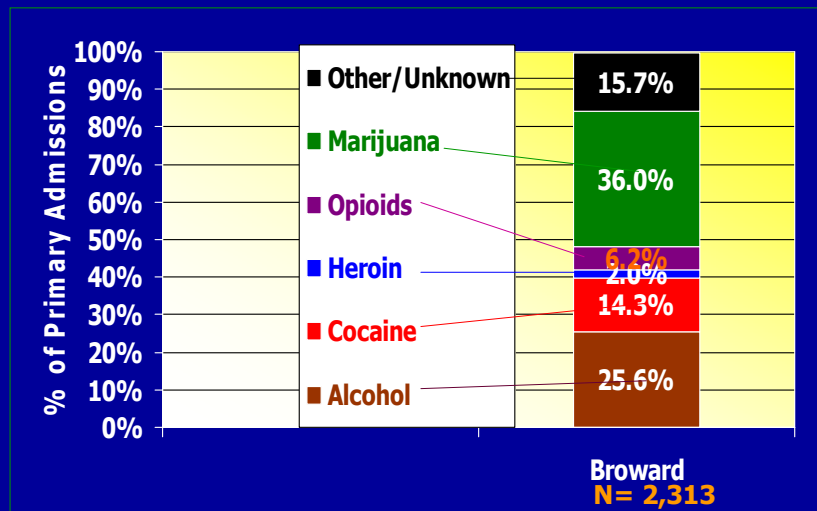
SOURCE: SAMHSA-OAS Dawn Estimates 2008 September 6, 2009

Exhibit 5 Numbers of DAWN ED Unweighted¹ Reports for Selected Drugs in Broward County, FL: Jan. – June 2009



¹ The unweighted data are from 9 Ft. Lauderdale EDs reporting to DAWN 2009. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.
 SOURCE: Miami – Ft. Lauderdale Division EDs DAWN Live!, OAS, SAMHSA, updated December 22, 2009

Exhibit 6 Percent of Public Substance Abuse Primary Treatment Admission by Selected Drug (including Alcohol) in Broward County, FL: Jan-Jun 2009



SOURCE: Florida Department of Children and Families

Exhibit 7 Percent & Number of Heroin-Related Deaths with at least one Rx Opioid Present in Broward County: 2008

17 Heroin-Related Deaths in Broward County during 2008

- **76 % (13 of 17) - Heroin Considered a Cause of Death**
- **53 % (9 of 17) - Also Had at least 1 Rx Opioid Present**
- **With a total of 11 Rx Opioids Detected:**
 - 3 Oxycodone**
 - 3 Propoxyphene**
 - 3 Morphine**
 - 2 Codeine****of which 6 Rx Opioids also considered a Cause of Death**

SOURCE: Analysis of Florida Medical Examiners Commission data By Center for the Study and Prevention of Substance Abuse, Nova Southeastern University

Exhibit 8 Drug Overdose Death Risk Profile*

Demographic Indicators:

- White
- Male
- Approximately 39 years old
- High School Diploma or GED
- Employed

Static Indicators:

- History of substance abuse
- History of drug related arrests
- History of addiction treatment
- History of mental health treatment
- History of non fatal drug overdose
- Under a physician's care

Circumstantial Indicators:

- Died at home
- Discovered by family member
- Last act = sleeping
- Found unconscious
- Others present at death scene
- Others aware of fatal drug use
- Others recognized distress
- Died from accidental multiple drug toxicity
- Most likely combinations = (alprazolam, oxycodone, cocaine, methadone)

* The above profile is derived from variables present in at least one third (33.3%) of the 207 closed, overdose death cases in Palm Beach County.

SOURCE: Palm Beach County Sheriff's Office and Lynn University 2008

Exhibit 9 Percent of ED Reports for Heroin & Rx Opioids Among all Opiates in South Florida: Jan. – Jun 2009

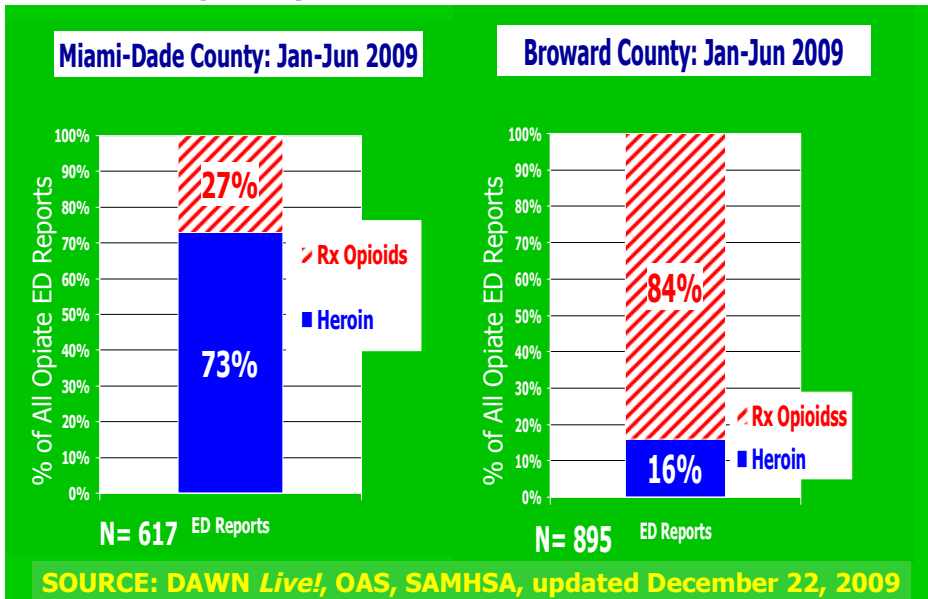
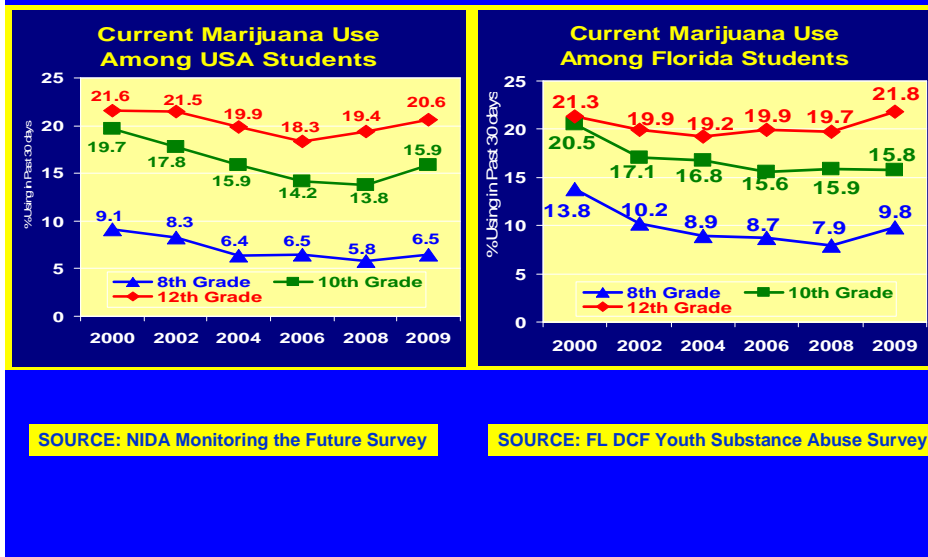


Exhibit 10 Percent of Past 30-day Marijuana Use by Grade Level in USA & Florida: 2000-2009



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