

EPIDEMIOLOGIC TRENDS IN DRUG ABUSE

Proceedings of the Community
Epidemiology Work Group

Volume II

June 2011

U.S. Department of Health and Human Services
National Institutes of Health

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
Division of Epidemiology, Services and Prevention Research
National Institute on Drug Abuse
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Bethesda, Maryland 20892

The National Institute on Drug Abuse (NIDA) acknowledges the contributions made by the representatives of the Community Epidemiology Work Group (CEWG), who prepare the reports presented at the semiannual meetings, and representatives from other agencies who contribute data and technical knowledge. Appreciation is extended also to other participating researchers and Federal officials who contributed information. This publication was prepared by Social Solutions International, Inc., under contract number HHSN-2712007-000003C from the National Institute on Drug Abuse.

This publication, *Epidemiologic Trends in Drug Abuse, Volume II*, contains the individual reports presented and data prepared for the June 2011 meeting by representatives from 20 areas in the United States. This publication also includes reports presented by researchers from Canada and New Zealand. Abstracts from local presenters in the Seattle area are also included.

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Foreword

This publication includes reports presented and data prepared for the 70th semiannual meeting of the National Institute on Drug Abuse (NIDA) Community Epidemiology Work Group (CEWG) held in Seattle, Washington, on June 8–10, 2010. The CEWG is a network of researchers from sentinel sites throughout the United States. It meets semiannually to provide ongoing community-level public health surveillance of drug abuse through presentation and discussion of quantitative and qualitative data. CEWG representatives access multiple sources of existing data from their local areas to report on drug abuse patterns and consequences in their areas and to provide an alert to potentially emerging new issues. Local area data are supplemented, as possible, with data available from federally supported projects, such as the Substance Abuse and Mental Health Services Administration (SAMHSA) Drug Abuse Warning Network (DAWN), Drug Enforcement Administration (DEA) National Forensic Laboratory Information System (NFLIS), the Arrestee Drug Abuse Monitoring (ADAM II) program, and the DEA Heroin Domestic Monitor Program (HDMP). This descriptive and analytic information is used to inform the health and scientific communities and the general public about the current nature and patterns of drug abuse, emerging trends, and consequences of drug abuse.

The CEWG convenes twice yearly, in January and June. For the June meetings, CEWG representatives prepare full reports on drug abuse patterns and trends in their areas. After the meeting, the *Proceedings of the Community Epidemiology Work Group* is published in two volumes: a Highlights and Executive Summary Report (Volume I) and this volume, which includes the full CEWG area reports and international reports. The majority of the June 2011 meeting was devoted to the CEWG area reports and presentations. CEWG area representatives presented data on local drug abuse patterns and trends. Presentations on drug abuse patterns and issues were also provided by guest researchers from Canada and New Zealand. Other highlights of the meeting included presentations by DEA representatives Cassandra Prioleau, Ph.D., and Artisha Polk, M.P.H., on NFLIS and emerging drugs of concern and drug scheduling issues; an update from the Office of National Drug Control Policy on the ADAM II data system by M. Fe Caces, Ph.D.; and a methodology discussion on DAWN data from Albert Woodward, Ph.D., M.B.A. Presentations from the Seattle area included: “Drug Availability and Trafficking in the Northwest,” by Steve Freng, Psy.D., M.S.W., the Prevention and Treatment Manager with the Northwest High Intensity Drug Trafficking Area in Seattle; “Heroin and Pharmaceutical Opiate Use Over Time Across Washington State,” by Caleb Banta-Green, Ph.D., M.P.H., M.S.W., the CEWG area representative from Seattle; “Heroin and Pharmaceutical Opiate Use Over Time Across Washington State,” by William Luchansky, Ph.D., Vice President of Looking Glass Analytics in Olympia, Washington; “Training Physicians to Provide Opioid Abuse Treatment with Suboxone®,” by Joseph Merrill, M.D., M.P.H., Clinical Assistant Professor Medicine at the University of Washington School of Medicine; “Heroin Injecting in Seattle—Overdose and Femoral Injecting,” by Phillip Coffin, M.D., M.I.A., Senior Fellow in Infectious Diseases, Division of Allergy and Infectious Diseases at the University of Washington; “The Role of Epidemiology in Identifying Areas in Need of Drug Treatment Services (and Population Outcomes of Service Enhancement),” by Ron Jackson, M.S.W., Executive Director of Evergreen Treatment Services and Affiliate Professor in the School of Social Work at the University of Washington; and “Individuals Transitioning From Pharmaceutical Opiates to Heroin in Three West Coast Cities,” by Michelle Peavy, Ph.D., CTN Scholar, Alcohol and Drug Abuse Institute, the University of Washington.

The information published after each CEWG meeting represents findings from CEWG area representatives across the Nation, which are supplemented by national data and by special presentations at each meeting. The information is intended to alert authorities at the local, State, regional, and national levels, and the general public, to current conditions and potential problems so that appropriate and timely action can be taken. Researchers also use information to develop research hypotheses that might explain social, behavioral, and biological issues related to drug abuse.

Moira P. O'Brien

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National Institutes of Health
Department of Health and Human Services

Introduction

The CEWG Network: Roles, Functions, and Data Sources

The 70th semiannual meeting of the Community Epidemiology Work Group (CEWG) was held on June 8–10, 2011, in Seattle, Washington. During the meeting, researchers from 20 geographically dispersed areas in the United States reported on current trends and emerging issues in their areas. In addition to the information provided for 18 sentinel areas that have contributed to the network for many years, and two additional areas (Colorado and Broward County, Florida in the Miami Metropolitan Statistical Area), guest researchers from Cincinnati and Maine provided data from their respective areas. International representatives from Canada and New Zealand reported on drug trends and issues in their respective countries.

The CEWG Network

The CEWG is a unique epidemiology network that has functioned since 1976 as a drug abuse surveillance system to identify and assess current and emerging drug abuse patterns, trends, and issues, using multiple sources of information. Each source provides information about the abuse of particular drugs, drug-using populations, and/or different facets of the behaviors and outcomes related to drug abuse. The information obtained from each source is considered a drug abuse *indicator*. Typically, indicators do not provide estimates of the number (prevalence) of drug abusers at any given time or the rate at which drug-abusing populations may be increasing or decreasing in size. However, indicators do help to characterize drug abuse trends and different types of drug abusers (such as those who have been treated in hospital emergency departments, admitted to drug treatment programs, or died with drugs found in their bodies). Data on items submitted for forensic chemical analysis serve as indicators of availability of different substances and engagement of law enforcement at the local level, and data such as drug price and purity are indicators of availability, accessibility, and potency of specific drugs. Drug abuse indicators are examined over time to monitor the nature and extent of drug abuse and associated problems within and across



geographic areas. The CEWG areas on which presentations were made at the June 2011 meeting are depicted in the map below, with one area presentation including data on Baltimore, Maryland, and Washington, DC.

CEWG Meetings

The CEWG convenes semiannually; these meetings continue to be a major and distinguishing feature of the workgroup. CEWG representatives and guest researchers present information on drug abuse patterns and trends in their areas, and personnel from Federal agencies provide updates of data sets used by the CEWG. In addition, time is set aside for question-and-answer periods and discussion sessions. The meetings provide a foundation for continuity in the monitoring and surveillance of current and emerging drug problems and related health and social consequences. Through the meetings, the CEWG accomplishes the following:

- Dissemination of the most up-to-date information on drug abuse patterns and trends in each CEWG area
- Identification of changing drug abuse patterns and trends within and across CEWG areas

At the semiannual meetings, CEWG representatives address issues identified in prior meetings and, subsequently, identify drug abuse issues for followup in the future. In addition to CEWG area presentations, time at each meeting is devoted to presentations by invited speakers. These special sessions typically focus on the following:

- Presentations by researchers in the CEWG host city
- Updates by Federal personnel on key data sets used by CEWG representatives
- Drug abuse patterns and trends in other countries

Identification of changing drug abuse patterns is part of the discussions at each CEWG meeting. Through this process, CEWG representatives can alert one another to the emergence of a potentially new drug of abuse. The CEWG is uniquely positioned to bring crucial perspectives to bear on urgent drug abuse issues in a timely fashion and to illuminate their various facets within the local context through its semiannual meetings and post-meeting communications.

Data Sources

To assess drug abuse patterns and trends, city- and State-specific data were compiled from a variety of health and other drug abuse indicator sources. Such sources include public health agencies; medical and treatment facilities; ethnographic research; key informant discussions; criminal justice, correctional, and other law enforcement agencies; surveys; and other sources unique to local areas.

Availability of data varies by area, so reporting varies by area. Examples of data reviewed by CEWG representatives to derive drug abuse indicators include, but are not limited to, the following:

- Admissions to drug abuse treatment programs by primary substance of abuse or primary reason for treatment admission reported by clients at admission

- Drug-related emergency department (ED) reports of drugs mentioned in ED records in the Drug Abuse Warning Network (DAWN) *Live!* data system, along with weighted estimates from the DAWN system
- Seizure, average price, average purity, and related data obtained from the Drug Enforcement Agency (DEA) and from State and local law enforcement agencies
- Drug-related deaths reported by medical examiner (ME) or local coroner offices or State public health agencies
- Arrestee urinalysis results and other toxicology data
- Surveys of drug use
- Poison control center data
- Other data sources cited in this report were local data accessed and analyzed by CEWG representatives. The sources included local law enforcement (e.g., data on drug arrests, impaired driver data); local DEA offices; High Intensity Drug Trafficking Area (HIDTA) reports; help lines; local and State surveys; information from prescription drug monitoring programs; and key informants and ethnographers.

**EPIDEMIOLOGY
OF
DRUG
ABUSE:**

**CEWG
AREA
REPORTS**

Patterns and Trends of Drug Use in Atlanta: 2010

Lara DePadilla, Ph.D., and Mary Wolfe, M.P.H.¹

ABSTRACT

Cocaine indicators continued to decline in the Atlanta Metropolitan Statistical Area (MSA) in 2010, according to multiple data sources. Despite this, cocaine persisted as the drug most frequently seized and identified by National Forensic Laboratory Information System (NFLIS) laboratories in the Atlanta area in 2010. However, the absolute number of drugs seized and identified as cocaine represented a decrease from 2009. Treatment admissions indicated that Atlanta's primary cocaine treatment admissions continued to be predominantly African-American and older than 35. A greater proportion of males were admitted to treatment for powder cocaine, and a greater proportion of females were admitted to treatment for crack cocaine in 2010. The State Medical Examiner (ME)'s office reported a slight decrease in the number of deaths involving cocaine (identified in toxicology reports of postmortem results) in fiscal year (FY) 2011, compared with FY 2010. According to the Arrestee Drug Abuse Monitoring (ADAM) II data for the city of Atlanta, self-reported cocaine use and treatment receipt were down for both powder and crack cocaine, as was the percentage of male arrestees testing positive for cocaine. Treatment admissions for marijuana (24.0 percent) were stable, making marijuana the illicit drug for which persons in Atlanta were admitted to treatment most often in 2010. Indicators were stable with regard to methamphetamine, compared with recent time periods. Treatment admissions for methamphetamine remained predominantly female and White, and the proportion of all treatment admissions (6.7 percent) was only 0.6 percent higher in 2010 than in 2009. Methamphetamine treatment admission proportions constituted approximately one-fifth of treatment admissions for illicit substances in eight counties in 2010, similar to 2009. However, two of the counties were adjacent to the metropolitan area counties, in contrast with 2009, when higher proportions of methamphetamine treatment admissions were found at the periphery of the Atlanta MSA. The State ME's office reported a slight decrease in deaths involving methamphetamine in FY 2011, compared with FY 2010, while the Fulton County ME reported a slight increase. Heroin indicators, including treatment admissions, were mostly stable. Self-reported drug use and treatment receipt, however, indicated a decrease among male arrestees. Fulton County ME reports of deaths involving heroin were stable. Alprazolam remained the most frequently reported benzodiazepine in the Atlanta area. Primary benzodiazepine treatment admissions showed a very slight increase to 1.9 percent in 2010, compared with 1.2 percent in 2009. There was a decrease in the number of drug items seized and identified as alprazolam by NFLIS laboratories from 2009 to 2010. However, State ME data indicated an increase in the number of deaths in which alprazolam was present in FY 2010. Treatment admissions for oxycodone constituted a small percentage of overall admissions, like alprazolam, but represented a higher percentage than alprazolam in 2010. Oxycodone admissions have shown steady increases since 2007. NFLIS

¹The authors are affiliated with Emory University.

and State ME data also indicated increases for oxycodone in the 2010 reporting period. In contrast, there was a decrease in the number of items seized and identified as hydrocodone by NFLIS laboratories, while the State ME's office reported a stable number of deaths, compared with the previous year. Proportions of prescription opiate treatment admissions constituted more than one-fifth of all illicit treatment admissions in counties outside the center of the MSA, and such admissions were also present in two counties closer to the metropolitan area. MDMA (3,4-methylenedioxymethamphetamine) accounted for a relatively small percentage of treatment admissions and has continued to decline. Indicators for MDMA also appeared to be decreasing as shown by the State ME office and NFLIS data. The number of drug items seized and identified by NFLIS laboratories as BZP (1-benzylpiperazine) were stable from 2008 to 2009, but doubled in 2010, while the number of drug items seized and identified as TFMPP (1-3-(trifluoromethylphenyl)piperazine)) continued to decrease.

INTRODUCTION

Area Description

The Atlanta Metropolitan Statistical Area (MSA) comprises 28 of the State's 159 counties. After a steady increase in population over the decade—to an estimated 5,475,213 in 2009—the number of persons in the MSA was reduced slightly to the actual figure of 5,268,860 in 2010 (U.S. Census Bureau, 2010). After an increase in the estimated population between 2008 and 2009, the State of Georgia totaled 9,687,653 people, which was similar to the 2008 estimated population (U.S. Census Bureau, 2010). The population of Atlanta reflected a similar pattern, although the number persons living in the city was actually lower in 2010 than in 2008. Fulton County and DeKalb County include the city of Atlanta and represent 19 percent of the State's population. Cobb County, Gwinnett County, and Clayton County surround these two counties and represent approximately 18 percent of the State's population.

The racial composition of the city of Atlanta and the State of Georgia continues to reflect a reversal in ratio of Whites to African-Americans. The percentages of Whites living in the city of Atlanta (38.4 percent) and the State as a whole (60.0 percent) in 2010 were unchanged from 2006 estimates (U.S. Census Bureau, 2010). Similarly, the percentages of African-Americans living in the city of Atlanta (54.0 percent) and the State (30.5 percent) were essentially unchanged. The estimated per capita family income of people living in the city was somewhat higher, at \$36,912, compared with \$23,909 at the State level in 2009. These numbers indicate a small estimated increase in Atlanta and a decrease across the State since 2008. Conversely, the estimated percentage of persons living below the Federal poverty level was higher in the city of Atlanta (22.5 percent) than in the State (12.7 percent) in 2009. These figures have been consistent from 2006 for the city of Atlanta but represent a decrease for the State of Georgia as a whole since 2008, when 14.7 percent were classified as living below the Federal poverty level. Housing vacancy continues to be more apparent inside the city, at 17.6 percent compared with 12.3 percent for the State as a whole in 2010. Both of these numbers reflect reductions from 20.6 percent in the city of Atlanta and 13.8 percent for the State as a whole in 2008. Unemployment was rising in both the city of Atlanta and the State as a whole between 2008 and 2010. The rate in the city (11.0 percent) was slightly higher than for the State (10.2 percent).

Combating Drug Use

According to the Atlanta High Intensity Drug Trafficking Area program (HIDTA), cocaine distribution and abuse and methamphetamine production and abuse were the most important concerns to the region in 2010 (U.S. Department of Justice, 2010). Mexican drug trafficking organizations (DTOs) continued to be the primary drug distributors in the region. The Atlanta HIDTA reported that the Mexican DTOs were beginning to move to more rural areas near Atlanta in order to avoid law enforcement pressure. In the most recent drug market analysis completed by the Atlanta HIDTA, it was reported that the National Drug Intelligence Center (NDIC) anticipated that Georgia may become a source for controlled prescription drugs in the absence of legislation, such as a prescription drug monitoring program.

An effort that began in 2009, Operation Choke Hold, was aimed at a specific Mexican cartel known as La Familia. In 2010, the operation seized more than \$10 million (street value) worth of marijuana, methamphetamine, and cocaine. The arrests were made in suburban counties other than Gwinnett County, which has been historically where the Mexican DTOs have been based. Other law enforcement efforts have targeted prescription drugs. In 2011, Atlanta authorities indicted Georgians from multiple Atlanta suburban and rural counties for conspiring to forge oxycodone prescriptions and trafficking oxycodone tablets.

Data Sources:

- **Demographic and population data** were from the U.S. Census Bureau. Additional unemployment data were provided by the Georgia Department of Labor.
- **Drug abuse treatment program data** were from the Georgia Department of Human Resources for primary and secondary drugs of abuse among clients admitted to Atlanta's public drug treatment programs from January 2000 through December 2010.
- **Crisis and access line call data** were from the Georgia Department of Human Resources and represent the number of telephone calls from persons seeking information about and/or admission to Georgia's public substance abuse treatment centers. Data, obtained from June 2006 through December 2010, were classified by drug type.
- **Drug threat data** (price, trafficking) were obtained from the Atlanta HIDTA Drug Market Analysis 2010, published by the NDIC, U.S. Department of Justice.
- **Drug purity and price data** (for heroin) came from the DEA 2009 Heroin Domestic Monitor Program (HDMP) drug intelligence report.
- **Forensic drug analysis data** came from the National Forensic Laboratory Information System (NFLIS) and represent evidence seized in suspected drug cases throughout metropolitan Atlanta that were tested by the Georgia Bureau of Investigation Forensic Laboratory from 2006 to 2010.
- **State drug-related mortality data** were obtained from the Georgia Medical Examiner's (ME)'s Office. Data represent the number of postmortem specimens that tested positive for a particular drug and were collected from fiscal years (FYs) 2007 through 2011.

- **Fulton County drug-related mortality data** were obtained from the Fulton County ME's Office. Data represent the number of postmortem specimens that tested positive for a particular drug and were collected during calendar years (CYs) 2009 and 2010.
- **Acquired immunodeficiency syndrome (AIDS) data** came from the Department of Human Resources, Division of Public Health, and represent AIDS cases in Georgia from January 2008 through December 2009.
- **Arrestee Drug Abuse Monitoring (ADAM) II data** are self-reported use and receipt of treatment from male arrestees from two sites for years 2007 through 2009. Additionally, the percent of male arrestees testing positive for multiple drugs from the same two sites are included. The sites were the Atlanta Detention Center and the Fulton County Jail.
- **Local news reports** were obtained from Fox 5 Atlanta and AccessNorthGeorgia.com.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In 2010, cocaine was the second most frequently mentioned primary drug of choice for individuals seeking assistance at publicly funded treatment centers in metropolitan Atlanta. The number of primary admissions in metropolitan Atlanta in 2010 for cocaine or crack ($n=1,151$) decreased by nearly 314 admissions from the previous year, reflecting a steady decrease since 2000. In 2010, cocaine-related admissions constituted 16.5 percent of the total number of primary admissions (excluding alcohol-only treatment admissions), representing a 3-percent decrease from 2009 (exhibit 1). The ratio of males to females in treatment for cocaine was 1.02:1, which was very similar to 2009. While the proportion of males has historically been higher than females, data from the last 3 years revealed identical proportions by gender in cocaine treatment admissions. If powder cocaine and crack cocaine are examined individually, however, a greater proportion of males than females report entering public treatment for powder cocaine, and a greater proportion of females than males report entering public treatment for crack cocaine. The latter represents a departure from 2009, when more males than females reported entering public treatment for crack cocaine. Cocaine admissions continued to be predominately African-American, regardless of type of cocaine. Clients older than 35 accounted for the highest number of cocaine admissions across all age groups (73.4 percent) in 2010. This represents a slight decline from 2009. The majority of crack cocaine primary admissions reported that they smoked the drug, while powder cocaine admissions were mostly divided between snorting and smoking the drug. Among the 55.6 percent of clients seeking treatment who reported secondary drugs of choice, 24.7 percent indicated that they used crack or powder cocaine, a decrease from 30.8 percent the previous year. While calls to the Georgia Crisis Line for cocaine in the first half of 2010 reflected a very slight increase, the number of calls for cocaine leveled off in the second half of the year to numbers consistent with previous years (exhibit 2). However, overall calls to the Georgia Crisis Line have increased, and the proportion of these represented by cocaine have decreased from the first half of 2008 (17 percent) to the second half of 2010 (10 percent).

According to the NDIC, wholesale-level powder cocaine prices decreased slightly between the end of 2008 and early 2010, with the range dropping from \$28,500–\$34,000 per kilogram to \$24,000–\$33,000 per kilogram. Retail prices for powder cocaine were stable at \$100 per gram.

NFLIS reported that cocaine accounted for 42 percent ($n=3,752$ items) of confiscated substances in suspected drug cases that were identified in forensic laboratories in 2010 (exhibit 3), continuing a downward trend. After representing a fairly consistent number of all Georgia's postmortem specimens tested by the Georgia State ME Office between FYs 2008 and 2010, the number of specimens containing cocaine in FY 2011 represented a decrease (exhibit 4). The percentage of self-reported drug use along with receipt of treatment among male arrestees declined from 2009 to 2010 for both crack and powder cocaine. The decrease in the proportion of arrestees reporting powder cocaine use (43.2 to 28.4 percent) was larger than the decrease in the proportion reporting crack cocaine use (59.6 to 51.6 percent). The percentage of male arrestees testing positive for cocaine has been declining steadily since 2008 (39.8 percent in 2008 versus 33.2 percent in 2010).

The proportions of illicit drug treatment admissions for crack and powder cocaine by county appeared to be consistently below 20 percent across the Atlanta MSA (exhibit 5). However, treatment admissions still appeared to be concentrated near the city.

Heroin

In 2010, treatment admissions for individuals who reported heroin as their primary drug of choice accounted for 4.9 percent of public treatment program admissions (excluding alcohol-only treatment admissions) in the 28-county MSA, consistent with 2009 (exhibit 1). Treatment admission percentages for males were higher (66.3 percent) than for females (33.6 percent). Among the 55.6 percent of users admitted to treatment for other primary drugs that reported secondary drugs, 1.9 percent indicated that heroin was a secondary drug of choice.

Whites constituted 62 percent of heroin treatment admissions. African-Americans made up the next highest proportion, at 33 percent. Approximately one-half of the treatment admissions (48.4 percent) were for clients age 35 and older, which was slightly lower than in 2009 (52 percent). Clients age 18–25 represented 28.6 percent of admissions for heroin, and clients age 26–34 represented 23 percent of admissions. Seventy-six percent of clients admitted to public treatment for heroin preferred to inject the drug. The most commonly reported secondary drugs of choice were powder cocaine (18.6 percent) and alcohol (17.1 percent).

According to the HDMP, 27 heroin samples were purchased in Atlanta in 2009. Of those, 26 were South American (SA) heroin, and 1 was Southwest Asian (SWA) heroin. SWA heroin was 32.2 percent pure, which was higher than in 2008; it was priced at \$0.80 per milligram. The SWA sample was less pure than in the previous year, at 24.9 percent, and was priced at \$0.69 per milligram.

Approximately 2.6 percent ($n=232$ items) of the total drug items seized and identified by NFLIS laboratories were identified as heroin in 2009 (exhibit 3); this was a similar percentage of items seized and identified as heroin in the NFLIS system during the previous year. Self-reported drug use along with receipt of treatment among male arrestees has varied widely in the past 3 years: 47.5 percent in 2008; 84.4 percent in 2009; and 68.9 percent in 2010.

Other Opiates/Narcotics

Beginning in 2007, the Georgia Department of Human Resources started reporting primary treatment admissions for prescription opiates/narcotics. According to the NDIC, many of the prescription

drugs that are being distributed are from pain management clinics that are not associated with hospitals or drug treatment centers. Legislation for a Prescription Drug Monitoring Program was under consideration by Georgia lawmakers at the time of this report.

Oxycodone accounted for 3.5 percent of primary treatment admissions in 2010 (excluding alcohol-only treatment admissions), representing nearly a fourfold increase over 2007 (0.9 percent). Among the 55.6 percent of treatment admissions who reported a secondary drug of choice, 2.5 percent indicated oxycodone as a secondary drug of choice. Forty-three percent of treatment admissions for oxycodone were age 18–25, which was similar to the previous year. The second largest age group was 26–34 (32 percent); this was followed by clients 35 and older (25 percent), representing a reversal for those two age categories, compared with the previous year. Only two clients were younger than 18. The proportion of female admissions (45 percent) was lower than the proportion of males, but it represented a larger share of admissions in 2010 than in 2009 (39 percent).

Drug items seized and identified by NFLIS laboratories as containing oxycodone and hydrocodone indicated an increase for oxycodone and a decrease for hydrocodone. A total of 577 items were identified as containing oxycodone in 2010, compared with 524 items in 2009. Drug items seized and identified as containing hydrocodone totaled 443 items in 2010, compared with 515 items in 2009. The number of deaths in which oxycodone was found was 306 in 2010; this number then increased to 386 in 2011 (exhibit 4). Deaths in which hydrocodone was found remained relatively stable over the same period. Calls to the Georgia Crisis Line indicated a small increase in calls regarding opioids/narcotics in 2010 compared with 2008 (exhibit 2). The proportion of male arrestees testing positive for opiates (possibly including heroin) was reported as 1.6 percent in 2008, 2.4 percent in 2009, and 5.1 percent in 2010.

Prescription opiates accounted for greater proportions of treatment admissions in the counties farthest from the city of Atlanta. However, in 2010, there was an increase in the number of counties with prescription opiate admissions totaling higher than 20 percent, and these counties were adjacent to the counties closest to the city of Atlanta (exhibit 6).

Depressants

Benzodiazepine indicators in the 28-county MSA were mixed. The most commonly reported benzodiazepine was alprazolam. Primary treatment admissions for alprazolam, while relatively low, have been increasing gradually since the Georgia Department of Human Resources began providing treatment data on benzodiazepines as a primary reason for seeking treatment. The percentage of people with alprazolam as their primary drug admitted for treatment doubled from 2007 (0.7 percent) to 2010 (1.9 percent in 2010) (excluding alcohol-only treatment admissions). While this proportion was small compared with other drugs of abuse, it was part of an overall trend toward prescription drug abuse. Additionally, alprazolam constituted 3.4 percent of all secondary drugs of choice among 2010 treatment admissions. Other benzodiazepines, including clonazepam and diazepam, made up 1 percent of all primary treatment admissions, but also accounted for another 2.6 percent of all secondary drugs of choice among treatment admissions who indicated a second drug. Calls to the Georgia Crisis Line for benzodiazepines rose from 2 percent in the first half of 2008 to 4 percent in the second half of 2010 (exhibit 2).

Based on data provided by the State ME Office, postmortem result entries for alprazolam remained stable between FY 2009 ($n=455$) and FY 2010 ($n=517$), but they increased to 582 in FY 2011. Postmortem result entries that included other benzodiazepines decreased from 407 in FY 2010 to 368 in FY 2011 (exhibit 4). According to NFLIS data, drugs seized and identified as containing alprazolam decreased from 583 in 2009 to 436 in 2010; this represented fewer items than those seized and identified as oxycodone or hydrocodone in those years.

Stimulants

Treatment admissions for methamphetamine have been stable, at approximately 6 percent since 2008, representing a reduction from the first half of the decade. Nearly 5 percent of the 55.6 percent of clients who reported secondary drugs of choice reported methamphetamine as their secondary drug. The percentage of female treatment admissions in metropolitan Atlanta reporting methamphetamine as their primary drug increased compared with 2009 to a level consistent with previous years (61.5 percent). Clients continued to be predominantly White (95 percent). The age distribution of people seeking treatment for methamphetamine continued to be fairly evenly split across age groups, with slightly more than one-third of clients older than 35 years and a slightly lower percentage of clients age 18–25. Metropolitan Atlanta treatment admissions were most likely to smoke methamphetamine (57.4 percent). The percentage of methamphetamine injectors increased very slightly, from 19.0 percent in 2009 to 20.1 percent in 2010. Calls to the Georgia Crisis Line in 2010 for amphetamines represented 5 percent of the total calls (exhibit 2).

After an increase in 2009, the number of drug items seized and identified by NFLIS laboratories as methamphetamine declined to a similar level as 2008, representing 24 percent of the total number of drugs. As in 2009, methamphetamine treatment admissions did not reach 20 percent of total illicit treatment admissions for the five counties closest to the city (exhibit 7). However, two of the eight counties for which methamphetamine made up between 20 and 40 percent of illicit drug treatment admissions were adjacent to these counties. This represents a departure from the previous year, when all of the counties with higher proportions of methamphetamine treatment admissions were at the periphery of the MSA.

Self-reported drug use along with receipt of treatment for methamphetamine among male arrestees has declined over the past 3 years. In 2008, 59.2 percent reported use along with treatment. This proportion dropped to 39.2 percent in 2009 and 33.3 percent in 2010.

Marijuana/Cannabis

Twenty-four percent of public treatment admissions in 2010 in metropolitan Atlanta (excluding alcohol-only treatment admissions) were for clients who considered marijuana their primary drug of choice (exhibit 1). This proportion was consistent with 2009. Additionally, marijuana was reported by 26.3 percent of treatment admissions as the secondary drug of choice among the 55.6 percent of treatment admissions who reported a secondary drug of choice. The proportion of male admissions was higher than females, at 68.3 percent. The proportion of African-Americans who identified marijuana as their primary drug of choice increased, from 53.8 percent in 2007 to 61 percent in 2009, but appeared to stabilize in 2010, at 59.4 percent. Whites accounted for 31.3 percent of treatment admissions for marijuana. The proportion of younger users was also fairly stable, with 59.4 percent

of clients being younger than 26 in 2010, compared with 63.0 percent in 2009. Alcohol was still the most popular secondary drug of choice for marijuana users, with one-third of clients continuing to report it as their secondary drug of choice. Georgia Crisis Line calls addressing marijuana from 2010 (14 percent) were consistent with the total proportion of calls from 2009 (13 percent) (exhibit 2).

In 2010, 2.4 percent ($n=217$) of all drug-related items confiscated were identified by NFLIS laboratories as containing marijuana/cannabis (exhibit 3). This was unchanged from 2009. However, these results are skewed due to changes in statewide drug testing for marijuana and therefore do not accurately reflect the prevalence of the drug's use.

Marijuana represented more than one-fifth of illicit drug treatment admissions in all but two counties (exhibit 8). Another eight counties in the Atlanta area reported that two-fifths of illicit drug treatment admissions were for marijuana.

The proportion of male arrestees testing positive for marijuana was consistent over the past 3 years: 39.2 percent in 2008; 44.9 percent in 2009; and 42.2 percent in 2010. There was a similar lack of variation in the proportion of self-reported use along with receipt of treatment: 23.2 percent in 2008; 27.1 percent in 2009; and 20.6 percent in 2010.

Club Drugs

MDMA or Ecstasy

A decrease in the use of MDMA (3,4-methylenedioxymethamphetamine) in the Atlanta area was reflected across all epidemiologic indicators for which it appeared. There were only 5 clients who reported MDMA as their primary reason for public drug treatment, and 14 individuals were admitted who listed MDMA as their secondary drug of choice. Two percent ($n=181$ items) of drug items seized and identified by NFLIS contained MDMA in 2010, which was consistent with the proportion of items identified as containing MDMA in 2009.

GHB

GHB (gamma hydroxybutyrate) was not mentioned among primary treatment admissions but was indicated twice among secondary treatment admissions. Only two drug items seized and identified by NFLIS laboratories were found to contain GHB in 2010.

Other Drugs

Drug items seized and identified by NFLIS laboratories as BZP (1-benzylpiperazine) doubled, from 31 items in 2009 to 63 in 2010. Drug items identified as containing TFMPP (1-3-(trifluoromethylphenyl)piperazine) decreased, from 196 in 2009 to 99 in 2010.

Hallucinogens

In 2010, there were no reports of PCP (phencyclidine) among primary treatment admissions for the 28-county MSA. LSD (lysergic acid diethylamide) was identified in seized items by NFLIS

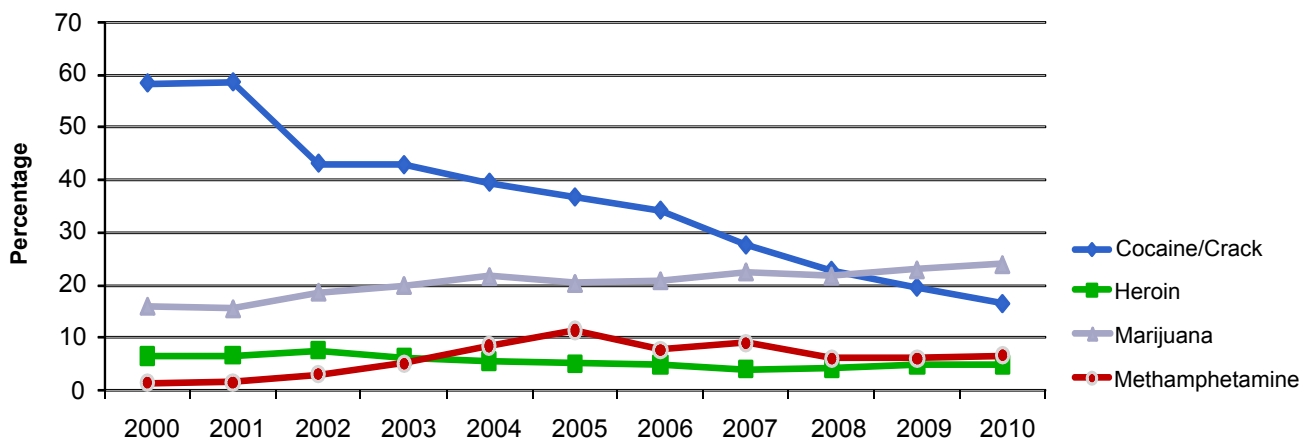
laboratories in only eight items, and it was mentioned only once among primary treatment admissions. There were only two LSD mentions among secondary treatment admissions.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

There were 18,291 statewide cumulative AIDS cases in 2009, compared with 34,224 in 2008. The number of new AIDS cases in 2009 ($n=884$) declined from 2008 ($n=1,157$). Three-quarters of new AIDS diagnoses were African-American; this was consistent with previous years. Seventy percent of those living with HIV or AIDS were African-American in 2009. In 2008, 15 percent of exposures were injection drug users (IDUs) and men who have sex with men (MSM)/IDU, which was unchanged from 2009. However, although incidence rates for these exposure categories were also similar across 2008 and 2009 (4 percent and 3.8 percent, respectively), the proportion of newly diagnosed MSM/IDUs increased from 1 percent in 2008 to 2.3 percent 2009, while IDUs decreased from 3 percent in 2008 to 1.5 percent in 2009.

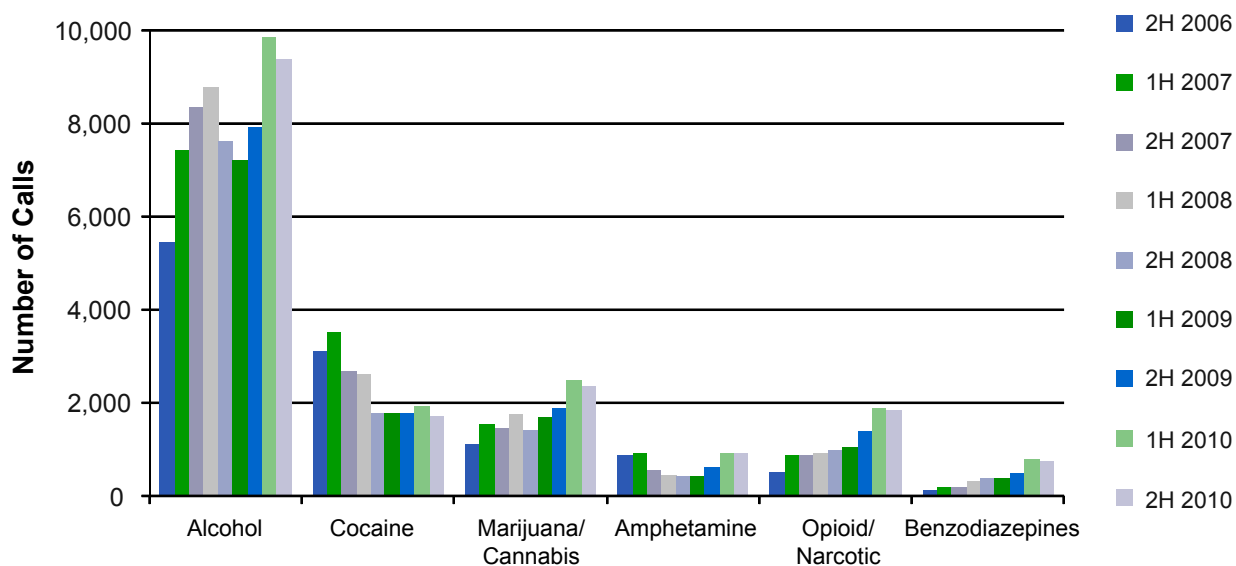
For inquiries regarding this report, contact Lara DePadilla, Ph.D., Research Assistant Professor, Department of Behavioral Sciences and Health Education, Rollins School of Public Health, Emory University, 1518 Clifton Road, Atlanta, Georgia, 30322, Phone: 404-358-5037, Fax: 404-727-1369, E-mail: ldepadi@emory.edu.

Exhibit 1. Percentage of Primary Public Substance Abuse Treatment Admissions¹ in Metropolitan Atlanta: 2000–2010

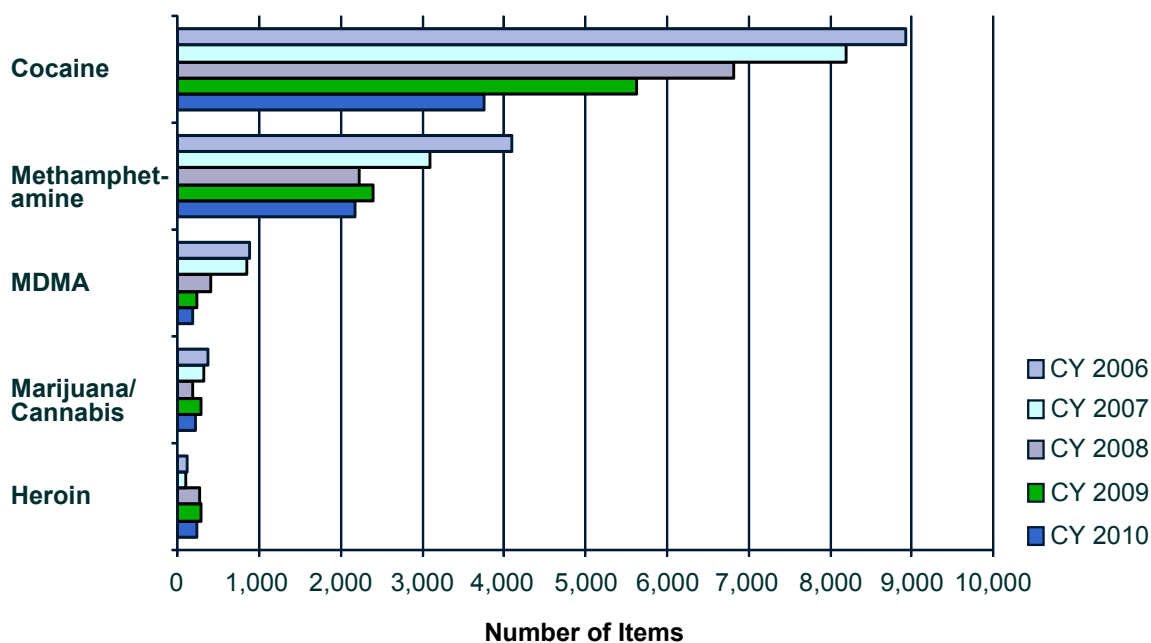


¹In order to be consistent with previous years, treatment data denominator does not include alcohol only.
SOURCE: Georgia Department of Human Resources

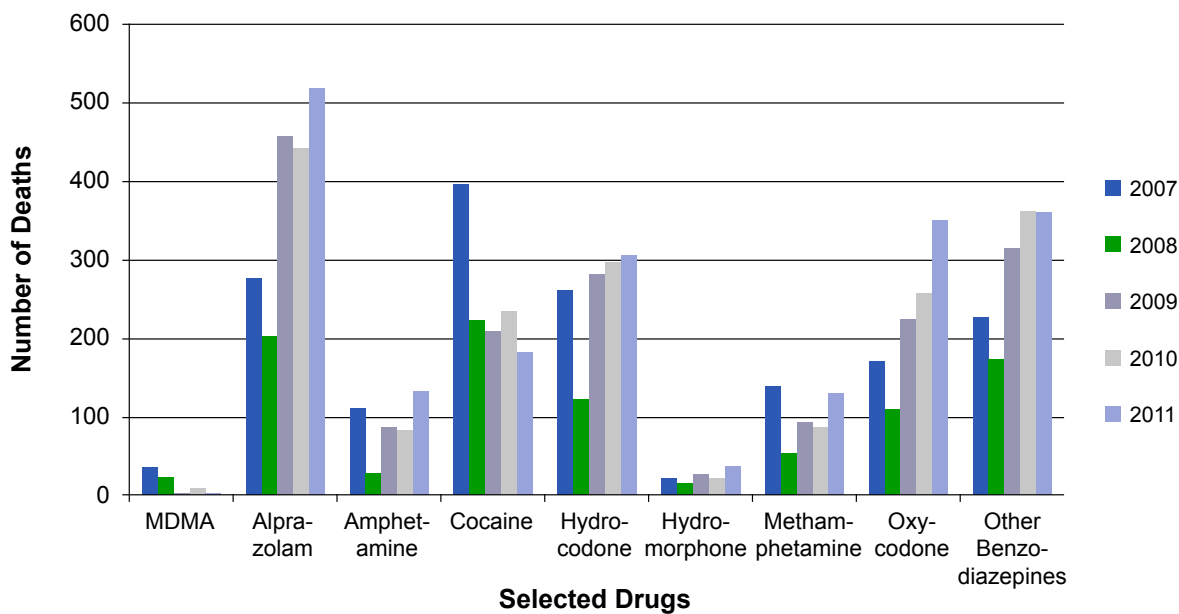
Exhibit 2. Number of Calls, by Drug, to the Georgia Crisis and Access Line, Georgia: 2H 2006–2H 2010



SOURCE: Georgia Crisis Line

Exhibit 3. Number of Analyzed Items, by Drug, in NFLIS Laboratories, Atlanta Area: 2006–2010

SOURCE: NFLIS, DEA

Exhibit 4: Number of Deaths Reported by State Medical Examiner, Georgia: FYs 2007–2011¹¹FYs are from July 1 through June 30 for each year.

SOURCE: Georgia State Medical Examiner's Office

Exhibit 5. Percentage of Illicit Drug Treatment Admissions for Crack/Cocaine, in Quintiles, by County, in the Atlanta Metropolitan Area: 2010

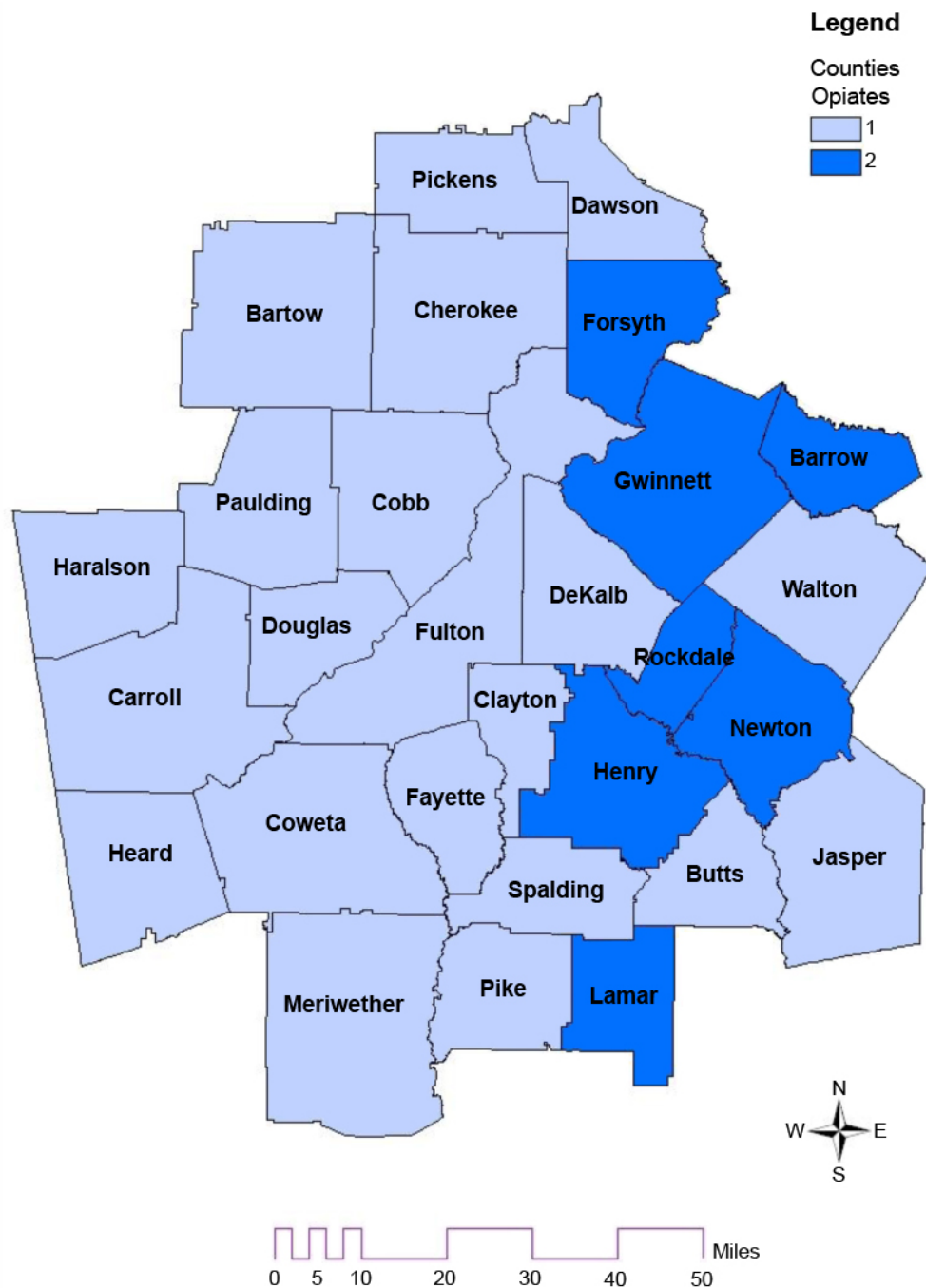


Legend: 1=0 to 19 percent of illicit treatment admissions; 2=20 to 39 percent of illicit treatment admissions.

Note: No counties had greater than 39 percent of illicit substance admissions for crack/cocaine.

SOURCE: Georgia Department of Human Resources

Exhibit 6. Percentage of Illicit Drug Treatment Admissions for Prescription Opiates, in Quintiles, by County, in the Atlanta Metropolitan Area: 2010

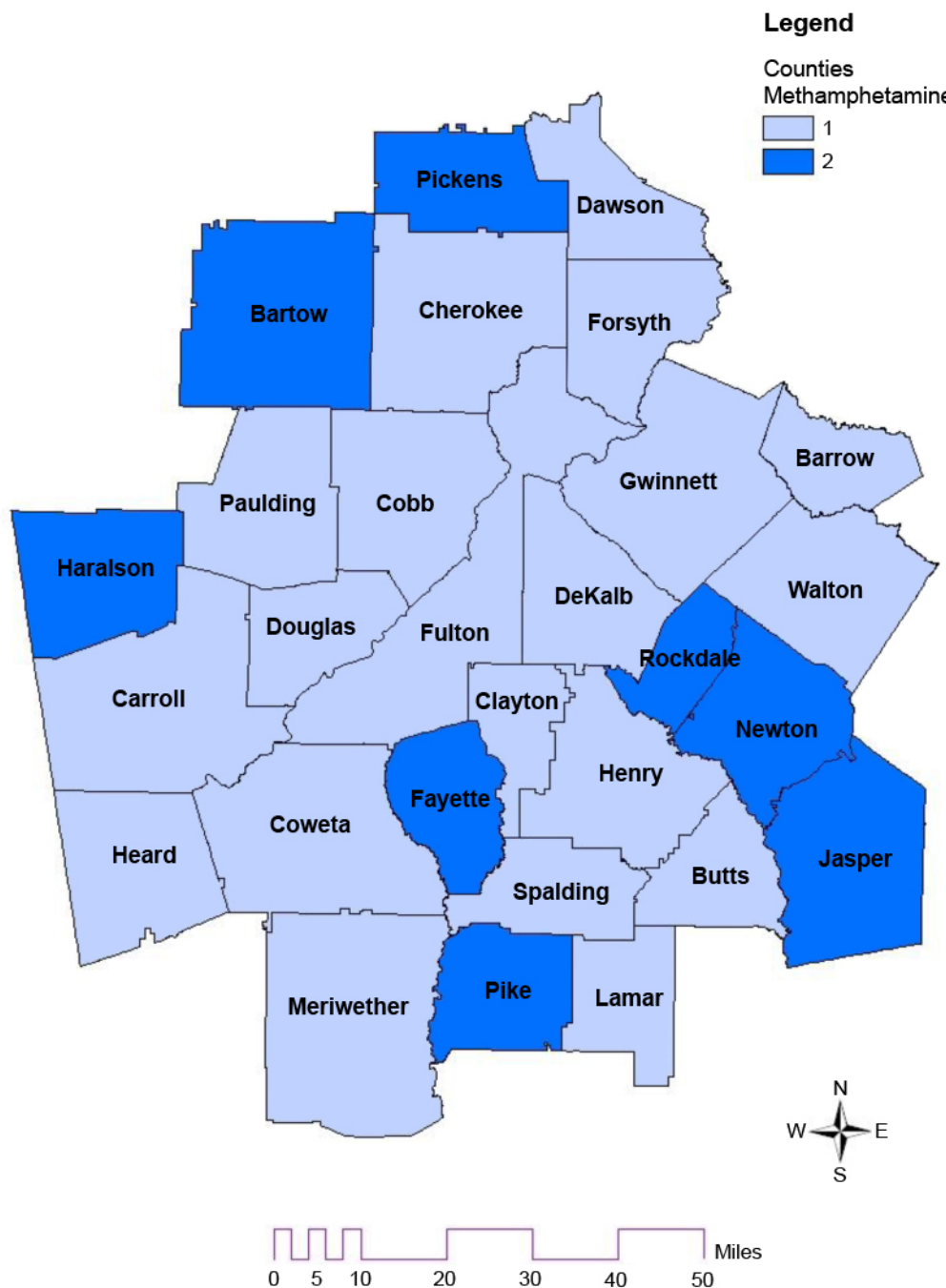


Legend: 1=0 to 19 percent of illicit treatment admissions; 2=20 to 39 percent of illicit treatment admissions.

Note: No counties had greater than 39 percent of illicit substance admissions for prescription opiates.

SOURCE: Georgia Department of Human Resources

Exhibit 7. Percentage of Illicit Drug Treatment Admissions for Methamphetamine, in Quintiles, by County, in the Atlanta Metropolitan Area: 2010

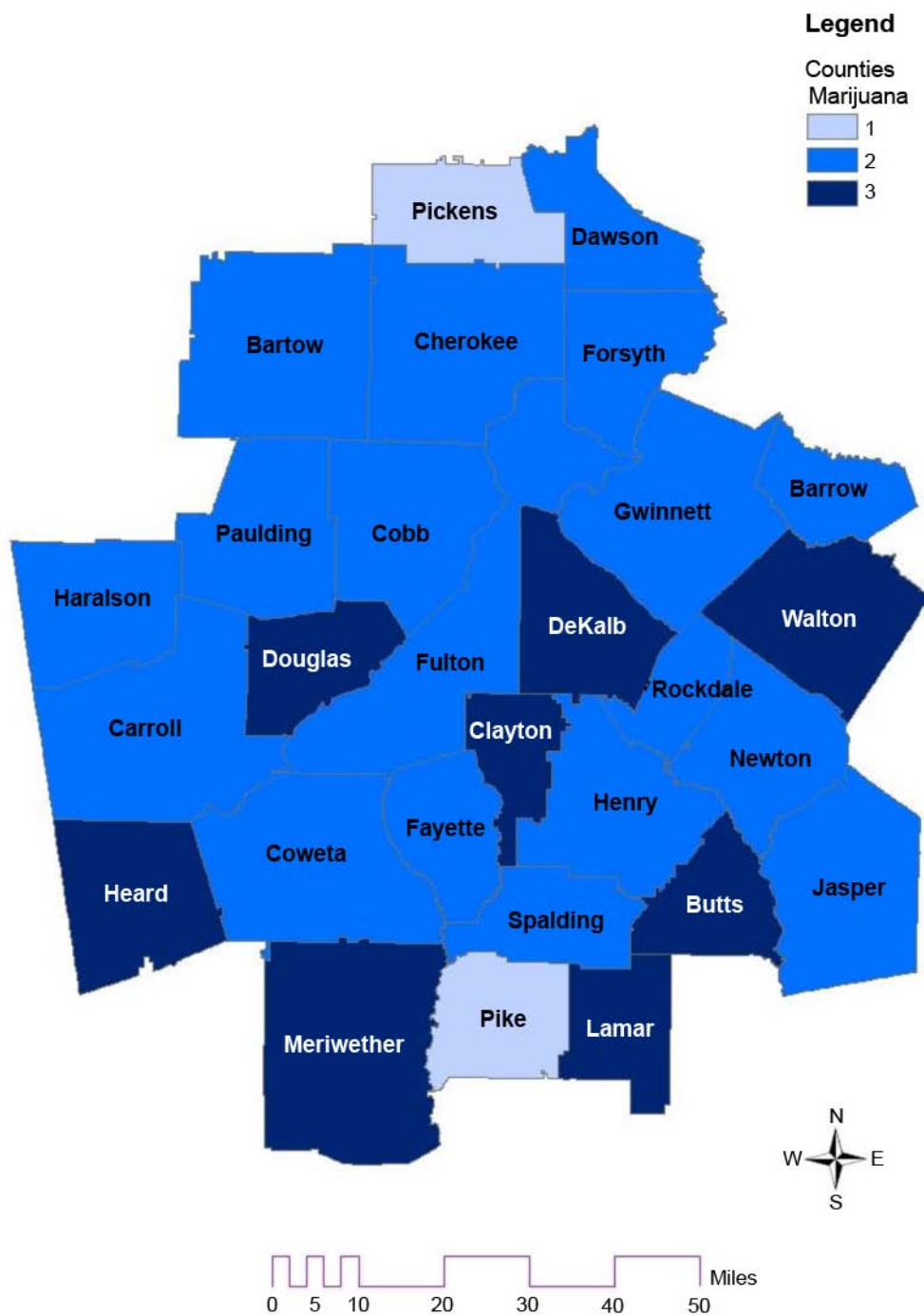


Legend: 1=0 to 19 percent of illicit treatment admissions; 2=20 to 39 percent of illicit treatment admissions.

Note: No counties had greater than 39 percent of illicit substance admissions for methamphetamine.

SOURCE: Georgia Department of Human Resources

Exhibit 8. Percentage of Illicit Drug Treatment Admissions for Marijuana, in Quintiles, by County, in the Atlanta Metropolitan Area: 2010



Legend: 1=0 to 19 percent of illicit treatment admissions; 2=20 to 39 percent of illicit treatment admissions; 3=40 to 59 percent of illicit treatment admissions.

Note: No counties had greater than 59 percent of illicit substance admissions for marijuana.

SOURCE: Georgia Department of Human Resources

Patterns and Trends of Drug Abuse in the Baltimore/Maryland/Washington, DC, Metropolitan Area—Epidemiology and Trends: 2002–2010

Erin Artigiani, M.A., Margaret Hsu, M.H.S., Maribeth Rezey, M.S., and Eric D. Wish, Ph.D.¹

ABSTRACT

Throughout the Washington, DC, and Maryland region, cocaine, marijuana, and heroin continued to be the primary drug problems in 2010. In general, indicators for marijuana and other opiates were increasing across the region, while indicators for cocaine and heroin were stable or decreasing. The Washington/Baltimore High Intensity Drug Trafficking Area (HIDTA) reported that cocaine and marijuana were the most frequently seized drugs in the region. The third most frequently found drug in the Maryland part of the HIDTA region was heroin, while in Washington, DC, it was PCP (phencyclidine). While other parts of the country have seen shifts in the use of methamphetamine, its use remained low throughout Maryland and Washington, DC, and was confined to isolated communities. In Washington, DC, in 2010, cocaine/crack, marijuana, and heroin continued to be the primary illicit drug problems. Cocaine remained one of the most serious drugs of abuse, as evidenced by the fact that more adult arrestees tested positive for cocaine than for any other drug, and more items seized tested positive for cocaine than for any drug other than marijuana. However, the percentage of adult arrestees testing positive for cocaine was continuing to decrease. In comparison, the percentage testing positive for opiates or PCP remained about the same. In 2010, 21 percent of adult arrestees tested positive for cocaine, and approximately 8–10 percent tested positive for opiates and/or PCP. However, unlike previous years, slightly more seized items tested positive for marijuana than for cocaine (37.41 versus 36.69 percent) in 2010, as reported by the National Forensic Laboratory Information System (NFLIS). Overdose deaths increased from 90 in 2007 to 105 in 2008 and decreased slightly in 2009. They were also more likely to be related to cocaine (53 percent) than to any other drug, although the total number of cocaine-related deaths decreased, while the total number of morphine-related deaths increased. During 2010, juvenile arrestees were more likely to test positive for marijuana (54.3 percent) than for any other drug. The percentage increased slightly in 2010, but it appeared to be decreasing again in 2011. The percentage testing positive for cocaine decreased in 2009 and remained about the same in 2010, but it may have been increasing in 2011. The percentage of adult and juvenile offenders in Washington, DC, testing positive for amphetamines remained considerably lower than for other drugs (approximately 1 percent) in 2010. In Maryland, there were 52,027 primary enrollments to certified publicly funded treatment programs in 2010. Episodes most frequently involved alcohol, heroin, marijuana, crack/other cocaine, and other opiates. Treatment episodes involving marijuana and other

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opiates were increasing, while those involving heroin and crack/other cocaine were decreasing. Cocaine and marijuana accounted for nearly three-quarters of the drug items seized and identified by NFLIS laboratories in 2010. Approximately 14 percent were positive for heroin, and nearly all of these items (82 percent) were from Baltimore City.

INTRODUCTION

This report addresses drug trends in both Maryland (including Baltimore) and Washington, DC. It is organized to provide area descriptions and drug use overviews of both regions. For each drug assessed in the Drug Abuse Patterns and Trends section, a region-wide overview is provided, followed by data specific to each jurisdiction.

Area Description

Washington, DC (the District), a 68-square mile area, shares boundaries with the States of Maryland and Virginia. The Nation's capital is home to approximately 601,723 people residing in eight wards; 18.4 percent live below the poverty level. Two-thirds (66.7 percent) are in the labor force, a slight improvement from prior years (U.S. Bureau of the Census, 2009 [poverty, labor force] and 2010 [population] estimates). As in prior years, slightly more females than males live in Washington, DC. However, the percentage of the District's population that is African-American decreased by 11.1 percent (50.7 percent), while the Hispanic (21.8 to 9.1 percent) and Asian (38.6 to 3.5 percent) population subgroups increased. Approximately 81 percent of the population in Washington, DC, is age 18 and older, which is higher than the Nation's population. One in five residents are younger than 18, and 11.7 percent are 65 and older. Nearly one-half (48.5 percent) of adults age 25 or older have at least a bachelor's degree (U.S. Bureau of the Census, 2009 [education, poverty, labor force] and 2010 [population] estimates).

The State of Maryland is home to approximately 5,773,552 people residing in 24 jurisdictions. The State has slightly more females than males, and the majority of the State's population is White (58.2 percent) although this percentage has decreased. Approximately 29.4 percent of Maryland's population are African-American; 8.2 percent are Hispanic or Latino; and 5.5 percent are Asian. Maryland's total population increased by 11 percent from 1990 to 2000 and increased again in the 2010 census. Minority populations in the State continued to increase during this time, while the White population decreased slightly in 2010. Increases were noted among the African-American population (by 15.1 percent), Asians (by 51.2 percent), and Hispanics (by 106.5 percent). Approximately three-quarters (76.3 percent) of the State's population are age 18 and older, comparable to the national average of 75.7 percent. Approximately 12.1 percent of Maryland's population are 65 and older, slightly lower than the national average. More than three-quarters (88.2 percent) of the State's residents are high school graduates or higher, and more than one in three (35.7 percent) have a bachelor's degree or higher—an education level higher than that of the Nation's general population. Nearly 10 percent (9.1 percent) live below the poverty level; 69.9 percent are in the labor force, a slight improvement from prior years (U.S. Bureau of the Census, 2009 [education, poverty, labor force] and 2010 [population] estimates).

Baltimore City is home to 620,961 residents; the majority are African-American (63.7 percent). The percentage living in poverty (21 percent) is much higher than in the State, while the percentage in the labor force (61.5 percent) and the mean household income are lower (\$56,658 versus \$90,879).

Drug Use Overview

The primary drug threats identified across the region by the Washington/Baltimore High Intensity Drug Trafficking Area (W/B HIDTA) in 2010 were crack, powder cocaine, and heroin. These threats have remained consistent for more than 10 years. The percentage of local law enforcement officials reporting these drugs as primary threats has been relatively stable for the past 2 years (W/B HIDTA 2010 Annual Report). A review of the CEWG indicators reveals that several indicators reached new highs. The percentage of items seized and identified as marijuana by NFLIS laboratories in 2010 reached a new peak in Washington, DC, and Maryland, while cocaine reached a new low. The number of enrollments to publicly funded alcohol and drug treatment programs in Maryland related to marijuana and to other opiates continued to increase, as did the retail distribution of oxycodone and buprenorphine in Baltimore and Washington, DC.

Washington, DC: According to the National Survey on Drug Use and Health (NSDUH) annual State averages for 2007–2008, an estimated 12.1 percent of Washington, DC, residents age 12 or older reported past-month illicit drug use; 60.5 percent reported past-month drinking (a significant increase from 2002 and 2003); and 29.9 percent reported past-month binge drinking (another significant increase from 2002 and 2003). Approximately one-third (35.0 percent) of residents age 12–20 drank alcohol, and nearly one-quarter (22.8 percent) reported binge drinking (representing a significant increase from 2002 and 2003). The percentages of Washington, DC, residents age 12 and older and 12 to 20 reporting alcohol use and binge drinking are significantly higher in the District than in Baltimore.

Maryland: In Maryland, an estimated 7.3 percent of residents age 12 or older reported past-month illicit drug use; 55.1 percent reported past-month drinking; and 22.14 percent reported past-month binge drinking. Approximately one-quarter (28.1 percent) of residents age 12–20 drank alcohol, and nearly one-fifth (17.9 percent) reported binge drinking. There was no significant change in these data between 2002 and 2003 and 2007 and 2008 (Substance Abuse and Mental Health Services Administration [SAMHSA]; NSDUH, 2007–2008).

Baltimore City: In Baltimore, an estimated 9.9 percent of residents age 12 or older reported past-month illicit drug use; 43.3 percent reported past-month drinking; and 21.7 percent reported past-month binge drinking. Approximately one-quarter (23.8 percent) of residents age 12–20 drank alcohol, and nearly one-fifth (14.8 percent) reported binge drinking (SAMHSA; NSDUH, 2006–2008).

Data Sources

A number of sources were used to obtain comprehensive information regarding drug use trends and patterns in Maryland and Washington, DC. Data for this report were obtained from the sources listed below:

- **Test results on drug items analyzed** by local crime laboratories were obtained from the National Forensic Laboratory Information System (NFLIS) for calendar year (CY) 2010 (exhibits 1a and 1b).
- **Drug-related death data** for Washington, DC, were obtained from the 2005 through 2009 Annual Reports, prepared by the District's Office of the Chief Medical Examiner (OCME). Drug-related

death data for Maryland were from special data runs conducted by the Maryland Office of the Chief Medical Examiner through 2010. Exhibits 2a and 2b show the number of drug overdose and drug-positive deaths by drug in Washington, DC, and exhibit 2c shows the number of drug intoxication deaths in Maryland.

- **Arrestee demographic and urinalysis data** were provided by the Arrestee Drug Abuse Monitoring II (ADAM II) system.
- **Arrestee urinalysis data** were provided by the District of Columbia Pretrial Services Agency for adult and juvenile arrestees from 1984 through April 2011 (exhibits 3a, 3b, 4a, and 4b).
- **Treatment data** for Maryland and Baltimore were provided by the Maryland Alcohol and Drug Abuse Administration (ADAA) (exhibit 5a and 5b). It is important to note that the Maryland ADAA recently changed its reporting of treatment data. ADAA now reports treatment enrollments for CEWG reports rather than admissions. In the past, an admission was created every time a client changed a level of care. When the new system, the Statewide Maryland Automated Record Tracking (SMART) system, was initiated, the ADAA changed the procedure so that an admission was only created for the initial entry into treatment (not subsequent changes in levels of care); an enrollment was created when a client was admitted to a new program at a different level of care. Therefore, for data collected after implementation of SMART, the “enrollment” variable should more closely mirror the old “admission” variable. An admission is considered a type of enrollment and therefore is included in the enrollment numbers. Data presented in this article are based on enrollment data. In addition, recent legislation has resulted in changes to reporting requirements, and private treatment programs are no longer required to report. Therefore, data presented in this report are based only on clients admitted to State-funded treatment programs. As a result of these changes, data in this report should not be compared with data in prior reports. It should be noted that to the extent that waiting lists exist, the number of treatment enrollments may be an indicator of treatment capacity rather than demand. An enrollment in the treatment data does not necessarily represent a unique individual, since some individuals are enrolled to treatment more than once in a given period.
- **Drug prices and trafficking trends** were obtained from the Department of Justice, Drug Enforcement Administration (DEA), *National Illicit Drug Prices—Mid Year 2009*, and the W/B HIDTA Threat Assessment report for program year 2012, along with the 2008 to 2010 Annual Reports.
- **Census data** for Maryland, Baltimore, and Washington, DC, were derived from the U.S. Census Bureau.
- **Additional information** came from several sources. Data on the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) were provided by the Washington, DC, HIV/AIDS Administration; retail distribution data were derived from the DEA’s Automation of Reports and Consolidated Orders System (ARCOS) (exhibits 6a, 6b, 7a, 7b, and 8).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine, particularly in the form of crack, remained the most serious drug of abuse in the District, accounting for more adult arrestee positive drug tests than any other drug, as well as more deaths than any other drug (although the number of such deaths decreased in 2009). It also continued to be a primary concern in Maryland. However, indicators across the jurisdictions appeared to indicate a decrease in negative consequences from the use of cocaine.

According to the National Drug Intelligence Center (NDIC), the cost of crack and other cocaine in the region has remained stable in recent years. In Washington, DC, in mid-2009, powder cocaine sold for approximately \$120–\$150 per gram retail. Crack sold for about the same retail: \$120–\$150 per gram and \$10 per rock. In Baltimore, powder cocaine sold for \$120–\$320 per gram retail, and crack sold for \$40–\$200 per gram retail. NFLIS data for CY 2010 showed that 36.7 percent of drug items seized and identified in the District tested positive for cocaine (a decrease from 2008 and 2009), while 23.5 percent of the drug items seized and identified in Maryland tested positive for cocaine (continuing a steady decrease from 2008) (exhibits 1a and 1b). As a result of these decreases, cocaine was the second most frequently found drug in drug items in the District. For the first time, more items tested positive for marijuana than for cocaine. There was a decline in the amount of powder cocaine seized by HIDTA initiatives throughout the W/B HIDTA region from 2007 to 2009, followed by a slight increase in 2010: 677 kilograms in 2007, 463 kilograms in 2008, 169 kilograms in 2009, and 205 kilograms in 2010 (W/B HIDTA 2008–2010 Annual Reports). A breakdown by regions within the W/B HIDTA indicated that the Baltimore metropolitan area accounted for 41.7 percent of the wholesale value of the cocaine seized, while the Washington, DC, metropolitan area accounted for 16.1 percent of the wholesale value. The total wholesale value of all drugs seized in the Baltimore metropolitan area increased in 2010, but the wholesale value remained about the same in the Washington, DC, metropolitan area.

Cocaine-caused overdose deaths in the District totaled 55 in 2009, higher than deaths caused by any other drug (exhibit 2a). This number has fluctuated in recent years. The number of cocaine-positive deaths (121) was surpassed only by alcohol-positive deaths in the District in 2009 (226) (exhibit 2b). Approximately one-half of all traffic-related deaths analyzed by the OCME tested positive for at least one drug. Approximately 9 percent of these cases were positive for cocaine. In Maryland, the total number of intoxication deaths decreased from 2007 to 2008, increased in 2009, and decreased again in 2010 (exhibit 2c). Cocaine was the most frequently found drug in intoxication deaths in Baltimore in 2010 after heroin/morphine. Cocaine intoxication deaths in Baltimore increased by approximately 31 percent from 2008 to 2009, but they decreased by 37.3 percent in 2010. In contrast, cocaine was the fourth most frequently found drug statewide, after heroin/morphine, methadone, and alcohol. Cocaine intoxication statewide deaths also decreased in 2010 (exhibit 2d).

In the District, reports from the Pretrial Services Agency indicated that the percentages of adult arrestees testing positive for cocaine continued to decrease in 2010 and in the first 4 months of 2011 (from 28.7 in 2009, to 24.0 in 2010, to 21.4 percent). The percentage of juveniles, however, remained low and steady in 2010 and increased slightly in the first 4 months of 2011, from 0.9 in 2009, to 0.7 in 2010, to 1.6 percent (exhibits 3a to 4b).

For Maryland, primary cocaine and crack enrollments to certified publicly funded Maryland alcohol and drug abuse treatment programs decreased steadily from 2007 to 2010 (by 34.2 percent for cocaine and by 31.8 percent for crack). Primary crack and other cocaine mentions at enrollment decreased in Baltimore as well from 2008 to 2010 (by 18.0 percent for cocaine and by 20.6 percent for crack). Baltimore City residents account for approximately one-third of the crack and other cocaine enrollments in the State (exhibits 5a and 5b).

Heroin

Heroin represented one of the three primary drugs of abuse in Maryland and in the District, along with cocaine and marijuana. In general, heroin was a bigger problem in Baltimore, while cocaine was a bigger problem in the District. The NDIC reported that heroin prices in mid-2009 remained stable: \$70,000–\$125,000 per kilogram retail and \$70–\$120 per gram retail in Washington, DC. In Baltimore, heroin prices were \$64,000–\$125,000 per kilogram retail and \$70–\$165 per gram retail. The amount of heroin seized by W/B HIDTA task forces throughout the region has fluctuated greatly in recent years. There was a decrease in the amount of heroin seized by HIDTA initiatives from 2008 to 2009 but an increase in 2010: 87 kilograms in 2008, 78 kilograms in 2009, and 90 kilograms in 2010 (W/B HIDTA 2008-2010 Annual Reports). A breakdown by regions within the W/B HIDTA indicates that the Baltimore metropolitan area accounted for 32.2 percent of the wholesale value of the heroin seized, while the Washington, DC, metropolitan area accounted for 7.8 percent of the wholesale value.

NFLIS data for CY 2010 showed that approximately 9 percent of the drug items seized and identified in Washington, DC, tested positive for heroin, while 22 percent of the items seized and identified in Maryland tested positive for heroin. Heroin was the third most frequently found drug in the region (exhibits 1a and 1b). The percentage of drug items testing positive for heroin reported by NFLIS remained about the same from 2008 to 2010 in Washington, DC, but statewide in Maryland, the percentage decreased from 20.3 to 13.9 percent. More than twice as many heroin-positive items were identified in Baltimore as in Washington, DC.

The number of overdose deaths involving heroin/morphine in the District decreased sharply in 2007 (from 50 in 2006 to 32 in 2007), but they increased again in 2008 and 2009 (from 39 to 44, respectively). As in prior years, heroin/morphine was the second most likely drug to cause an overdose death (exhibit 2a). Heroin/morphine was the third most frequently found drug in all drug-positive cases in Washington, DC, in 2009 (94) (exhibit 2b). In Maryland, heroin/morphine was the most frequently found drug in intoxication deaths in 2009 and 2010. The number of heroin/morphine deaths increased by approximately 30 percent from 196 in 2008 to 254 in 2009 (exhibit 2d). Baltimore experienced a much larger increase (by 46 percent) from 72 in 2008 to 105 in 2009. However, in 2010, there was a sharp decrease in heroin/morphine deaths both statewide and in Baltimore (by 29 percent in Maryland and by 32 percent in Baltimore). In 2010, approximately 39 percent of the heroin/morphine intoxication deaths in the State occurred in Baltimore.

Reports from the Pretrial Services Agency in the District indicated that the percentage of adult arrestees testing positive for opiates remained about the same from 2001 through 2009. In 2010, 8.3 percent of adult arrestees tested positive for opiates (including heroin); the percentage testing positive remained about the same during the first 4 months of 2011 (exhibits 3a and 3b). Juvenile arrestees were not tested for opiates during this time period.

Heroin was the most frequently used illicit drug among publicly funded Maryland treatment enrollments (exhibit 5a). Primary enrollments for heroin to certified publicly funded Maryland alcohol and drug abuse treatment programs increased steadily from 2007 to 2009, but they decreased slightly in 2010. These enrollments were highest in Baltimore in 2010, where they also decreased (by 8.3 percent from 2008 to 2010) (exhibit 5b). More than one-half (52 percent) of the admissions in Baltimore mentioned heroin as a primary substance of abuse, and Baltimore residents accounted for 59 percent of the enrollments in the State.

Other Opiates/Narcotics

Drug overdose deaths in Washington, DC, involving methadone decreased in 2008 and remained about the same in 2009. Twenty-nine drug-positive cases involved methadone, and 12 of these cases were classified as overdose deaths. Methadone intoxication deaths decreased steadily in Maryland statewide from 2007 to 2009, but they increased by 27.4 percent in 2010 (exhibit 2d). They increased slightly from 52 to 58 in Baltimore between 2008 and 2010 (exhibit 2c). The number of oxycodone-positive cases in Washington, DC, tripled from 2007 to 2008 (from 6 to 18) and continued to increase in 2009 (20), but they were still lower than in 2006 (23) (exhibit 2b). In Maryland, oxycodone intoxication deaths increased from 81 in 2008 to 117 in 2010 (exhibit 2d). The number of oxycodone intoxication deaths in Baltimore increased from 7 in 2008 to 11 in 2009 and then decreased again to 8 in 2010. It should be noted that the number of unspecified narcotics deaths was decreasing. Therefore, the changes in methadone and oxycodone deaths could be the result of either an actual increase or more accurate/complete reporting.

Oxycodone, methadone, and buprenorphine combined to account for approximately 3 percent of the drug items seized and identified by NFLIS laboratories in 2010 in Baltimore and Washington, DC. In previous years, these items were twice as likely to be found in the Baltimore Metropolitan Statistical Area as in Washington, DC. For 2010, however, NFLIS data was provided specifically for Baltimore City. Items testing positive for buprenorphine were twice as likely to show up in Baltimore as in Washington, DC (1.78 versus 0.9 percent), but items testing positive for oxycodone and methadone were more likely to show up in Washington, DC, than in Baltimore (data not shown).

The DEA's ARCOS reports showed that the retail distribution of oxycodone and buprenorphine in Washington, DC, Baltimore City, and Baltimore County (212 ZIP codes only) increased sharply from 2000 to 2010 (exhibits 6a and 6b). All of these drugs were distributed in higher quantities in Baltimore City and County than in Washington, DC. Oxycodone was distributed in higher quantities in both cities than buprenorphine. Oxycodone distribution more than doubled in Washington, DC, from 31,963.5 grams in 2000 to 74,254.9 grams in 2010. Distribution more than tripled in Baltimore City and County, from 141,802.5 grams in 2000 to 433,147.11 grams in 2010. Buprenorphine distribution increased from 224.17 grams in 2005 to 2,256.96 grams in Washington, DC, in 2010 and from 2,622.7 grams in 2005 to 22,289.6 grams in 2010 in Baltimore City and County.

In Maryland, primary enrollments for other opiates to certified publicly funded drug and alcohol treatment programs more than tripled, from 1,624 in 2006 to 5,349 in 2010 (exhibit 5a). These enrollments nearly doubled in Baltimore (exhibit 5b). Close to 1 in 10 enrollments involving other opiates in the State were Baltimore residents.

Marijuana

Marijuana was widely available in the District and Maryland, but local production (indoor and outdoor) has historically been limited. According to the W/B HIDTA Threat Assessment and Strategy for Program Year 2012, however, more than 500 plants were seized in 2010 in 12 separate grow operations. Eleven of these operations were in Maryland; 307 plants were seized from 1 operation in Montgomery County. Seizures increased from 4,155 kilograms in 2009 to 5,026 kilograms in 2010 (W/B HIDTA 2009 and 2010 Annual Reports). Marijuana was available for wide-ranging but relatively stable prices in mid-2009. Retail prices were \$950–\$1,400 per pound and \$100–\$500 per ounce in Washington, DC. Prices in Baltimore covered a broader range: \$1,000–\$3,250 per pound and \$125–\$130 per ounce retail.

NFLIS data for CY 2010 showed that approximately 37.4 percent of the drug items seized and identified in Washington, DC, tested positive for marijuana/cannabis, while 49.72 percent of the items seized and identified in Maryland tested positive for marijuana/cannabis. This represented a continuing steady increase in both areas since 2007, and it made marijuana/cannabis the most frequently found drug in the Baltimore/Maryland/Washington, DC, area. The percentage of items testing positive for marijuana/cannabis in Washington, DC, edged out cocaine for the first time in 2010 (exhibits 1a and 1b).

No marijuana-involved deaths were reported by the District's or Maryland's CME in recent years, but marijuana was the fourth most frequently found illicit drug in Washington, DC, traffic-related deaths testing positive for illicit drugs in 2009, after alcohol, cocaine, and PCP (phencyclidine). Marijuana was found in 7.2 percent of these cases (data not shown).

The DC Pretrial Services Agency does not test adult arrestees for marijuana, but marijuana was the most frequently found drug among juveniles. The proportion of juveniles testing marijuana positive has fluctuated in recent years. The percentage increased from 2004 to 2007, after decreasing steadily for 5 years, then decreased slightly in 2008 and 2009, and increased again in 2010 (exhibits 4a and 4b). Approximately 54 percent of juvenile arrestees tested positive in 2010, and 50 percent were marijuana-positive during the first 4 months of 2011.

Primary marijuana enrollments to certified publicly funded Maryland treatment programs increased by 22.9 percent from 2006 (8,109) to 2010 (9,966) (exhibit 5a). Marijuana enrollments also increased in Baltimore from 2007 to 2010 (32 percent) (exhibit 5b).

Methamphetamine/MDMA

No drug overdose deaths were reported due to methamphetamine, MDMA (3,4-methylenedioxy-methamphetamine), or MDA (3,4-methylenedioxyamphetamine) in 2009 in Washington, DC (exhibit 2b). In Maryland, there were no intoxication deaths involving methamphetamine or MDMA in 2009 or 2010. Methamphetamine and MDMA accounted for less than 1 percent of the primary drug mentions at enrollment to treatment in certified publicly funded Maryland drug treatment programs.

Methamphetamine and MDMA were not perceived as widespread or significant threats in the W/B HIDTA region. Seizures throughout the W/B HIDTA regions remained low in comparison with other drugs in 2010, but methamphetamine seizures increased in 2009 and 2010 due to large seizures of

methamphetamine in transit (W/B HIDTA 2010 Annual Report, W/B HIDTA Threat Assessment and Strategy for Program Year 2012).

NFLIS data for 2009 showed that slightly more items tested positive for methamphetamine (0.7 percent) than for MDMA/MDA (1.1 percent) in Washington, DC. In Maryland, less than 1.0 percent of the items tested were positive for methamphetamine or MDMA/MDA. The NDIC reported that locally produced powder methamphetamine sold for \$140–\$150 per gram retail in mid-2009 in Washington, DC. Mexican ice, by comparison, sold for \$1,100–\$1,800 per ounce in Baltimore. MDMA pills sold for approximately twice as much in Washington, DC, (\$20–\$25) as in Baltimore City and County (\$10–\$12) in 2007. In mid-2009, MDMA sold for approximately the same amount in Washington, DC, (\$4–\$25) and in Baltimore (\$10–\$25). No purchases of methamphetamine or MDMA were listed for Baltimore for 2008.

The DC Pretrial Services Agency began testing for amphetamines in August 2006. The percentage of adult arrestees testing positive for amphetamines decreased, from 3.7 percent in 2007 to 1.0 percent in 2010. During the first 4 months of 2011, 1.1 percent tested positive. The percentage of juvenile arrestees testing positive for amphetamines also decreased, from 2.7 percent in 2007 to 0.4 percent in 2010. During the first 4 months of 2011, 1 percent of juvenile arrestees were positive for amphetamines (exhibits 3b and 4b).

PCP

Law enforcement generally rates PCP as a secondary threat, given its fluctuations in use (as demonstrated by W/B HIDTA reports and DC Pretrial Services urinalysis results). PCP can be used alone or in combination with other drugs, most often marijuana.

NFLIS data for 2009 showed that 6.4 percent of the drug items seized and identified in Washington, DC, tested positive for PCP, making it the fourth most frequently found drug there, after marijuana, cocaine, and heroin (exhibit 1a). This was a slight decrease from 2008. However, very few items (0.6 percent) in Maryland were positive for PCP.

Thirty-three PCP-positive deaths occurred in Washington, DC, in 2009, an increase from 2008 (exhibit 2b). Six overdose deaths in Washington, DC, involved PCP in 2008, but none involved PCP in 2009. Four of the traffic-related deaths in Washington, DC, were positive for PCP. In Maryland, there were five intoxication deaths involving PCP in 2009 and six in 2010.

Data from the DC Pretrial Services Agency showed a rise in PCP use among adult arrestees, from the low single digits in the late 1990s to the mid-teens in 2002 and 2003 (exhibits 3a and 3b). Positive tests for PCP among adult arrestees increased, from 6 percent in 2004 to 10 percent in 2008, and they have remained fairly stable since. In 2010, 9.8 percent of adults tested positive for PCP, and during the first 4 months of 2011 10.3 percent tested positive. Trend data from 1987 to the present indicated that PCP use among the juvenile arrestee population fluctuated greatly between 1987 and 2004 and then leveled off at approximately 2 to 3 percent each year through 2008. The percent testing positive decreased from 2.8 percent in 2008 to 1.4 percent in 2010 (exhibits 4a and 4b). The percentage testing positive during the first 4 months of 2010 remained low (1.0 percent).

Primary treatment enrollments involving PCP in Maryland—although much lower than those for other drugs—more than doubled between 2006 ($n=247$) and 2010 ($n=572$) (exhibit 5a). Enrollments involving PCP in Baltimore remained low—from three to nine each year (exhibit 5b).

ADAM II

The 2010 ADAM II report was released just prior to the June 2011 CEWG meeting. ADAM II continues the methodology from the original ADAM in 10 sites, including Washington, DC. ADAM II data in Washington, DC, come from a urinalysis for 10 drugs and a 20–25-minute face-to-face interview. The interview covers “basic demographics, drug use history, current use, recent participation in buying and selling drugs, lifetime drug, and mental health treatment, and, for those with any illegal drug use in the prior 12 months, detailed information on arrests, treatment, housing, and drug and alcohol use for the last year” (*ADAM II 2010 Annual Report* p. ix).

The 2010 Washington, DC, sample included an eligible sample of 331 male arrestees in 8 facilities. There was a response rate of 80 percent ($n=226$) for the interviews and a response rate of 80 percent ($n=181$) for the urinalysis. Approximately 22 percent of the arrestees tested positive for cocaine, followed by 36 percent for marijuana, 9 percent for opiates, and less than 1 percent for methamphetamine. The percentages for cocaine and opiates were very similar to those found from the Pretrial Services tests, which include all willing adult arrestees ($n=20,078$ in 2010); the percentages testing positive for methamphetamine were low in both. Approximately one-half of the arrestees tested through ADAM II were age 36 or older, and approximately 88 percent were African-American. The majority of these arrestees had completed a high school/GED or more and worked full- or part-time. Approximately 47 percent owned a house, mobile home, or apartment. Although approximately one-third had no health insurance, three-quarters or more of those reporting cocaine powder or crack use and 44 percent of those reporting heroin use had received treatment.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Washington, DC, and Maryland both switched from a code-based reporting system to a name-based reporting system for HIV cases, as required by the Centers for Disease Control and Prevention (CDC). Washington, DC, recently released a new report on HIV/AIDS, Hepatitis, STD (sexually transmitted disease), and TB (tuberculosis) cases, but efforts continue in Maryland to clean and assess the data to ensure its accuracy. CDC estimates that this transition takes approximately 5 years. As a result, the most recent data available for Maryland are for 2007.

The HIV/AIDS Epidemiology Annual Report 2009 indicated that the rate of newly reported HIV/AIDS cases in Washington, DC, decreased by 42 percent, from 1,311 in 2007 to 755 in 2009 (exhibit 7a). Newly reported HIV/AIDS cases among injection drug users (IDUs) and men who have sex with men (MSM)/IDU in Washington, DC, decreased by 64 percent, from 197 in 2005 to 71 in 2009 (exhibits 7b). Nearly three-quarters of all new HIV/AIDS diagnoses were male, and more than three-quarters were African-American. More than one-half were age 30–49 at diagnosis.

A recent poll of Washington, DC, residents conducted by the Washington Post and the Kaiser Family Foundation found that 65 percent of African-American residents were concerned about an immediate family member becoming infected with HIV, and 44 percent were personally concerned about becoming infected. In comparison, only 8 percent of White residents were concerned about

immediate family members becoming infected, and only 10 percent were personally concerned about becoming infected (Washington Post, 6/21/11, p.B1).

In Maryland, reported HIV and AIDS cases decreased by approximately one-third from 2008 to 2009 (from 2,261 in 2008 to 1,521 in 2009 for HIV, and from 1,020 to 692 for AIDS). IDU-related HIV cases in Maryland also decreased steadily from 2001 to 2009, but the percentage of MSM/IDU-related HIV cases fluctuated slightly (exhibit 8). Approximately one-third of the HIV diagnoses during 2009 were from Baltimore City, and approximately one-quarter were from Prince George's County. The only other jurisdiction accounting for more than 5 percent of the cases was Baltimore County (13.7 percent). Similarly, nearly one-third of the new AIDS diagnoses were from Baltimore City; approximately 20 percent were from Baltimore County; and approximately 19 percent were from Prince George's. Nearly one-half of those living with HIV without AIDS and more than 40 percent of those living with HIV and AIDS were from Baltimore City. In 2009, the majority of new HIV diagnoses in Maryland were male and African-American. Nearly three-quarters were age 20–49. The majority of new AIDS diagnoses were also male and African-American, but they were slightly older (76.9 percent were age 30–59). In 2008, there were 301 IDU and IDU/MSM-related HIV cases in Maryland.

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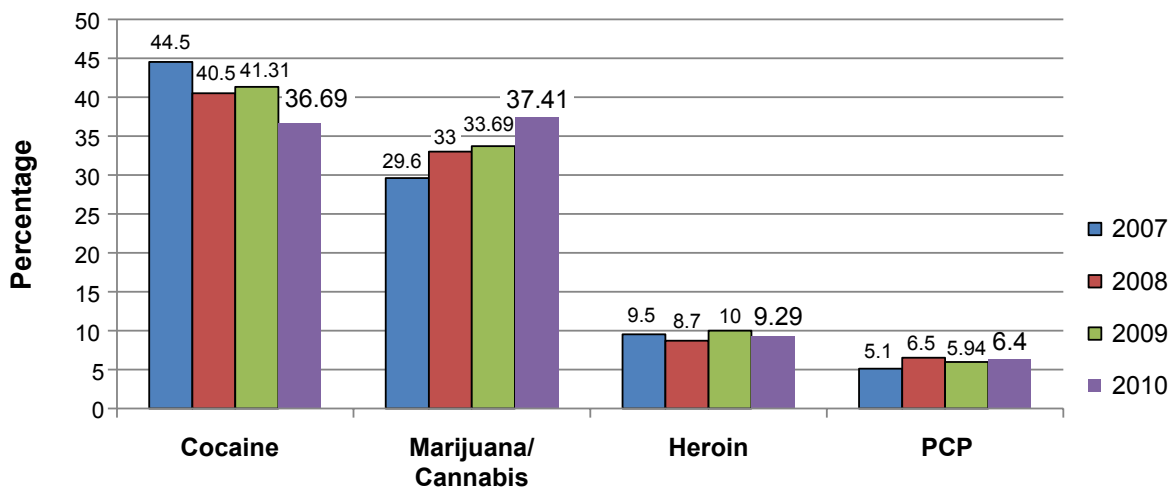
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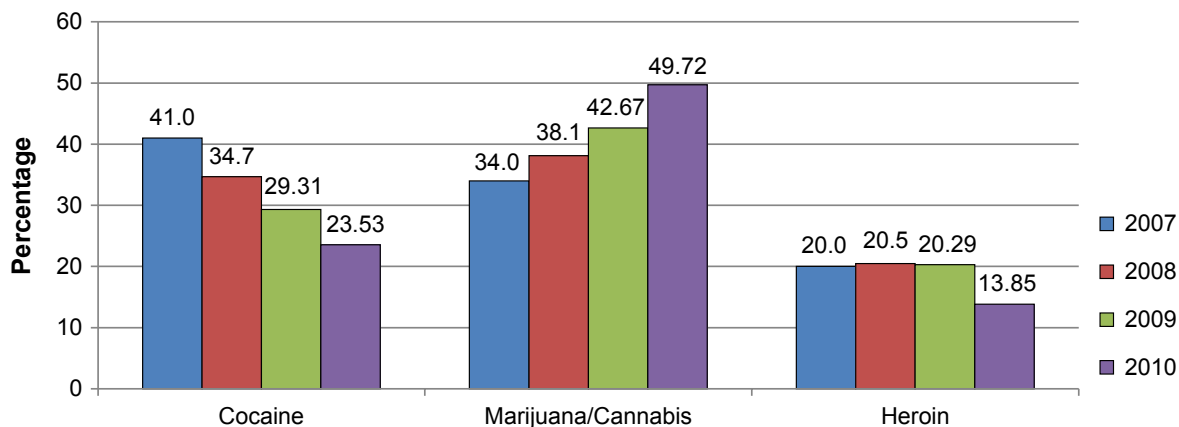
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Exhibit 1a. Percentage of Drug-Positive Items Identified in NFLIS Analyses¹, for Selected Drugs, in Washington, DC: 2007–2010

¹In 2007, N=4,141 drug items were tested; in 2008, N=3,715 items were tested; in 2009, N=3,520 items were tested; in 2010, N=3,876 items were tested.

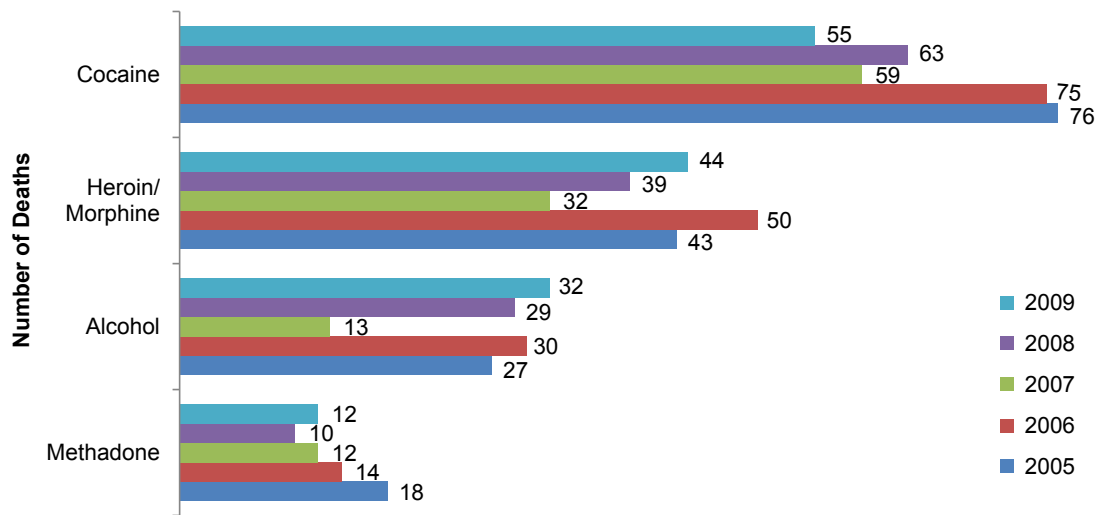
SOURCE: NFLIS, DEA, special data runs May 2008, 2009, 2010, and 2011

Exhibit 1b. Percentage of Drug-Positive¹ Items Identified in NFLIS Analyses², for Selected Drugs, in Maryland: 2007–2010

¹In Maryland, 1.3 percent of items tested positive for oxycodone; less than 1 percent of items tested positive for MDMA/MDA, alprazolam, buprenorphine, clonazepam, methadone, PCP, and methamphetamine.

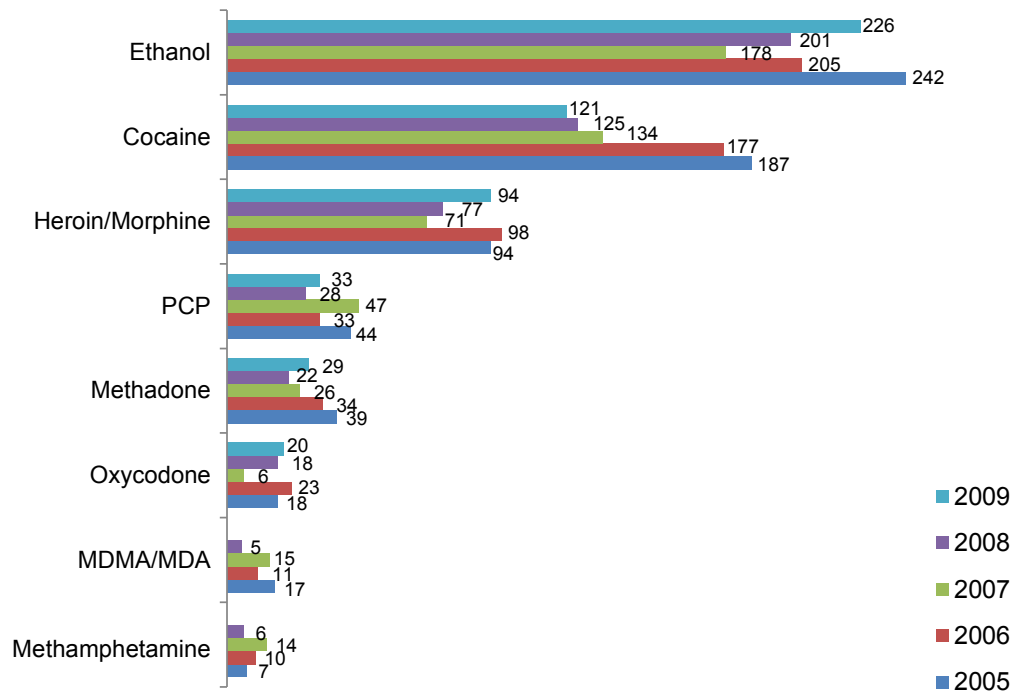
²In 2007, N=62,355 drug items were tested; in 2008, N=57,968 items were tested; in 2009, N=55,149 items were tested; in 2010, N=67,313 items were tested.

SOURCE: NFLIS, DEA, special data runs May 2008, 2009, 2010, and 2011

Exhibit 2a. Number of Drug Overdose Deaths, by Drug¹, in Washington, DC: 2005–2009

¹In 2005, N=119 deaths; in 2006, N=111; in 2007, N=93; in 2008, N=105; in 2009, N=103.

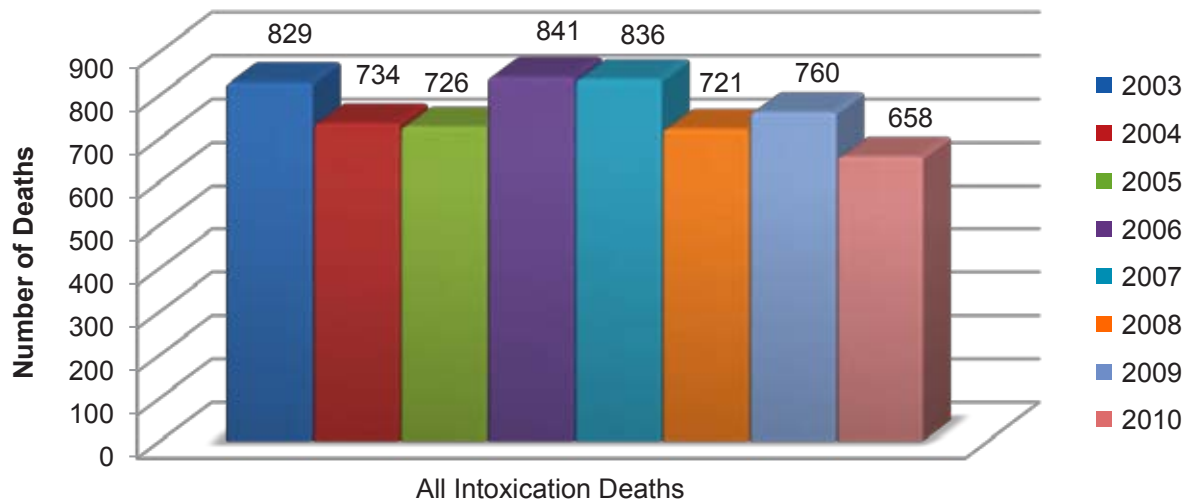
SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data from the Office of the Chief Medical Examiner, Washington, DC, Annual Reports 2005, 2006, 2007, 2008, and 2009

Exhibit 2b. Number of Drug-Positive Deaths, by Drug¹, in Washington, DC: 2005–2009²

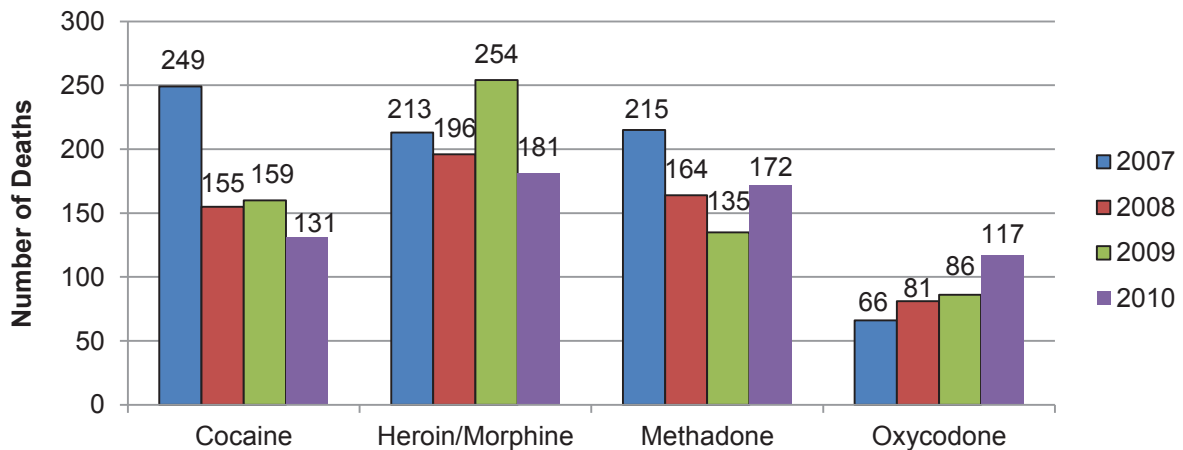
¹In 2005, N=631 positive cases; in 2006, N=503; in 2007, N=447; in 2008, N=500; in 2009, N=821. Some decedents tested positive for multiple drugs.

²Positive cases for MDMA/MDA and methamphetamine were not included in the 2009 Annual Report.

SOURCE: Office of the Chief Medical Examiner, Washington, DC, Annual Reports 2005, 2006, 2007, 2008, and 2009

Exhibit 2c. Total Number of Drug Intoxication Deaths, in Maryland, by Year: 2003–2010

SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data from Office of the Chief Medical Examiner, Maryland, 2006 Annual Report and data runs June 2008, May 2009, May 2010, Dec 2010, and May 2011

Exhibit 2d. Number of Drug Intoxication Deaths for Selected Drugs, in Maryland: 2007–2010¹

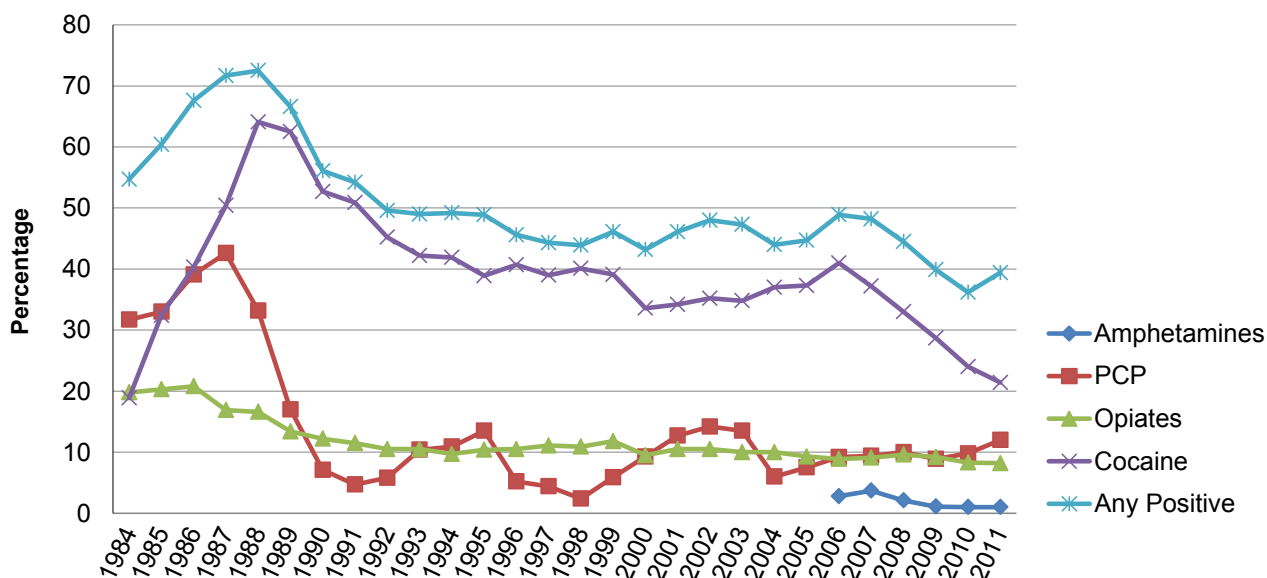
¹In 2007, N=836; in 2008, N=721; in 2009, N=760; in 2010, N=658.

SOURCE: Office of the Chief Medical Examiner, special data run May 2009, March 2010, and May 2011

Exhibit 3a. Percentage of Adult Arrestees Testing Positive for Selected Drugs, in Washington, DC: 2000–2010

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(N=)	(15,630)	(17,350)	(17,952)	(17,742)	(19,531)	(19,867)	(23,271)	(22,800)	(24,375)	(22,319)	(20,078)
Cocaine	33.6	34.2	35.2	34.8	36.6	37.3	41.0	37.2	33.0	28.7	24
PCP	9.3	12.7	14.2	13.5	6.2	7.5	9.2	9.4	9.6	8.9	9.8
Opiates	9.5	10.5	10.5	10.0	9.8	9.3	8.9	9.1	10.0	9.2	8.3
Any Drug	43.2	46.1	48.0	47.3	43.5	44.7	48.9	48.2	44.5	39.9	36.2

SOURCE: District of Columbia Pretrial Services Agency

Exhibit 3b. Percentage of Adult Arrestees Testing Positive for Any Drug, Cocaine, PCP, Opiates, and Amphetamines, in Washington, DC: 1984–2011¹

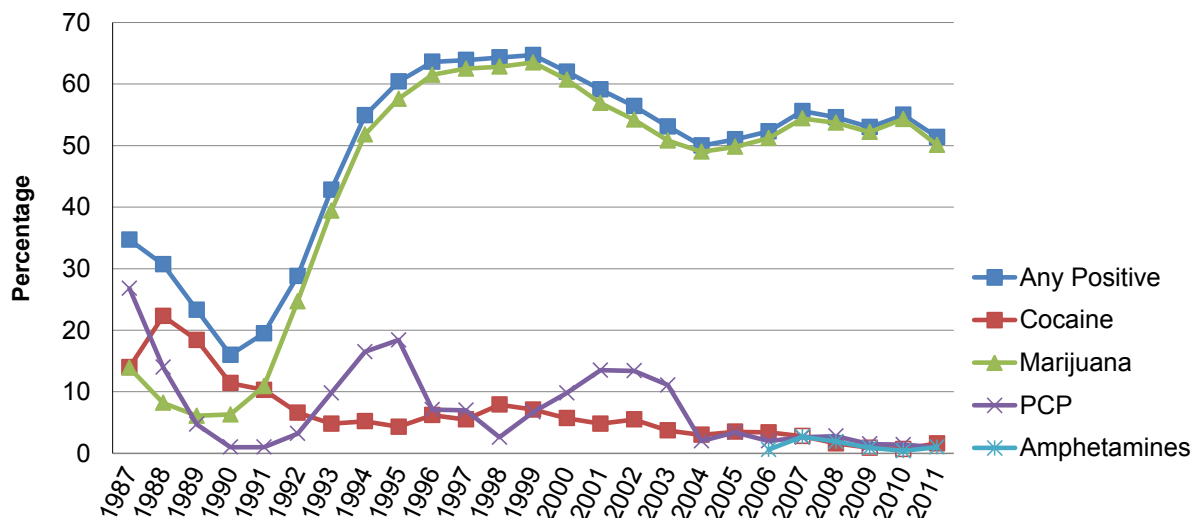
¹2006 percentage for amphetamines covers August–December only. Amphetamines are for 2006–2011 only. For all drug categories, 2011 includes January–April only.

SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data from the District of Columbia Pretrial Services Agency

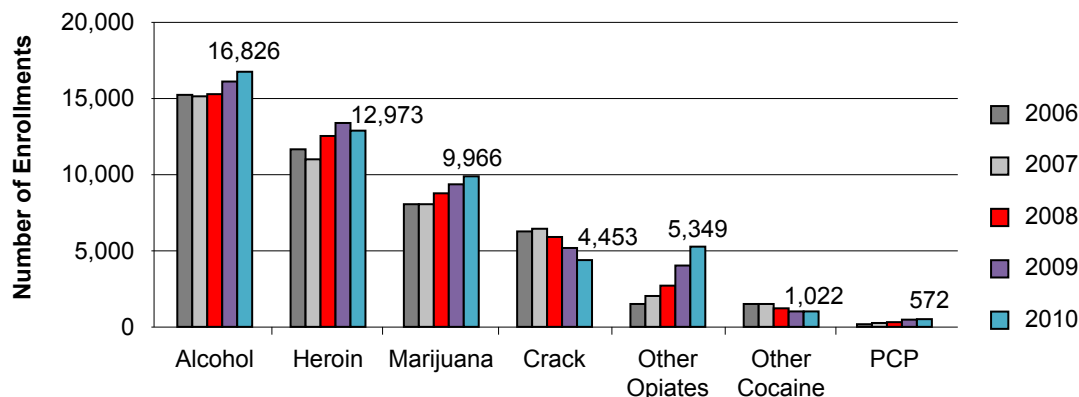
Exhibit 4a. Percentage of Juvenile Arrestees Testing Positive for Selected Drugs, in Washington, DC: 2000–2010

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(N=)	(2,162)	(2,165)	(1,896)	(1,899)	(2,001)	(2,319)	(2,379)	(2,248)	(2,566)	(2,614)	(2,103)
Marijuana	60.7	56.9	54.2	50.8	49	49.8	51.2	54.4	53.7	52.2	54.3
Cocaine	5.7	4.8	5.5	3.7	3.3	3.5	3.4	2.8	1.6	0.9	0.7
PCP	9.8	13.5	13.4	11.1	1.9	3.4	2.0	2.6	2.8	1.5	1.4
Any Drug	62.0	59.1	56.4	53.1	49.6	51.0	52.3	55.6	54.6	53.0	55

SOURCE: District of Columbia Pretrial Services Agency

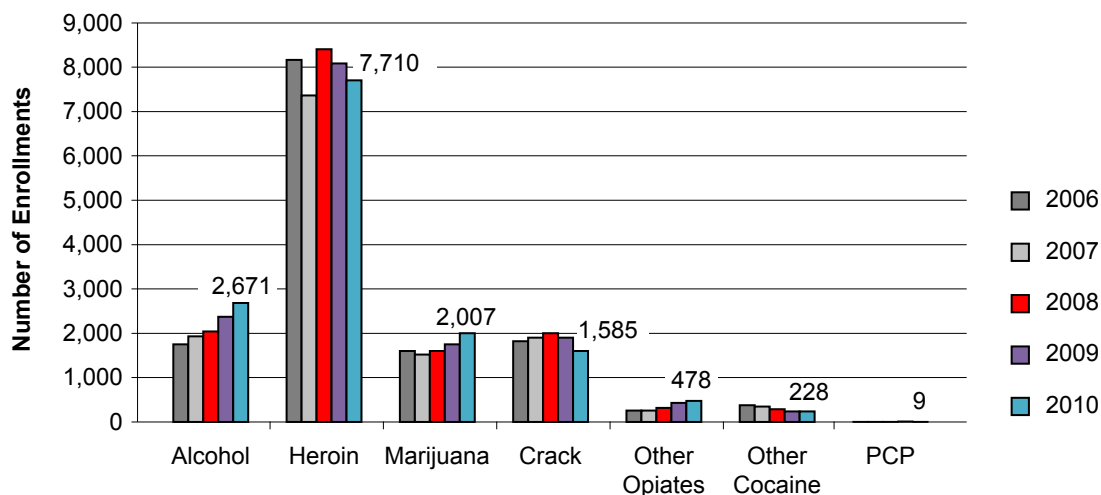
Exhibit 4b. Percentage of Juvenile Arrestees Testing Positive for Any Drug¹, Cocaine, PCP, Marijuana, and Amphetamines, in Washington, DC: 1987–2011²¹Any positive includes opiates from 1987 through mid-1994 (<1 percent).²2011 includes January–April amphetamines tests; testing started in August 2006.

SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data from the District of Columbia Pretrial Services Agency

Exhibit 5a. Number of Primary Enrollments¹ to Certified Publicly Funded Alcohol and Drug Treatment Programs, in Maryland: 2006–2010

¹In 2006, $N=45,554$; in 2007, $N=45,657$; in 2008, $N=47,848$; in 2009, $N=50,774$; in 2010, $N=52,027$.

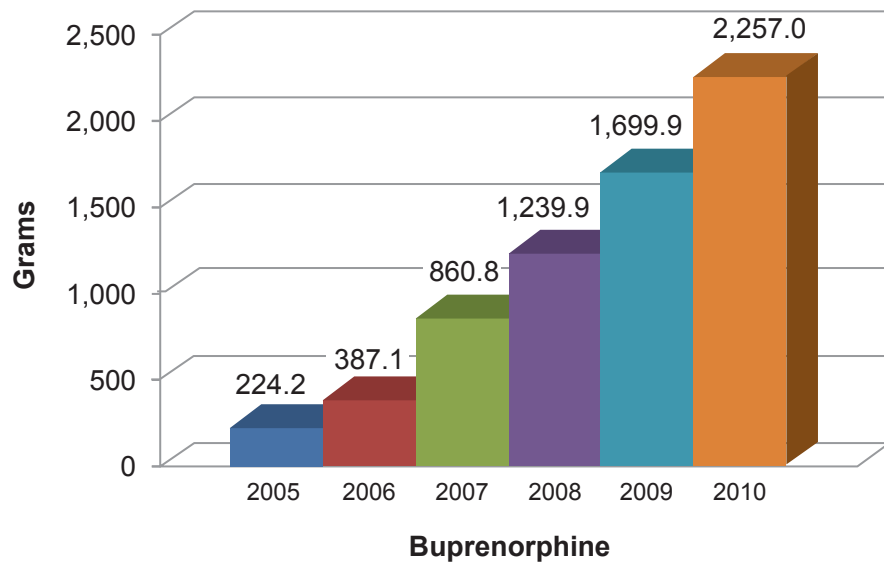
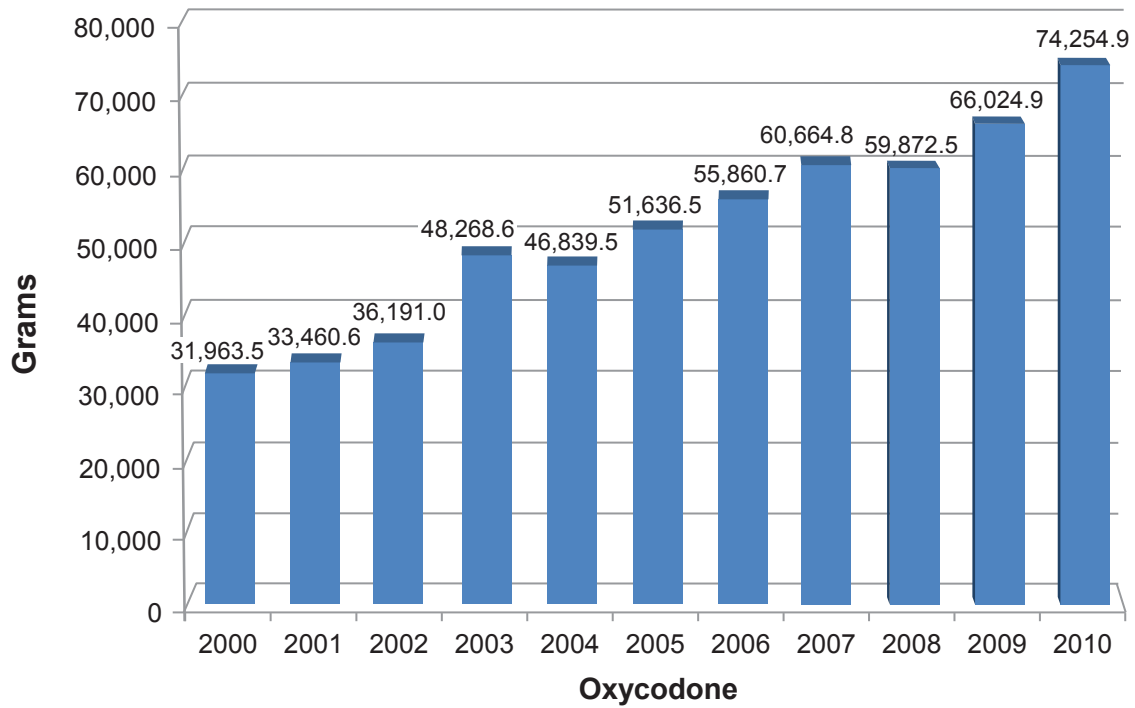
SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data provided by the Alcohol and Drug Abuse Administration, Department of Health and Mental Hygiene, SMART System

Exhibit 5b. Number of Primary Enrollments¹ to Certified Publicly Funded Alcohol and Drug Treatment Programs, in Baltimore: 2006–2010

¹In 2006, $N=14,018$; in 2007, $N=13,467$; in 2008, $N=14,756$; in 2009, $N=14,957$; in 2010, $N=14,857$.

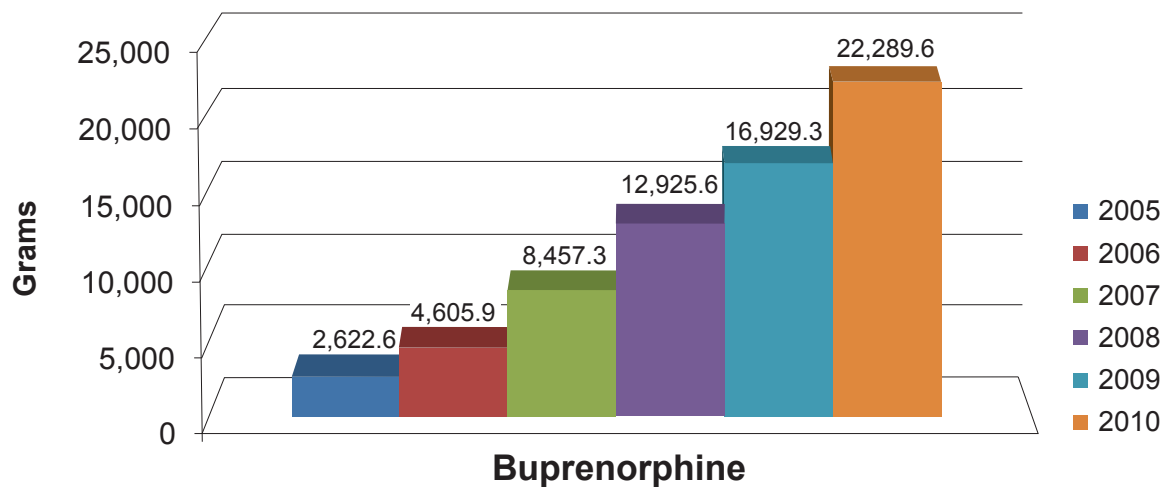
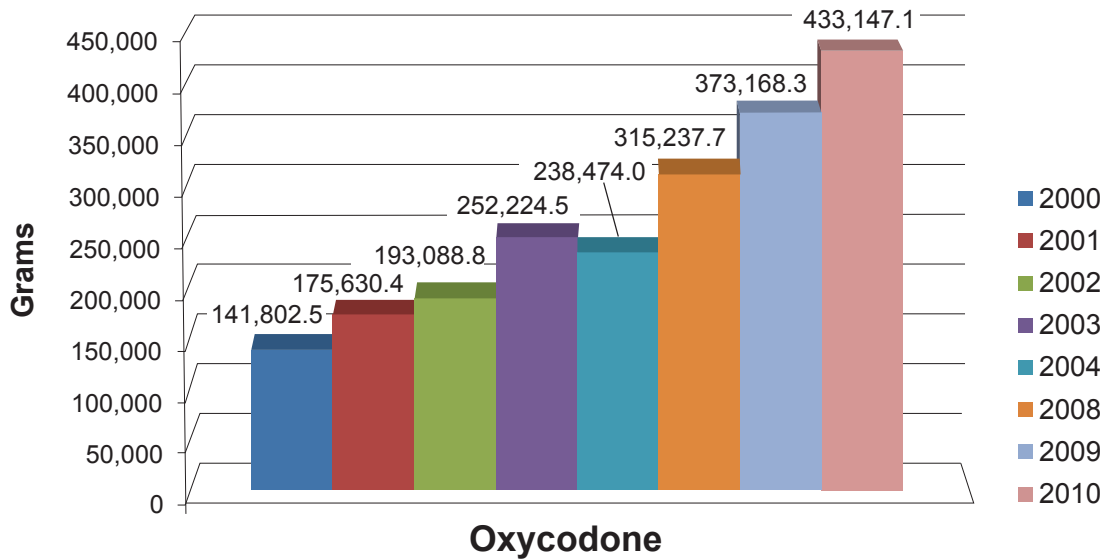
SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data provided by the Alcohol and Drug Abuse Administration, Department of Health and Mental Hygiene, SMART System

Exhibit 6a. Retail Distribution of Oxycodone and Buprenorphine, by Year and Drug¹, in Washington, DC: 2000–2010



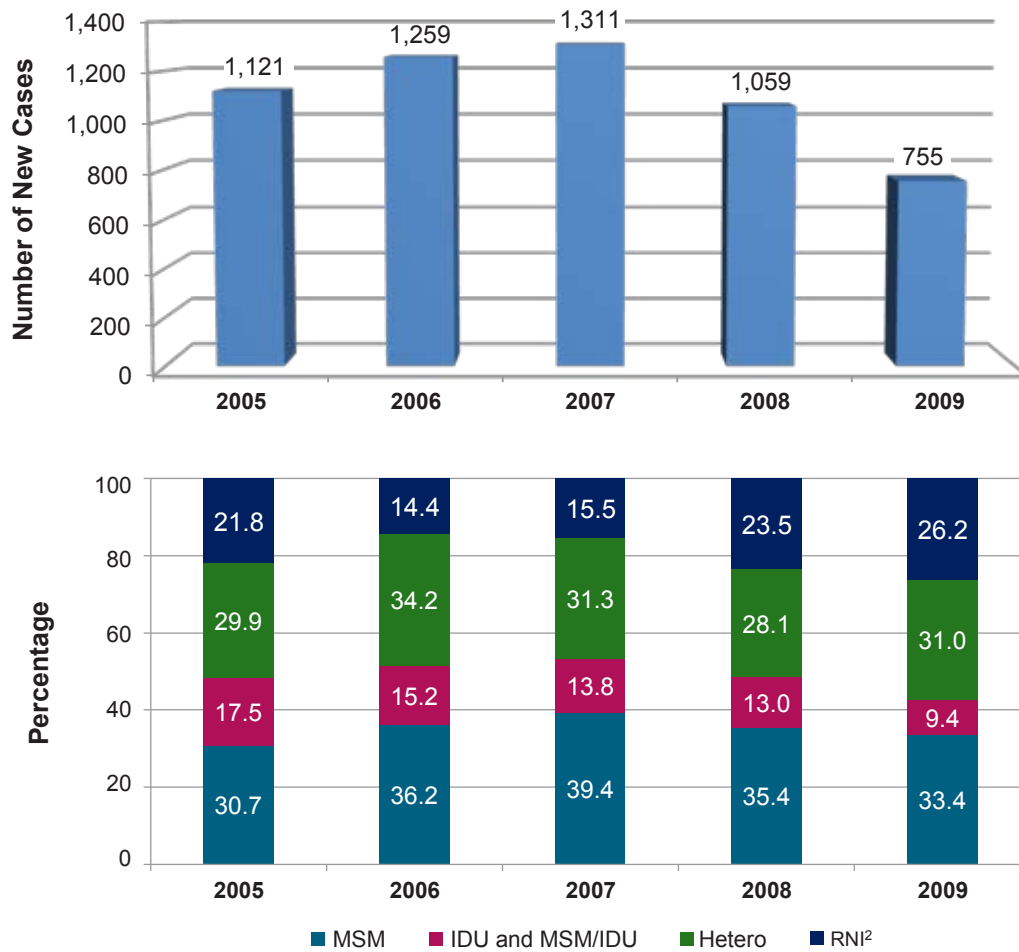
¹Buprenorphine first became available for treating heroin addiction in May 2003.
SOURCE: ARCOS, DEA, Retail Drug Summaries and special data runs

Exhibit 6b. Retail Distribution of Oxycodone and Buprenorphine, by Year and Drug¹, in Baltimore: 2000–2010



¹Buprenorphine first became available for treating heroin addiction in May 2003.
SOURCE: ARCOS, DEA, Retail Drug Summaries and special data runs

Exhibit 7a. Newly Diagnosed HIV/AIDS Cases, by Year and by Mode of Transmission¹, in Washington, DC: 2005–2009

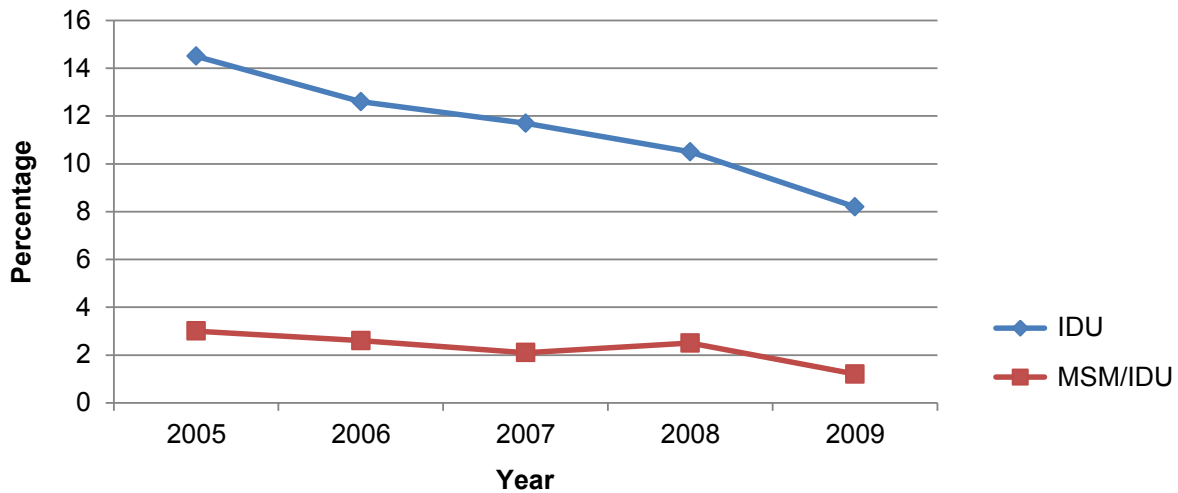


¹IDU includes injection drug users (IDUs) and men who have sex with men (MSM) who are also IDUs.

²RNI=Risk Not Identified.

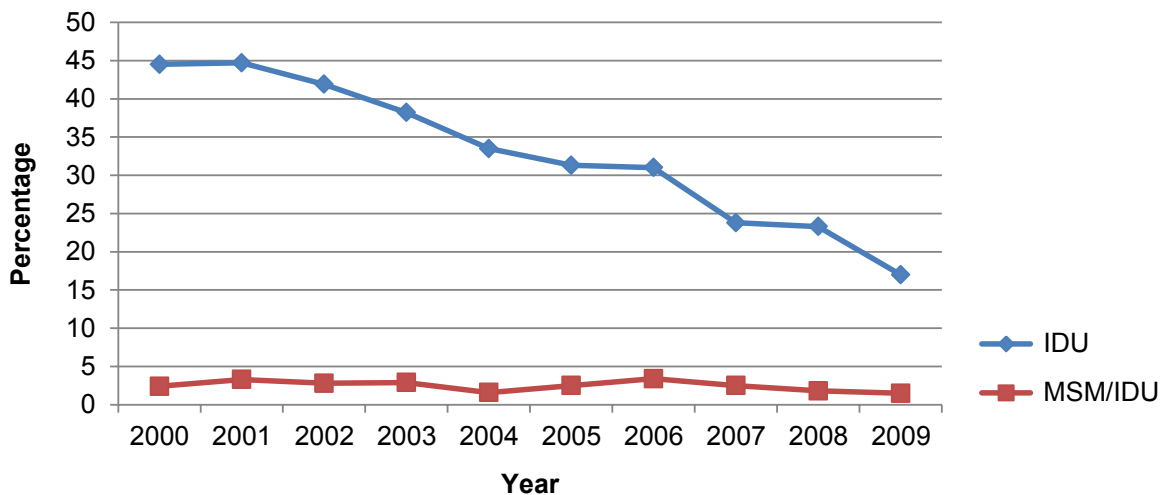
SOURCE: District of Columbia HIV/AIDS, Hepatitis, STD, and TB Annual Report 2010, DC Department of Health

Exhibit 7b. Newly Diagnosed IDU- and MSM/IDU-Related HIV/AIDS Cases With Reported Exposure Category, as a Percentage of New HIV/AIDS Diagnoses, by Year of Diagnosis, in Washington, DC: 2005–2009



SOURCE: District of Columbia HIV/AIDS, Hepatitis, STD, and TB Annual Report 2010, DC Department of Health

Exhibit 8. Newly Diagnosed IDU- and MSM/IDU-Related HIV Cases With or Without an AIDS Diagnosis and with Reported Exposure Category, as a Percentage of New HIV Diagnoses, by Year of HIV Diagnosis, in Maryland: 2000–2009



SOURCE: Maryland HIV/AIDS Epidemiological Profile Fourth Quarter 2010, Infectious Disease and Environmental Health Administration, Maryland Department of Health and Mental Hygiene

Greater Boston Patterns and Trends in Drug Abuse: 2010

Daniel P. Dooley¹

ABSTRACT

Boston's cocaine indicators were mostly decreasing in 2010 but remained at high levels. Cocaine (including crack) primary drug treatment admissions decreased slightly from 8 percent during the 2 year period, 2007–2008, to 7 percent in 2009, and then to 5 percent in 2010. The overall decrease was observed for both powder cocaine and crack. The number of crack primary drug admissions continued a decrease that began in 2005, declining from 765 in 2009 to 525 in 2010. Additionally, 29 percent of all treatment admissions identified cocaine (including crack) as a primary, secondary, or tertiary drug in 2010, compared with 37 percent in 2006 and 31 percent in 2009. The proportion of Class B drug arrests (mainly cocaine) decreased slightly, from 49 percent in 2009 to 48 percent in 2010, and the proportion of drug samples seized and identified as containing cocaine in National Forensic Laboratory Information System (NFLIS) laboratories in the Boston area decreased, from 29 percent of the total in 2009 to 26 percent in 2010. However, the proportion of cocaine helpline calls increased, from 15 percent in 2009 to 17 percent in 2010. Heroin abuse indicators were mixed at very high levels. The proportion of primary heroin treatment admissions was stable at 51 percent in 2009 and 2010. In 2010, 85 percent of all primary heroin admissions (more than four-fifths) reported injection drug use during the past year, an increase from 73 percent in 2007. Calls to the helpline involving heroin decreased, from 34 percent in 2009 to 29 percent in 2010. The proportion of Class A drug arrests (mainly heroin) remained stable at approximately 22 percent from 2009 to 2010. The proportion of drug items seized and identified as heroin in the Boston area decreased slightly, from 16 percent in 2009 to 14 percent in 2010. Indicators for other opiates were mostly increasing at moderate levels. The proportion of primary other opiates/synthetics treatment admissions increased from 3 percent in 2007 to 5 percent in 2010. The 928 other opiates admissions in 2010 was the highest number in 10 years of reported data. Overall, 11 percent of all treatment admissions in the Boston area cited other opiates/synthetics as either primary, secondary, and/or tertiary drugs in 2010. Calls to the helpline with nonheroin opioid mentions increased, from 16 percent in 2008, to 18 percent in 2009, to 20 percent in 2010. The proportion of drug samples seized and identified as containing oxycodone in NFLIS laboratories increased, from 7 percent in 2009 to 9 percent in 2010. Benzodiazepine abuse indicators were mixed at moderate levels. Although the proportion of benzodiazepines cited as the primary drug abused among treatment admissions remained low (under 1 percent of all admissions) from 2001 to 2010, the proportion of admissions citing benzodiazepines as either primary, secondary, or tertiary drugs of abuse increased, from 7 percent in 2005 to 12 percent by 2010. However, benzodiazepine helpline calls remained at 5 percent from 2006 to 2010. In 2010, 2 of the top 10 drugs identified by NFLIS laboratories—clonazepam and alprazolam—were benzodiazepines. Together,

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these two drugs accounted for 5 percent of all NFLIS samples seized and identified in the Boston area. Marijuana indicators were fairly stable at moderate levels in 2010. Treatment admissions citing marijuana as the primary drug of abuse remained at 4 percent, as in the recent past, and combined primary, secondary, and tertiary marijuana admissions remained between 14 and 15 percent from 2004 to 2010. From 2009 to 2010, the proportion of marijuana helpline calls increased slightly, from 4 to 6 percent. The proportion of Class D drug arrests (mainly marijuana) remained at 21 percent from 2009 to 2010. During the same 2-year period, the proportion of drug items seized and identified as marijuana/cannabis in NFLIS laboratories increased from 24 to 26 percent of all drug items identified. Methamphetamine indicators remained relatively low overall in Boston. In 2009 and 2010, less than 1 percent of all treatment admissions identified methamphetamine as a primary, secondary, or tertiary drug of abuse. Only seven methamphetamine calls to the Boston area helpline were reported in 2010. Methamphetamine ranked 21st among all drug items seized and identified by NFLIS in 2010; samples identified as methamphetamine totaled 69 in 2008, 66 in 2009, and 79 in 2010. The Drug Enforcement Administration reported that the cost of methamphetamine decreased, from \$150–\$250 per gram in 2009 to \$90–\$200 per gram in 2010.

INTRODUCTION

Area Description

According to the U.S. Census Bureau 2006–2008 American Community Survey, the city of Boston has a population of 619,086. A larger metropolitan Boston region (CHNA 19), consisting of the cities of Boston, Brookline, Chelsea, Revere, and Winthrop, has a population of 787,482, and a seven-county Boston Metropolitan Statistical Area (MSA) has a population of 4,494,144. The racial composition for the city of Boston includes 51 percent White non-Hispanic; 22 percent Black non-Hispanic; 16 percent Hispanic/Latino; and 8 percent Asian. The racial composition for the Boston MSA includes 78 percent White non-Hispanic; 6 percent Black non-Hispanic; 8 percent Hispanic/Latino; and 6 percent Asian.

Several characteristics influence drug trends in Boston and throughout Massachusetts:

- Boston shares borders with five neighboring States (Rhode Island, Connecticut, New York, Vermont, and New Hampshire); they are linked by a network of State and interstate highways.
- Boston's proximity to Interstate 95 connects the metropolitan area to all major cities on the east coast, particularly New York.
- The city of Boston has a public transportation system that provides easy access to communities in eastern Massachusetts.
- There is a large population of college students in both the greater Boston area and western Massachusetts.
- Massachusetts has several seaport cities with major fishing industries and harbor areas.
- Logan International Airport and several regional airports are located within a 1-hour drive of Boston.
- There are a high number of homeless individuals seeking shelter in the Boston area.

Data Sources

This report presents data from a number of different sources with varied Boston area geographical parameters. For this reason, caution is advised when attempting to generalize across data sources. A description of the relevant boundary parameters is included with each data source description. For simplicity, these are all referred to as “Boston” throughout the text of the report. In addition, there are many systemic factors specific to each data source that do not directly relate to the level of abuse in the larger population but may contribute to changes seen in the data. For example, a 2009 change in Massachusetts’ marijuana possession law resulted in the decriminalization of possession of up to 1 ounce of marijuana. As a result, there was a substantial reduction in Class D (mainly marijuana) drug arrests and drug samples seized and identified by forensic laboratories as marijuana in 2009 compared with 2008. To what extent such systemic factors influence totals and subpopulation differences observed within a data source is difficult to determine and often unknown. Analysis of drug arrests and laboratory samples will be limited to 2009 and 2010. Conclusions drawn from the data sources are subject to such limitations. At best, the data presented here offer a partial picture of Boston’s collective drug abuse experience. Overall understanding of drug use and abuse patterns improves as current data sources improve and new data sources develop.

Data sources used in this report include the following:

- **State-funded substance abuse treatment admissions data** for a Boston region comprising the cities of Boston, Brookline, Chelsea, Revere, and Winthrop (Community Health Network Area [CHNA] 19) for calendar years (CYs) 2001 through 2010 were provided by the Massachusetts Department of Public Health (MDPH), Bureau of Substance Abuse Services. All treatment data refer to treatment admissions of clients who may or may not have been admitted more than once within a calendar year. The number of treatment admissions has ranged between 18,689 and 20,021 annually from 2003 to 2010.
- **Information on drug mentions in helpline calls** for the Boston CHNA 19 for CYs 2001 through 2010 was provided by the Massachusetts Substance Abuse Information and Education Helpline. The number of helpline calls has decreased substantially, from 5,898 in 2001 to 2,079 in 2010.
- **Drug arrest data** for the city of Boston for 2001 through 2010 were provided by the Boston Police Department, Drug Control Unit and Office of Research and Evaluation. For arrests data only, Black and White racial designations include those who identify themselves as Hispanic. Also, due to the 2009 change in Massachusetts’ marijuana possession law, drug class trending considerations are confined to observed changes from 2009 to 2010. Adjusted (nonmarijuana) drug class proportions, in addition to nonadjusted drug class proportions, are shown in this report for all years to allow trending of nonmarijuana items in a manner that accounts for the marijuana possession law change. The number of drug arrests has decreased, from 4,772 in 2007 to 2,875 in 2010.
- **Analysis of seized drug samples** for a seven county Boston MSA including Essex, Middlesex, Norfolk, Plymouth, Suffolk, Rockingham, NH, and Strafford, NH, Counties for 2008 through 2010 was provided by the National Forensic Laboratory Information System (NFLIS) Data Query System (DQS), Drug Enforcement Administration (DEA). Adjusted (excluding marijuana and referred to as “nonmarijuana”) sample proportions, in addition to nonadjusted sample proportions, are shown in this report for all 3 years to allow trending of nonmarijuana items in a manner that accounts for the

change in the marijuana possession law in 2009. The total number of drug samples increased, from 17,394 in 2009 to 22,734 in 2010.

- **Drug price, purity, and availability information** covering the second half of 2010 for New England were provided by the DEA, New England Field Division Intelligence Group, May 2011.
- **High school student drug use data** for Boston public high school students were provided by the Youth Risk Behavior Survey (YRBS) 2009, Boston Public School Department and the Centers for Disease Control (CDC).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine (including crack) was one of the most heavily used drugs in Boston in 2010. Cocaine/crack indicators for 2010 were mostly decreasing but remained at high levels. In 2010, 999 treatment admissions (5 percent of all admissions) reported cocaine/crack as the primary drug of abuse, and an additional 4,532 admissions (24 percent of all admissions) reported cocaine/crack as a secondary or tertiary drug (exhibit 1). Of the primary cocaine/crack admissions, 53 percent identified crack and 47 percent identified powder cocaine as the primary drug.

The proportion of admissions reporting cocaine/crack as the primary drug of abuse has steadily decreased, from 9 percent in 2006 to 5 percent in 2010 (exhibit 1). This percentage decrease was driven by a 46-percent fall in the number of crack primary admissions and a 35-percent decline in the number of powder cocaine admissions. The proportion of admissions reporting cocaine/crack as a secondary drug decreased from 24 percent in 2006 to 20 percent in 2010 (exhibit 1). Twenty-five percent of the 999 cocaine/crack primary drug admissions reported no other secondary drug. Of the 649 cocaine/crack primary drug admissions reporting a different secondary drug in 2010, 49 percent reported alcohol; 27 percent reported heroin; and 16 percent reported marijuana as the secondary drug.

The gender distribution of cocaine/crack primary drug treatment admissions in 2010 (61 percent male, 38 percent female, and 1 percent transgender) reflected a slight increase in the proportion of males (from 58 percent in 2008 and 60 percent in 2009) and a decrease in the proportion of females (from 42 percent in 2008 and 40 percent in 2009) (exhibit 2a). In 2010, 10 percent of cocaine/crack treatment admissions were younger than 26; 24 percent were age 26–34; and 66 percent were 35 and older. The age distribution changed very little from 2005 to 2010. During the 5 previous years, from 2000 to 2004, there was a higher proportion of clients in the 26–34 age group and a lower proportion in the 35 and older age group (exhibit 2a). The 2010 racial/ethnic group distribution for cocaine/crack admissions (40 percent Black, 40 percent White, 16 percent Latino, and 1 percent Asian) revealed a shift toward higher Latino proportions (up from 11 percent in 2003, but relatively stable since 2004) and continued lower Black proportions (a continuing yearly decrease since their 59-percent representation in 2002) (exhibit 2a).

Cocaine or crack was indicated in 354 calls (17 percent) to the substance abuse helpline in 2010 (exhibit 3). The proportion of cocaine/crack helpline calls in 2010 reflected a slight increase from 15 percent in 2009, but it was below the 18 percent level observed in 2007 and 2008. There were 1,376

Class B (mainly cocaine and crack) drug arrests in 2010 (exhibit 4). Class B arrests accounted for the largest proportion of drug arrests (48 percent) in the city of Boston in 2010. The proportion of Class B arrests remained fairly stable from 2009 to 2010, decreasing slightly from 49 percent in 2009.

The gender distribution of Class B arrestees in 2010 (89 percent male and 11 percent female) reflected a slight increase in the proportion of male arrestees and slight decrease in the proportion of female arrestees, compared with the previous 9 years. The proportion of male arrestees ranged from 85 percent to 87 percent between 2001 and 2009 (arrestee demographic data not shown). The proportion of Class B arrestees age 40 and older increased from 24 percent in 2005 to 34 percent in 2008, before decreasing to 29 percent in 2010. Class B arrestees younger than 20 remained less than 10 percent (compared with 7 percent in 2009 and 8 percent in 2010) for only the second year in 10 years of data. The racial/ethnic distribution of Class B arrestees was similar from 2007 to 2010: 62–63 percent were Black (including Hispanic); 36–37 percent were White (including Hispanic); and 20–21 percent were Hispanic.

In 2010, 5,945 drug samples seized from drug arrests were identified by area NFLIS laboratories as containing cocaine/crack. The proportion of samples identified as cocaine/crack samples among all nonmarijuana drug samples analyzed decreased from 28 percent in 2009 to 26 percent in 2010 (exhibit 5). The DEA reported that retail “street-level” cocaine cost between \$50 and \$100 per gram in the second half of 2010, with variable levels of purity in Boston (exhibit 6). A rock of crack cost \$10–\$80. Cocaine was considered available throughout New England. According to the 2009 YRBS, 3 percent of Boston public high school students reported having used cocaine during their lifetime.

Heroin

Heroin remained one of the most heavily abused drugs in Boston, based on current indicators. Overall in 2010, heroin indicators were mixed at very high levels with some stable indicators and others slightly decreasing. In 2010, 9,801 treatment admissions (51 percent of all admissions) reported heroin as the primary drug of abuse, and there were an additional 943 admissions (5 percent of all admissions) with heroin reported as either a secondary or tertiary drug (exhibit 1). A comparison of 2010 with previous years shows that the proportion of admissions with heroin reported as the primary drug remained stable at 51 percent from 2009, the highest level in 10 years. The proportion has increased from 41 percent in 2001 (exhibit 1). The percentage of admissions with heroin reported as a secondary drug remained stable, between 3 and 5 percent, from 2001 to 2010 (exhibit 1). Forty-five percent of the 9,801 heroin primary drug admissions reported no secondary drug. Of 5,408 heroin primary drug admissions citing a secondary drug, 37 percent reported cocaine/crack; 24 percent reported alcohol; 11 percent reported other opioids; and 7 percent reported marijuana as the secondary drug.

Exhibit 2b shows demographic characteristics of primary heroin treatment admissions in Boston. In each year from 2001 to 2010, approximately three-fourths of heroin admissions were male, and about one-fourth were female clients. The age distribution has been fairly stable from 2006 to 2010. However, the proportion of client admissions age 26–34 has increased, from 32 percent to 37 percent during the 5-year period. The proportion of older client admissions (age 35 and older) decreased, from 50 percent in 2003 to 41 percent in 2007 and 2010. The racial distribution for heroin admissions has shifted over time toward increasing percentages of White clients (up from 48

percent in 2001 to 70 percent in 2009 and 2010), decreasing percentages of Black clients (down from 21 percent in 2001 to 10 percent in 2010), and decreasing Latino admissions (down from 28 percent in 2001 to 16 percent in 2010) (exhibit 2b). In 2010, 86 percent ($n=8,455$) of primary heroin admissions reported injecting as the preferred route of administration, up from 66 percent in 2001. Only 58 percent of Black primary heroin clients reported injection drug use as the preferred route, compared with nearly 90 percent of Asian, Latino, and White clients in 2010.

In 2010, heroin was mentioned in 612 calls (29 percent of the total) to the helpline (exhibit 3). The proportion of heroin-related helpline calls decreased from 34 percent in 2008 and 2009. There were 623 Class A (mainly heroin and other opiates) drug arrests in 2010 (exhibit 4). The proportion of Class A arrests was stable (22 percent) from 2009 to 2010 and accounted for the second largest proportion of drug arrests in the city of Boston for both years.

The gender distribution of Class A arrestees has remained fairly stable from 2001 to 2010, with the proportion of male arrestees ranging from 82 percent to 87 percent (arrestee demographic data not shown). The percentage of White (including Hispanic) Class A arrestees decreased, however, from 69 percent in 2008 to 63 percent in 2010.

In 2010, 3,269 seized samples (14 percent of all drug samples) were identified as heroin by NFLIS laboratories in the Boston area. The proportion of heroin samples among all nonmarijuana drug samples analyzed in 2010 decreased slightly from 16 percent in 2008 (exhibit 5).

Data from the DEA's Domestic Monitoring Program revealed that heroin purchased in Boston and throughout New England was predominantly South American in origin. It was distributed in clear or colored glassine or wax packets. Documented supplying sources have routed heroin through New York, Miami, and Houston to Boston and other New England cities and towns. The average purity of street purchases decreased, from 50 percent in 2002 to 29 percent in 2005, 18 percent in 2006, and 15 percent in 2009. The street-level price of a milligram pure nearly doubled from 2005 to 2006 (\$0.88 to \$1.63, respectively) and remained at a higher price range (\$1.37 to \$1.63) from 2006 to 2009. The most recent DEA data for the second half of 2010 indicated that street heroin typically cost \$6–\$50 per bag and \$45–\$90 per gram in Boston (exhibit 6). According to the 2009 YRBS, 2 percent of Boston public high school students reported having used heroin during their lifetime.

Narcotic Analgesics

Narcotic analgesic abuse indicators were mostly increasing at moderate levels. In 2010, 928 treatment admissions (5 percent of all admissions) reported other opiates/synthetics as primary drugs, and 1,135 additional admissions (6 percent of all admissions) reported other opiates/synthetics as secondary or tertiary drugs of abuse (exhibit 1). The proportion of primary other opiates/synthetics treatment admissions fluctuated between 3 and 4 percent from 2001 to 2009, then increased to 5 percent in 2010 (exhibit 1). The proportion of admissions reporting other opiates/synthetics as primary, secondary, or tertiary drugs has remained at 11 percent from 2008 to 2010 (exhibit 1). Thirty-one percent of the 928 other opiates/synthetics primary drug admissions reported no secondary drug. Of the 641 other opiates/synthetics primary drug admissions citing a secondary drug, 23 percent reported heroin; 20 percent reported alcohol; 15 percent reported another opiate/synthetic; and 12 percent reported cocaine as the secondary drug.

Exhibit 2c shows demographic characteristics of other opiates/synthetics primary treatment admissions in Boston. Between 2002 and 2010, approximately two-thirds of admissions were male, and one-third were female. The proportion of younger client admissions (age 18–25) decreased from 47 percent in 2002 to 25 percent in 2010. The proportion of other opiate clients age 26–34 increased from 24 percent in 2005 to 34 percent by 2010. Similarly, the proportion of older (age 35 and older) treatment admissions increased from 27 percent in 2003 to 41 percent in 2010. The proportion of White client admissions decreased from 95 percent in 2001 to 87 percent in 2010. In 2010, 87 percent were White; 6 percent were Black; and 4 percent were Latino.

In 2010, there were 424 calls (20 percent of the total) to the helpline during which narcotic analgesics (heroin not included) were mentioned (exhibit 3). The proportion of narcotic analgesic calls increased, from 16 percent in 2008 and from 12 percent in 2001. OxyContin® and other drugs containing oxycodone were mentioned in 209 calls (10 percent) in 2010. The proportion of OxyContin®/oxycodone calls increased slightly, from 8 percent in 2008 to 10 percent in 2010.

In 2010, 2,073 drug items (9 percent of all drug samples) were seized and identified as oxycodone by NFLIS laboratories in the Boston area. The proportion of oxycodone samples increased from 7 percent of all items identified in 2008 to 9 percent in 2010 (exhibit 5). NFLIS also reported increasing numbers of buprenorphine ($n=785$), hydrocodone ($n=221$), methadone ($n=160$), and morphine ($n=66$) samples in 2010. The DEA reported that OxyContin® was widely available throughout New England in the second half of 2010, and it typically cost between \$0.45 and \$1.25 per pure milligram (exhibit 6). The price of generic oxycodone was \$10–\$25 per dosage unit, an increase from \$5–\$12 in 2009.

Benzodiazepines

Benzodiazepine indicators were mixed at moderate levels. Although the proportion of benzodiazepines cited as the primary drug of abuse among treatment admissions remained low (under 1 percent) from 2001 to 2010, the proportion of admissions citing benzodiazepines as either primary, secondary, or tertiary drugs increased from 7 percent in 2005 to 12 percent by 2010.

There were 110 calls to the helpline during which benzodiazepines were involved. These benzodiazepines included clonazepam (Klonopin®, $n=20$ calls); alprazolam (Xanax®, $n=13$ calls); lorazepam (Ativan®, $n=4$ calls); diazepam (Valium®, $n=4$ calls); triazolam (Halcion®, $n=4$ calls); and chlordiazepoxide (Librium®, $n=2$ calls) (exhibit 3). Benzodiazepine helpline calls remained stable at 5 percent from 2006 to 2010. Clonazepam accounted for 3 percent ($n=644$) and alprazolam accounted for 2 percent ($n=465$) of all drug items seized and identified by NFLIS laboratories in the Boston area in 2010 (exhibit 5). Arrest data were unavailable for benzodiazepines.

Methamphetamine/Amphetamines

Methamphetamine indicators remained low overall in Boston. In 2009 and 2010, less than 1 percent of all treatment admissions reported methamphetamine as a primary, secondary, or tertiary drug. There were only seven methamphetamine calls to the helpline in 2010 (exhibit 3). Methamphetamine ranked 21st among all drug items seized and identified in NFLIS laboratories in 2010. NFLIS drug samples identified as methamphetamine totaled 69 in 2008, 66 in 2009, and 79 in 2010 (exhibit 5). The DEA reported that the cost of methamphetamine decreased from \$150–\$250 per gram in

the second half of 2009 to \$90–\$200 per gram in the second half of 2010. According to the 2009 YRBS, 2 percent of Boston public high school students reported having used methamphetamine during their lifetime.

Marijuana

In 2010, 757 treatment admissions (4 percent of all admissions) reported marijuana as the primary drug of abuse, and an additional 10 percent reported marijuana as a secondary or tertiary drug (exhibit 1). The proportion of all treatment admissions that reported marijuana as their primary drug remained stable from 2004 at 4 percent of total admissions. Similarly, the proportion reporting marijuana as primary, secondary, or tertiary drug remained between 14 and 15 percent from 2004 to 2010 (exhibit 1).

Thirty-one percent of the 757 total primary marijuana treatment admissions reported no secondary drug. Of the 519 primary marijuana admissions citing a secondary drug in 2010, 74 percent reported alcohol; 14 percent reported cocaine/crack; 4 percent reported heroin; and 3 percent reported other opiates/synthetics as their secondary drug (data not shown).

Exhibit 2d shows demographic characteristics of primary marijuana treatment admissions in Boston. From 2009 to 2010, the proportion of male admissions decreased from 82 to 76 percent, and the proportion of female admissions increased from 18 to 24 percent. The proportion of treatment clients younger than 26 decreased, from 68 percent in 2001 to 48 percent in 2009, but it increased to 52 percent in 2010. The proportion of treatment clients age 35 and older increased, from 13 percent in 2001 to 24 percent in 2009 to 22 percent in 2010. Black client admissions have composed nearly one-half of all primary marijuana admissions for most years from 2001 to 2010. From 2009 to 2010 the racial distribution changed very little (exhibit 2c).

In 2010, marijuana was mentioned in 123 calls (6 percent) to the helpline (exhibit 3). The proportion of helpline calls with marijuana mentions increased slightly from 4 percent in 2009. There were 613 Class D (mainly marijuana) drug arrests in 2010 (exhibit 4). In 2009, Massachusetts adopted a new marijuana law that decriminalized possession of small amounts of marijuana (up to 1 ounce). Primarily as a result of the marijuana possession law change, the proportion of Class D arrests among all drug arrests decreased, from 35 percent in 2008 to 21 percent in 2009 and 2010. The gender distribution of Class D arrestees in 2010 (95 percent male and 4 percent female) was similar to that in the previous 9 years (arrestee demographic data not shown). The proportion of Black (including Hispanic) Class D arrestees decreased, from 69 to 65 percent from 2009 to 2010, and the proportion of Hispanic Class D arrestees increased, from 20 to 26 percent from 2009 to 2010.

In 2010, 5,960 seized drug samples (26 percent of all drug samples) were identified by NFLIS laboratories as containing marijuana. Due mainly to the marijuana possession law change in 2009, the proportion of marijuana drug items identified among all drug samples analyzed decreased substantially, from 43 percent in 2008 to 24 percent in 2009 to 26 percent in 2010 (exhibit 5). The DEA reported that marijuana remained readily available throughout the New England States in the second half of 2010 and sold for \$250–\$400 per ounce (exhibit 6). According to the 2009 YRBS, 38 percent of Boston public high school students reported having used marijuana during their lifetime, and 22 percent reported using marijuana during the past month.

Club Drugs

MDMA (3,4-methylenedioxymethamphetamine) or ecstasy indicators showed low levels in the Boston area in 2010. In 2010, there were only three calls to the helpline during which MDMA was self-identified as a substance of abuse (less than 1 percent of all mentions). The number of MDMA helpline calls peaked at 39 in 2001 and has declined since (exhibit 3). There were 178 drug items seized and identified as containing MDMA by NFLIS laboratories in 2010, 124 such items in 2009, and 106 items in 2008 (exhibit 4).

The DEA reported that one MDMA tablet cost between \$15 and \$40 retail in the second half of 2010, with lower prices when purchasing in bulk (more than 50 dosage units) (exhibit 6). Distributed at “legitimate nightclubs and Rave parties,” MDMA remained widely available and was “primarily distributed and abused by teenagers and young adults,” according to DEA reports. According to the 2009 YRBS, 3 percent of Boston public high school students reported having used MDMA during their lifetime.

The DEA reported that ketamine cost \$55 to \$120 for a vial and \$40 per dosage unit in New England in the second half of 2010 (exhibit 6).

Phencyclidine (PCP)

The DEA reported that PCP cost between \$10 and \$20 per bag (1–2 grams) in the second half of 2010 (exhibit 6).

ACKNOWLEDGMENTS

The author would like to acknowledge the contribution of the following individuals and organizations providing data, information, and support for this report:

- Hermik Babakhanlou-Chase, Massachusetts Department of Public Health, Bureau of Substance Abuse Services
- Marjorie Bernadeau-Alexandre, Boston Police Department, Office of Strategic Planning
- Mike Tobias and Robin Fox, Massachusetts Substance Abuse Information and Education Helpline, Health Resources In Action
- Glenn Phillips and Michael Vrakatitsis, Drug Enforcement Agency, New England Field Division, United States Department of Justice

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Exhibit 1. Percentage of Admissions to State-Funded Substance Abuse Treatment Programs, by Primary, Secondary, and Tertiary Drug, in Greater Boston¹: 2001–2010

Treatment Admissions	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Primary Drug	%	%	%	%	%	%	%	%	%	%
Alcohol	40	37	36	35	34	35	33	32	32	33
Heroin/Other Opiates	44	48	49	53	50	50	53	54	56	56
Heroin	41	45	46	49	46	46	49	50	51	51
Other Opiates	3	3	4	4	4	4	3	4	4	5
Cocaine and/or Crack	10	9	8	7	9	9	8	8	7	5
Cocaine (powder)	4	4	4	3	4	4	3	4	3	2
Crack	5	5	5	4	6	5	5	4	4	3
Marijuana	5	5	5	4	4	4	4	4	4	4
Benzodiazepines	<1	<1	<1	<1	<1	<1	<1	<1	1	1
Other ²	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
Secondary Drugs	%	%	%	%	%	%	%	%	%	%
Alcohol	17	19	17	15	15	14	13	14	13	11
Heroin	5	4	4	3	3	3	3	3	4	4
Other Opiates/Synthetics	2	3	4	4	4	4	4	5	5	5
Cocaine or Crack	21	20	20	20	21	24	23	22	20	20
Marijuana	8	7	8	7	6	6	6	6	7	6
Benzodiazepines	3	3	4	4	4	5	5	5	6	7
Other ²	2	2	2	1	2	1	2	1	<1	<1
None	41	42	42	45	45	42	44	43	45	47
Tertiary Drugs	%	%	%	%	%	%	%	%	%	%
Alcohol	6	6	6	6	6	6	6	6	5	5
Heroin	2	1	1	1	1	1	1	1	1	1
Other Opiates/Synthetics	1	1	1	1	1	1	2	2	2	2
Cocaine or Crack	8	8	7	7	8	9	9	9	8	7
Marijuana	6	5	5	4	4	4	4	4	4	4
Benzodiazepines	2	2	3	2	2	3	3	3	3	3
Other ²	2	2	2	1	1	1	1	1	<1	<1
None	74	75	75	77	76	73	47	73	75	77
Primary, Secondary, or Tertiary	%	%	%	%	%	%	%	%	%	%
Alcohol	64	62	59	56	55	56	52	51	50	49
Heroin	48	50	51	53	51	51	54	55	56	56
Other Opiates/Synthetics ³	6	7	8	9	9	9	9	11	11	11
Cocaine or Crack ³	36	34	33	32	35	37	36	35	31	29
Marijuana	19	17	18	15	15	15	14	14	15	14
Benzodiazepines ³	6	6	7	7	7	8	9	10	11	12
Other ²	4	4	4	3	4	3	3	3	2	2
Total Primary Admissions (N)	22,131	23,158	19,497	18,689	19,093	19,187	20,021	19,600	19,864	19,077

¹Percentages and number totals based on total admissions with known primary drug.

²"Other" includes barbiturates, other sedatives, tranquilizers, hallucinogens, amphetamines, methamphetamine, "over-the-counter," and other drugs.

³Primary, secondary, or tertiary percentages for other opiates/synthetics, cocaine or crack, and benzodiazepines may not result from summing individual components because some admissions list the same drug category among primary, secondary, and/or tertiary designations (e.g., primary powder cocaine + secondary crack).

SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; prepared by the Boston Public Health Commission, Research Office

Exhibit 2a. Demographic Characteristics of Client Admissions in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Cocaine/Crack, by Percentage: 2001–2010

Characteristic	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gender	%	%	%	%	%	%	%	%	%	%
Male	64	60	54	59	64	61	58	58	60	61
Female	36	40	45	41	36	39	42	42	40	38
Transgender	***1	***	***	***	***	***	***	***	<1	<1
Race	%	%	%	%	%	%	%	%	%	%
White	26	27	28	28	29	33	36	38	39	40
Black	59	59	58	54	52	50	45	44	44	40
Latino	13	11	11	15	16	14	16	15	14	16
Asian	***	<1	<1	***	***	***	<1	***	<1	<1
Other	2	2	2	2	2	2	3	2	3	3
Age at Admission	%	%	%	%	%	%	%	%	%	%
17 and younger	***	<1	<1	***	<1	<1	<1	***	***	***
18–25	9	8	8	7	10	11	12	10	10	10
26–34	33	33	30	27	22	22	22	22	23	24
35 and older	58	59	61	65	67	66	65	68	67	66
Total (N)	2,118	2,061	1,642	1,398	1,767	1,700	1,648	1,571	1,334	999

1*** indicates fewer than six admissions.

SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; prepared by the Boston Public Health Commission, Research Office

Exhibit 2b. Demographic Characteristics of Client Admissions in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Heroin, by Percentage: 2001–2010

Characteristic	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gender	%	%	%	%	%	%	%	%	%	%
Male	76	76	72	72	73	74	73	72	72	73
Female	24	24	28	28	27	26	27	28	28	27
Transgender	***1	***	***	***	***	<1	***	<1	<1	<1
Race	%	%	%	%	%	%	%	%	%	%
White	48	53	57	61	62	65	66	68	70	70
Black	21	20	18	15	14	14	12	12	11	10
Latino	28	24	23	22	21	19	19	18	16	16
Asian	1	2	<1	<1	1	<1	1	1	1	1
Other	1	2	1	<1	1	2	1	1	2	2
Age at Admission	%	%	%	%	%	%	%	%	%	%
17 and younger	<1	<1	<1	<1	<1	<1	<1	<1	<1	***
18–25	18	19	20	23	26	25	26	24	24	22
26–34	34	31	30	31	29	32	33	33	34	37
35 and older	48	49	50	46	45	43	41	42	42	41
Total (N)	9,162	10,373	8,901	9,076	8,859	8,852	9,896	9,827	10,216	9,801

1*** indicates fewer than six admissions.

SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; prepared by the Boston Public Health Commission, Research Office

Exhibit 2c. Demographic Characteristics of Client Admissions in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Other Opiates/ Synthetics, by Percentage: 2001–2010

Characteristic	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gender	%	%	%	%	%	%	%	%	%	%
Male	73	70	66	67	64	65	61	65	63	64
Female	27	30	34	33	36	35	39	35	37	36
Transgender	***1	***	***	***	***	***	***	***	***	***
Race	%	%	%	%	%	%	%	%	%	%
White	95	94	95	93	93	93	89	87	88	87
Black	2	3	3	3	3	4	5	5	5	6
Latino	3	3	2	3	2	2	5	6	5	4
Asian	***	***	***	***	***	***	***	***	<1	***
Other	***	***	***	1	1	<1	1	<1	2	2
Age at Admission	%	%	%	%	%	%	%	%	%	%
17 and younger	1	3	4	4	3	<1	***	1	***	***
18–25	43	47	44	40	37	37	32	31	26	25
26–34	28	21	25	25	24	26	28	29	33	34
35 and older	27	29	27	31	36	36	40	39	41	41
Total (N)	625	743	694	740	775	710	665	807	882	928

1*** indicates fewer than six admissions.

SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; prepared by the Boston Public Health Commission, Research Office

Exhibit 2d. Demographic Characteristics of Client Admissions in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Marijuana, by Percentage: 2001–2010

Characteristic	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gender	%	%	%	%	%	%	%	%	%	%
Male	80	77	76	70	79	76	74	76	82	76
Female	20	23	24	30	21	24	26	24	18	24
Transgender	***1	***	***	***	***	***	***	***	***	***
Race	%	%	%	%	%	%	%	%	%	%
White	30	25	28	26	25	28	23	27	23	23
Black	48	51	46	50	50	45	50	43	50	48
Latino	20	21	22	20	21	23	23	25	24	25
Asian	***	<1	<1	1	<1	***	***	1	***	***
Other	2	2	3	3	3	3	3	5	4	4
Age at Admission	%	%	%	%	%	%	%	%	%	%
17 and younger	23	18	18	8	14	9	6	9	7	11
18–25	45	49	46	45	44	46	50	46	41	41
26–34	19	20	21	25	21	24	25	25	29	25
35 and older	13	13	15	21	20	21	20	20	24	22
Total (N)	1,130	1,063	977	770	810	822	812	787	856	748

1*** indicates fewer than six admissions.

SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; prepared by the Boston Public Health Commission, Research Office

Exhibit 3. Greater Boston Substance-Related Helpline Calls, by Substance: 2001–2010

Drug	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Alcohol Only	2,087 (35.4)	1,735 (33.8)	1,412 (28.9)	1,473 (30.9)	1,298 (32.4)	1,240 (32.5)	1,033 (37.9)	1,068 (33.6)	1,035 (34.3)	692 (33.3)
Heroin	2,045 (34.7)	1,727 (33.6)	1,964 (40.2)	1,743 (36.6)	1,365 (34.1)	1,264 (33.2)	839 (30.8)	1,073 (33.8)	1,023 (33.9)	612 (29.4)
Cocaine/Crack	1,115 (18.9)	986 (19.2)	891 (18.2)	889 (18.7)	820 (20.5)	829 (21.7)	486 (17.8)	558 (17.6)	457 (15.2)	354 (17.0)
Marijuana	332 (5.6)	296 (5.8)	212 (4.3)	214 (4.5)	185 (4.6)	198 (5.2)	120 (4.4)	127 (4.0)	107 (3.6)	123 (5.9)
Narcotic Analgesics ¹	725 (12.3)	758 (14.8)	760 (15.5)	859 (18.0)	676 (16.9)	648 (17.0)	433 (15.9)	504 (15.9)	544 (18.1)	424 (20.4)
Benzodiazepines ²	188 (3.2)	173 (3.4)	165 (3.4)	180 (3.8)	137 (3.4)	174 (4.6)	130 (4.8)	162 (5.1)	154 (5.1)	110 (5.3)
Methamphetamine	7 (<1)	8 (<1)	16 (<1)	11 (<1)	22 (<1)	24 (<1)	18 (<1)	22 (<1)	12 (<1)	7 (<1)
MDMA	39 (<1)	36 (<1)	21 (<1)	16 (<1)	15 (<1)	18 (<1)	8 (<1)	5 (<1)	6 (<1)	3 (<1)
Hallucinogens ³	13 (<1)	10 (<1)	9 (<1)	5 (<1)	6 (<1)	5 (<1)	0 (<1)	3 (<1)	2 (<1)	1 (<1)
Inhalants ⁴	36 (1.6)	22 (<1)	20 (<1)	16 (<1)	13 (<1)	12 (<1)	9 (<1)	22 (<1)	6 (<1)	6 (<1)
Total Number of Calls	5,898	5,134	4,890	4,768	4,006	3,813	2,727	3,179	3,014	2,079

¹Narcotic Analgesics include codeine, methadone, morphine, oxycodone (incl. OxyContin®), Percocet®, Roxicet®, Vicodin®, Suboxone®, and other opioids.

²Benzodiazepines include Ativan®, Halcion®, Klonopin®, Librium®, Rohypnol®, Valium®, and Xanax®.

³Hallucinogens include LSD (lysergic acid diethylamide), PCP (phencyclidine), psilocybin, and mescaline.

⁴Inhalants include acetone, aerosols, glue, markers, paint, and other inhalants.

SOURCE: Massachusetts Substance Abuse Information and Education Helpline; data analysis by the Boston Public Health Commission, Research Office

Exhibit 4. Boston Police Department Arrests, by Drug Class¹, by Number, and by Percentage: 2001–2010

Drug Class	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Number (%) (Adj. %) ²	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)	Number (%) (Adj. %)
A (Mostly Heroin)	905 (26.4) (37)	947 (22.5) (33)	939 (22.5) (33)	791 (20.8) (31)	752 (17.4) (28)	789 (16.6) (26)	732 (15.3) (24)	774 (17.9) (28)	716 (22.4) (28)	623 (21.7) (28)
B (Mostly Cocaine)	1,428 (41.7) (58)	1,762 (41.9) (62)	1,736 (41.6) (62)	1,650 (43.3) (64)	1,821 (42.2) (67)	2,033 (42.9) (68)	2,178 (45.6) (70)	1,812 (41.9) (65)	1,575 (49.4) (63)	1,376 (47.9) (61)
D (Mostly Marijuana)	982 (28.7) (N/A) ³	1,375 (32.7) (N/A)	1,366 (32.7) (N/A)	1,247 (32.8) (N/A)	1,599 (37.1) (N/A)	1,757 (37.0) (N/A)	1,677 (35.1) (N/A)	1,512 (35.0) (N/A)	677 (21.2) (N/A)	613 (21.3) (N/A)
Other	111 (3.2) (5)	125 (3.0) (4)	133 (3.2) (5)	119 (3.1) (5)	141 (3.3) (5)	165 (3.5) (6)	185 (3.9) (6)	223 (5.2) (8)	222 (7.0) (9)	263 (9.1) (12)
Total Drug Arrests	3,426	4,209	4,174	3,807	4,313	4,744	4,772	4,321	3,190	2,875
Total Non- Class D Drug Arrests	2,444	2,834	2,808	2,560	2,714	2,987	3,095	2,809	2,513	2,262
Total Arrests	20,470	21,025	20,686	19,577	23,035	23,134	22,377	21,811	20,017	N/A
Drug Arrest Percentage of Total Arrests	(16.7)	(20.0)	(20.2)	(19.4)	(18.7)	(20.5)	(21.3)	(19.8)	(15.9)	(N/A)

¹Includes all arrests made by the Boston Police Department (i.e., arrests for possession, distribution, manufacturing, trafficking, possession of hypodermic needles, conspiracy to violate false substance acts, and forging prescriptions).

²"Adj. %" are adjusted percentages based on total non-Class drug arrests. These percentages were derived to support trending with adjustment to exclude Class D (mainly marijuana) arrests due to the impact of the 2009 change in Massachusetts' marijuana possession law.

³N/A=not available.

SOURCE: Boston Police Department, Office of Planning and Research; prepared by the Boston Public Health Commission, Research Office

Exhibit 5. Seized Drug Samples from Boston Area Drug Arrests, by Substance: 2008–2010

Drug	2008	2009	2010
	Number (%) (Adj. %) ¹	Number (%) (Adj. %)	Number (%) (Adj. %)
Marijuana	8,667 (43.2) (N/A) ²	4,249 (24.4) (N/A)	5,960 (25.2) (N/A)
Cocaine/Crack	4,564 (22.8) (40)	5,008 (28.8) (38)	5,945 (25.2) (34)
Heroin	1,964 (9.8) (17)	2,828 (16.3) (22)	3,269 (13.8) (19)
Oxycodone	852 (4.3) (8)	1,149 (6.6) (9)	2,073 (8.8) (12)
Buprenorphine	403 (2.0) (4)	419 (2.4) (3)	785 (3.3) (5)
Clonazepam	370 (1.8) (3)	461 (2.7) (4)	644 (2.7) (4)
Alprazolam	224 (1.1) (2)	257 (1.5) (2)	465 (2.0) (3)
Amphetamine	105 (0.5) (<1)	115 (0.7) (<1)	306 (1.3) (2)
Gabapentin	45 (0.2) (<1)	94 (0.5) (<1)	246 (1.0) (2)
Hydrocodone	153 (0.8) (1)	171 (1.0) (1)	221 (0.9) (1)
Other Drugs			
MDMA	106 (0.5) (<1)	124 (0.7) (<1)	178 (0.8) (1)
Methamphetamine	69 (0.3) (<1)	66 (0.4) (<1)	79 (0.3) (<1)
Total	20,046	17,394	23,604
Nonmarijuana Total	11,379	13,145	17,644

¹Adjusted percentages based on total number of nonmarijuana samples. These percentages were derived to assist trending with consideration of the impact of the 2009 change in Massachusetts' marijuana possession law.

²N/A=not available.

SOURCE: NFLIS, DEA

Exhibit 6. Drug Street Price, Purity, and Availability in New England: Second Half of 2010

Drug	Price	Availability
Heroin	\$45–\$90 per gram \$65–\$300 per bundle \$6–\$50 per bag	Readily Available
Cocaine (powder)	\$50–\$100 per gram retail	Available
Crack	\$10–\$80 per rock	Available
Marijuana	\$250–\$400 per ounce	Readily Available
Methamphetamine	\$90–\$200 per gram	Low-Moderate
MDMA (Ecstasy)	\$15–\$40 per tablet	Widely Available
OxyContin®	\$10–\$25 per 30-mg dosage unit (generic) and \$35–\$80 per 80-mg OxyContin® pill	Readily Available
Percocet®	\$20–\$30 per 30-mg pill	Readily Available
PCP	\$10–\$20 per bag (1–2 grams)	Available
Ketamine	\$55–\$120 per vial	Available
GHB	\$150 per ounce	Available
Psilocybin (Mushrooms)	\$10 per dosage unit	Limited

Note: mg=milligram.

SOURCE: New England Field Division, DEA, July–December 2010

Patterns and Trends of Drug Abuse in Chicago: 2010

Lawrence J. Ouellet, Ph.D.¹

ABSTRACT

Epidemiological indicators suggested that heroin, cocaine, and marijuana continued to be the most commonly used illicit substances in Chicago in 2010. According to weighted estimate data from the Drug Abuse Warning Network, cocaine, heroin, and marijuana were the illicit drugs most often reported in emergency departments (EDs) during 2009. These were also the drugs most frequently seized and identified by law enforcement in calendar year (CY) 2010, accounting for 94 percent of all drug items identified in forensic laboratories. Heroin was the major opiate abused in the region, and many heroin use indicators have been increasing or maintaining already elevated levels since the mid-1990s. Numbers of drug treatment admissions for primary heroin abuse, which surpassed those for cocaine in fiscal year (FY) 2001, peaked in FY 2005, at 33,662 admissions, and then declined and leveled, at approximately 27,000 admissions, in both FY 2006 and FY 2007. A further decline in primary heroin treatment admissions in 2009 was attributed to budget reductions. Heroin purity has increased since 2006, and the price per milligram pure has decreased. Cocaine indicators suggest a decline. Cocaine fell to third behind alcohol among reasons for entering publicly funded treatment programs in FY 2009, although the decline may have been influenced by budget cuts. Cocaine-involved ED visits declined significantly, as did the proportion of arrestees who reported or tested positive for cocaine use; prices for cocaine increased somewhat. According to the 2009 Youth Risk Behavior Survey, marijuana use by 9th to 12th grade students in Chicago continued the decline that began in 2001, but there were statistically significant increases in students' self-reported cocaine and heroin use. In addition, inhalants were at the highest level since 1997 in YRBS data. Methamphetamine indicators suggested little presence in Chicago. Beyond Chicago, primary treatment admissions for methamphetamine were most common in downstate and western Illinois, according to the Illinois Division of Alcoholism and Substance Abuse. MDMA (3,4-methylenedioxymethamphetamine) indicators suggested relatively low levels, but several showed increases. Ethnographic and survey reports suggested MDMA was popular among young, low-income African-Americans, and the drug was available in street drug markets. LSD (lysergic acid diethylamide) and PCP (phencyclidine) indicators continued to show levels below the national average, although PCP may have increased. African-American heroin injection drug users were an aging cohort, while among Whites, new cohorts of young heroin injectors continued to emerge.

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INTRODUCTION

Area Description

Because of its geographic location and multifaceted transportation infrastructure, Chicago is a major hub for the distribution of illegal drugs throughout the Midwest. Located in northeastern Illinois, Chicago stretches for 25 miles along the shoreline of the southern tip of Lake Michigan. The 2010 U.S. Census estimated the population of Chicago at 2.7 million, a decline of 7 percent since 2000 and the city's lowest count since 1910. The population of non-Hispanic African-Americans and Whites decreased by 17 percent and by 6 percent, respectively, while Hispanics experienced a modest increase of 3 percent. The population of Chicago is 32.4 percent non-Hispanic African-American, 31.7 percent non-Hispanic White, and 28.9 percent Hispanic. Cook County, which includes Chicago, had a population of 5.2 million in 2010, a decline of 3 percent since 2000. The Chicago/Naperville/Michigan City, IL/IN/WI Metropolitan Statistical Area (MSA) had a population of 9.4 million in 2010, and it was the third largest MSA in the United States. Among U.S. cities, Chicago has the second largest Mexican-American and Puerto Rican populations. The U.S. Bureau of Labor Statistics estimated unemployment for the Chicago MSA to be 8.7 percent in April 2011, compared with 10.4 percent in May 2010.

Data Sources

Information for this report was obtained from the sources described below:

- **Treatment data** for the State of Illinois and Chicago for fiscal years (FYs) 2002–2007 and 2009 (July 1–June 30) were provided by the Illinois Division of Alcoholism and Substance Abuse (DASA), Illinois Department of Human Services.
- **Weighted emergency department (ED) visit data** were derived for calendar year (CY) 2009 from the Drug Abuse Warning Network (DAWN), Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). Exhibits in this report reflect data that were received by DAWN as of May 5, 2010. A full description of the DAWN system can be found on the DAWN Web site: <http://dawninfo.samhsa.gov>. Data presented include the number of weighted DAWN estimated visits and the percentage of total estimated visits for 2004–2009 and significant changes in visits ($p < .05$) between 2009 versus 2004, 2007, and 2008 (original table production date: 10-05-2010).
- **Arrestee drug use data** were derived from the Arrestee Drug Abuse Monitoring (ADAM II) program, sponsored by the Office of National Drug Control Policy (ONDCP). ADAM II collects data regarding drug use and related issues from adult male booked arrestees in 10 counties across the country. ADAM II data come from two sources: a 20–25 minute face-to-face interview and urinalysis of a test sample for the presence of 10 different drugs. Data were collected over two quarters in 2010 and then statistically annualized to represent the entire year. The ADAM II 2010 annual report is available at <http://www.whitehousedrugpolicy.gov/publications/pdf/adam2010.pdf>.
- **Drug-related mortality data** on deaths in Cook County related to accidental drug poisonings were available for 2007 and 2008 from DAWN Area Profiles of Drug-Related Mortality, SAMHSA, Rockville, Maryland.

- **Price and purity data** were provided by the Drug Enforcement Administration (DEA), Domestic Monitor Program (DMP), for heroin for 1991–2009. The Illinois State Police (ISP), Division of Forensic Science, provided limited purity data on drug samples for 2010. Drug price data are reported from the February 2010 report of *National Illicit Drug Prices* by the National Drug Intelligence Center (NDIC). Data from the National Forensic Laboratory Information System (NFLIS) for CY 2010 were used to report on drugs seized by law enforcement in Chicago. Ethnographic data on drug availability, prices, and purity are from observations and interviews conducted by the Community Outreach Intervention Projects (COIP), School of Public Health, University of Illinois at Chicago (UIC).
- **Survey data on student populations** were derived from the 2009 Youth Risk Behavior Survey (YRBS), prepared by the Centers for Disease Control and Prevention (CDC), and provided drug use data representative of students in grades 9 through 12 in Chicago public schools. Data on adult substance use and abuse for the State of Illinois were provided by SAMHSA's National Survey on Drug Use and Health (NSDUH) for 2006 and 2007–2008. Statistical test results are available.
- **Recent drug use estimates** were derived from the National Institute on Drug Abuse (NIDA)-funded “Sexual Acquisition and Transmission of HIV – Cooperative Agreement Program” (SATH-CAP) study in Chicago (U01 DA017378). Respondent-driven sampling was used at multiple sites in Chicago to recruit men and women who use “hard” drugs (cocaine, heroin, methamphetamine, or any illicit injected drug), men who have sex with men (MSM) regardless of drug use, and sex partners linked to these groups. Participants ($n=4,344$) in this study completed a computerized self-administered interview and were tested for human immunodeficiency virus (HIV), syphilis, chlamydia, and gonorrhea.
- **Acquired immunodeficiency syndrome (AIDS) and HIV data** were derived from both agency sources and UIC studies. Data for Chicago were obtained from *STI/HIV Chicago Surveillance Report*, Chicago Department of Public Health (CDPH), fall 2010, and from a presentation, *Current State of the HIV/AIDS Epidemic in Chicago*, by Nikhil Prachand, CDPH, STI/HIV/AIDS Division, March 2010. Illinois Department of Public Health (IDPH) surveillance reports provided statistics on sexually transmitted infections (STI)/HIV infections from June 2007 through December 2009 for the State of Illinois.

Several of the sources traditionally used for this report have not been updated by their authors or were unavailable at the time this report was generated.

DRUG ABUSE PATTERNS AND TRENDS

Although this report of drug abuse patterns and trends is organized by major pharmacologic categories, readers are reminded that multidrug consumption is the normative pattern among a broad range of substance abusers in Chicago. Various indicators suggest that drug combinations play a substantial role in drug use prevalence.

Cocaine/Crack

The majority of quantitative and qualitative cocaine indicators suggested that cocaine use may have declined, although it remained at high levels and continued to constitute a serious drug problem for Chicago.

The number of treatment admissions for primary cocaine in Chicago declined markedly to 9,992 in FY 2009 due to budget cuts (exhibit 1). Numbers of cocaine treatment admissions peaked in FY 2006 at 17,764 then decreased slightly in FY 2007, to 16,938 admissions. Cocaine abuse was the third most common reason to enter treatment in FY 2009; the majority of clients reported treatment for crack cocaine use (89 percent) (exhibit 2). Cocaine was the most commonly mentioned secondary drug among clients treated for primary alcohol, heroin, and other opioid-related problems in the current reporting period. In FY 2009, African-Americans remained the largest group treated (79 percent) for cocaine abuse, and males accounted for more admissions (62 percent) than females (exhibit 2).

The number of cocaine-involved visits for 2009 in weighted DAWN ED data was 23,373 (exhibit 3). Cocaine-involved ED visits in 2009 constituted 40 percent of total ED reports for major substances of abuse (including alcohol). The rate of cocaine-related visits per 100,000 population was significantly lower in 2009 ($n=244$) than in both 2007 ($n=323$) and 2008 ($n=330$). The majority of the cocaine visits involved males (67 percent) and patients older than 35 (77 percent). African-Americans represented 57 percent of cocaine-involved ED visits, a significant decline from 66 percent in 2009. Whites and Hispanics constituted 19 percent and 9 percent, respectively, of ED visits involving cocaine (race/ethnicity was not documented for 14 percent of the cocaine ED reports).

The most recent DAWN Area Profile of Drug-Related Mortality reported 568 drug-related deaths in Cook County in 2008. The number and proportion of these deaths that involved cocaine declined in 2008 ($n=282$, 50 percent), compared with 2007 ($n=342$, 63 percent).

Among the 581 male jail arrestees sampled in 2010 by ADAM II at the Cook County Jail, 535 (95 percent) consented to interviews and, of those, 513 (96 percent) provided a urine sample for drug testing. Most (83 percent) arrestees tested positive for at least one illicit drug; 27 percent were positive for multiple drugs; and 29 percent were positive for cocaine, significantly fewer than in 2007 (41 percent) and 2008 (44 percent). The proportions of arrestees testing positive for any drug and multiple drugs in Chicago were the highest among the 10 ADAM II sites nationally, and the proportion of positive cocaine tests ranked second. After being among the sites highest in self-reported crack use in the 30 days before arrest, there was a significant decline in 2010 to 8 percent, compared with 20 percent in 2007 and 23 percent in 2008. Chicago arrestees were also among the least likely (4 percent) in the total U.S. sample to report using powdered cocaine in the 30 days before arrest.

ISP reports indicated that in 48 percent of Illinois counties that seized at least 1 gram of cocaine, heroin, or methamphetamine in 2010, powdered cocaine was the drug most seized. Federal (NFLIS) laboratories reported that cocaine was the drug most often identified in drug items analyzed in CY 2010 after marijuana/cannabis. Cocaine constituted 20 percent of drug items identified, a decline from 26 and 22 percent in 2008 and 2009, respectively (exhibit 4).

The NDIC reported that the wholesale price of a kilogram of powder cocaine in Chicago in mid-2009 was \$22,000–\$26,000, a level well above the \$15,000–\$22,000 reported in 2006. Ounce prices reported by NDIC in mid-2009 ranged from \$800 to \$1,000. NDIC reported no prices for crack cocaine in Chicago for mid-2009. Ethnographic reports indicated that crack cocaine remained readily available in Chicago street markets, although for the first time there were reports of only moderate availability. Crack typically sold for \$5–\$20 per bag, a level that has been stable for many years.

The ISP analyzed 190,827 grams of cocaine in Cook County (which includes Chicago) in 2010, down from 197,112 in 2009. Of these seizures, 26 percent were crack cocaine. In Chicago, only one exhibit of cocaine, which was less than 2 grams, was analyzed, and it had a purity of 86 percent.

Ethnographic reports suggested that the quality of cocaine may be variable, as police pressure on drug dealing organizations leads to decentralization in organizational structures. Leaders in highly centralized drug-dealing gangs have been effectively targeted by police. Consequently, as they have been sent to prison, drug sales are more often made by smaller cliques of younger people who have more control over the product they sell, including how the product is mixed. When participants in the 2010 ADAM II were asked about their most recent purchase of crack cocaine, 44 percent said they used an outdoor drug market, well below levels reported in 2007, 2008, and 2009 (62, 69, and 65 percent, respectively).

The 2009 YRBS assessed current (previous 30 days) and lifetime cocaine use among public school students in grades 9 through 12 in the city of Chicago. In 2009, 3.4 percent (2.1–5.6, 95-percent confidence interval [CI]) of Chicago students reported current cocaine use, an increase from 2005 of 1.9 percent (CI=1.1–3.4). Lifetime use for these students increased from 4.2 percent (CI=2.4–7.3) in 2005 to 6.7 percent (CI=4.3–10.1) in 2009, the highest level since the first YRBS survey in 1991 (exhibit 5). According to data from SAMHSA's NSDUH, the proportion of past-year cocaine use among Illinois youth age 12–17, which was 1.6 percent in 2006, declined to 1.2 percent in 2007–2008.

In the SATH-CAP study, crack cocaine was the most prevalent illicit drug, with 55 percent of participants reporting its use in the past 30 days. Crack use varied geographically, with the highest prevalence on the north side and the lowest prevalence on the near northwest side of the city. Ethnographic reports suggested crack cocaine remained highly available on the street, while powder cocaine was less easily found. Powder cocaine in street drug markets was said to be used mostly by speedball (heroin and cocaine combined) injectors and was often of poor quality. Ethnographic reports indicated that the use of powder cocaine in Chicago nightclubs had notably declined.

Heroin

Heroin indicators in this reporting period continued to suggest high levels of heroin in the Chicago area. DEA data indicate that while South American heroin remained plentiful in Chicago, its distribution locally was controlled by Mexican cartels. Heroin in Chicago was most often sold in a powdered form. Tar heroin was available, although mostly in neighborhoods where most residents are of Mexican descent.

The number of treatment admissions for primary heroin abuse in Chicago declined markedly in FY 2009 to 19,909 (exhibit 1). As was the case with cocaine treatment admissions, officials attributed

this decline to budget reductions. The number of clients treated for primary heroin in State-supported programs increased considerably between FY 2000 and the peak in FY 2005 ($n=33,662$); such admissions then decreased to approximately 27,000 in both FY 2006 and FY 2007. Heroin accounted for 38 percent of all treatment admissions in FY 2009 and was the most common reason for seeking substance abuse treatment in Chicago (exhibits 1 and 2). Among these treatment admissions, the most common secondary substances reported were cocaine (43 percent) and alcohol (9 percent). Consistent with recent years, the majority (81 percent) of those treated reported inhalation (“snorting”) as the primary route of administration. The proportion reporting injection as the primary route of administration increased somewhat, from 14 percent in FY 2007 to 17 percent in FY 2009 (exhibit 2). In contrast, clients entering treatment programs outside of Chicago were far more likely to report injection as the primary route of administration, and this figure increased markedly, from 46 percent in FY 2007 to 59 percent in FY 2009. Recent research indicated that injection was declining among African-Americans and perhaps increasing among Whites (Armstrong, 2007; Broz and Ouellet, 2008; Cooper et al., 2008), which may account for some of this difference in injection prevalence. Primary heroin clients entering treatment in Chicago were more likely to be African-American (78 percent), while clients from the remainder of Illinois were more likely to be White (60 percent).

The number of heroin-related reports for 2009 in weighted DAWN ED estimate data was 20,710 (exhibit 3). Heroin-involved ED visits in 2009 constituted 36 percent of total ED reports for major substances of abuse (including alcohol). The rate of heroin-related visits per 100,000 population was significantly lower in 2009 ($n=216$) than in 2008 ($n=252$) but slightly higher than in 2007 ($n=207$). The majority of the heroin-involved visits were male (67 percent) and patients age 35–54 (62 percent). Non-Hispanic African-Americans constituted 55 percent of heroin ED visits in 2009, while non-Hispanic Whites and Hispanics constituted 25 and 9 percent, respectively (race/ethnicity was not documented for 13 percent of the heroin-involved ED reports). DAWN data showed that the proportion and number of drug-related deaths in Cook County attributed to opiates/opioids increased in 2008 to 72 percent ($n=409$) from 60 percent ($n=326$) in 2007.

ADAM II data indicated that 14 percent of male arrestees at the Cook County Jail tested positive for opiates in 2010, down from 17 percent in 2009 and significantly less than in 2008 (29 percent). This was the highest level among the 10 ADAM II sites nationally. Males older than 35 were much more likely to test positive for an opiate than were younger male arrestees. Among Chicago arrestees who used heroin, only 20 percent said they injected the drug, far fewer than in any other ADAM II city. When participants in the 2010 ADAM II were asked about their most recent purchase of heroin, 89 percent said they used an outdoor drug market, well above levels reported in 2007, 2008, and 2009 (55, 54, and 38 percent, respectively).

The purity of street-level heroin peaked in 1997, at about 31 percent, and then began a steady decline, to 12.6 percent in 2006 (exhibit 6). However, the average price per milligram pure was \$0.49 in 2006, among the lowest in CEWG cities nationally. Purity rebounded to 21 percent in 2007, 24 percent in 2008, and 27 percent in 2009. This change was accompanied by a decline in the average price per milligram pure to \$0.37 in both 2008 and 2009, the lowest price for South American heroin among the 16 cities reporting such samples and well below the national average of \$1.28.

The amount of heroin analyzed in Cook County by the ISP laboratory increased from 12 kilograms in 2002 to 21 kilograms 2003, remained at this level in both 2004 and 2005, and then dropped to less than 20 kilograms in 2006. In 2007, the amount of heroin analyzed by the ISP increased again

to almost 23 kilograms, dropped to 19 kilograms in 2008, and then increased to 38 kilograms in both 2009 and 2010. Cook County accounted for 91 percent of heroin seized by the ISP in Illinois in 2010. According to items analyzed by NFLIS laboratories, heroin was the third most often identified drug in Chicago in CY 2010, accounting for 14 percent of all items analyzed (exhibit 4).

The YRBS reported that lifetime use of heroin among Chicago public high school students more than doubled from 2.0 percent (CI=0.9–4.4) in 2005 to 4.7 percent (CI=3.0–7.2) in 2009, although this increase was not statistically significant (exhibit 5). The proportion of male students reporting lifetime heroin use was 6.8 percent; the female proportion was 1.9 percent.

Heroin prices varied depending on type and origin. On the street, heroin was commonly sold in \$10 and \$20 units (bags), although bags selling for as little as \$5 were available. Heroin was also sold in bundles (“jabs”), typically 11–13 “dime” bags, for \$100. During this reporting period, there were reports of \$100 jabs that comprised 14 bags. According to the December 2008 NDIC report, wholesale prices for a kilogram dropped to \$35,000–\$50,000 from approximately \$60,000 in 2007 for Mexican brown powder heroin. Prices dropped to \$30,000–\$80,000 from \$45,000 to \$80,000 for 1 kilogram of Mexican black tar heroin. No kilogram prices were available for mid-2009, though there were two mid-2010 reports of white heroin for about \$65,000 per kilogram. In comparison, kilogram prices in 2003 ranged from \$100,000 to \$125,000. Ethnographic reports of ounce prices in 2011 for white and brown heroin averaged \$1,250–\$1,500, lower than reported in 2011. NDIC reported mid-2009 ounce prices for Mexican brown powder that ranged from \$800 to \$1,000. Ethnographic reports indicated gram prices for heroin typically ranged from \$80 to \$175.

The prevalence of self-reported heroin use in the past 30 days among SATH-CAP participants was 49 percent and was highest on the near northwest side of Chicago.

Other Opiates/Opioids

The number of estimated ED visits involving “other opiates/opioids” for 2009 in weighted DAWN ED data was 7,074. Visits per 100,000 population for other opiates/opioids were significantly higher in 2009 ($n=73.8$) than in 2004 ($n=53.2$) and 2007 ($n=54.8$). The rate of hydrocodone-involved ED visits was significantly greater in 2009 (19.3 per 100,000 population), compared with 2004 (12.4 per 100,000) and 2007 (19.3 per 100,000). There were relatively few oxycodone-involved ED visits, although there was a significant increase in the rate per 100,000, from 2.5 in 2007 to 3.9 in 2009. For reports that identified a narcotic analgesic, females (50 percent) were as likely as males to be represented. Non-Hispanic Whites constituted 60 percent of these visits, followed by African-Americans (19 percent) and Hispanics (8 percent).

The number of drug treatment admissions for other opiates/opioids as the primary drug of abuse decreased from 788 in 2006 to 496 in 2007, a 37-percent decline. The continuing decrease to 239 admissions in 2009 likely reflected budget reductions rather than diminished demand. In contrast to 2007, clients in 2009 were more often male (54 percent) and White (46 percent) rather than African-American (38 percent). As in the past, clients older than 34 represented the largest age group, but this proportion in FY 2009 (50 percent) was substantially lower than in FY 2007 (76 percent). Oral ingestion (72 percent) was reported as the most frequent route of administration, and cocaine was reported to be the most common secondary drug. Five drugs in the opiates/opioids category fell in

the top 25 drugs seized and identified by NFLIS laboratories: hydrocodone ($n=516$), buprenorphine ($n=147$), methadone ($n=105$), oxycodone ($n=94$), and codeine ($n=62$).

Benzodiazepines/Barbiturates

In Chicago, depressants, such as benzodiazepines and barbiturates, are commonly taken with narcotics to potentiate the effect of opiates, frequently heroin. Depressants may also be taken with stimulants to moderate the undesirable side effects of chronic stimulant abuse. Chronic cocaine and speed abusers often take depressants along with stimulants, or when concluding “runs,” to help induce sleep and to reduce the craving for more stimulants (especially in the case of cocaine). There were 13 drug-related deaths in Cook County attributed to benzodiazepines in 2008, of which 7 were ruled as suicide. Treatment data indicated depressants rarely were the primary drugs of choice among treatment admissions. In FY 2009, DASA reported 18 treatment admissions for benzodiazepines and 7 admissions for barbiturates in Chicago.

The number of estimated benzodiazepine-involved visits for 2009 in weighted DAWN ED data was 5,572, and constituting approximately 12 percent of total ED visits for major substances of abuse (including alcohol). The rate of benzodiazepine-involved visits (per 100,000 population) increased steadily and significantly from 36.1 per 100,000 in 2004, to 40.0 in 2007, and to 58.2 per 100,000 in 2009. Benzodiazepine visits included a larger proportion of females (51 percent) than did those for most other drugs.

NFLIS data for 2010 indicated alprazolam (Xanax®) was the seventh most often frequently identified drug among total seized drug items in the Chicago MSA, and ethnographic reports indicated it was the benzodiazepine most often used by persons who used heroin or cocaine.

Methamphetamine/Amphetamines

Numbers of primary methamphetamine treatment admissions in Chicago steadily increased, from 29 admissions in FY 2002 to 139 in FY 2006, before declining to 114 in FY 2007. In 2009, the decrease continued to 81 methamphetamine treatment admissions, a decline that may have been affected by budget reductions. After a substantial increase in the proportion of admissions involving African-Americans seeking treatment for methamphetamine abuse (from 15 percent in FY 2005 to 47 percent in FY 2006), there was a decline to 30 percent and 17 percent in FY 2008 and 2009, respectively (exhibit 2). A higher proportion of males continued to seek treatment than females (81 percent), most likely because the use of methamphetamine in Chicago remains concentrated among MSMs. While smoking was the most often reported primary route of administration in treatment clients in FY 2007 (60 percent), there was little difference in FY 2009 between the proportions reporting injection (48 percent) versus smoking (47 percent). The proportions reporting injection were 27 percent in FY 2007 and 15 percent in FY 2006.

A more pronounced increase in methamphetamine treatment admissions was reported in the rest of the State. Numbers of primary heroin treatment admissions increased from 698 in FY 2000 to peak in FY 2005, at 5,134, but they started to decline in FY 2006 to 4,879 and then to 3,029 in FY 2007. There were 1,595 such admissions in FY 2009. Cocaine was the predominant secondary drug used with primary methamphetamine (28 percent) in Chicago, followed by alcohol (21 percent), while

elsewhere in the State, marijuana (32 percent) was the predominant secondary drug, followed by alcohol (20 percent).

Treatment admissions for methamphetamine outnumbered those for amphetamine in Chicago and in the State. In FY 2009, 34 amphetamine-related treatment admissions were reported in Chicago, compared with 56 admissions in FY 2007, a 53-percent decrease from the previous year. Primary amphetamine treatment admissions in the rest of the State numbered 335 in FY 2007 and 127 in FY 2009. In contrast to FY 2007, treatment for amphetamine use in Chicago more often involved females (74 percent) and African-Americans (41 percent). Nearly equal proportions in FY 2009 reported cocaine (18 percent) and marijuana (15 percent) as the predominant secondary drug used in conjunction with primary amphetamine. ADAM II data indicated that in 2010, only 0.6 percent of male arrestees at the Cook County Jail tested positive for methamphetamine, among the lowest ADAM II sites nationally.

There were only 209 estimated visits involving methamphetamine and 363 visits for amphetamines in weighted DAWN ED data for 2009. Similar to 2004–2008, estimated ED visits per 100,000 population for methamphetamine (2.2) and amphetamine (3.8) were very low. Males accounted for 85 percent of ED methamphetamine-involved visit reports but for only 45 percent of amphetamine reports. Patients older than 20 constituted the majority of methamphetamine-involved visits (91 percent) and amphetamine-involved visits (76 percent); Whites (57 percent) constituted the majority of amphetamine ED visits. (Racial/ethnic estimates were unavailable for methamphetamine.)

Data from the ISP indicated that seizures of methamphetamine in 2006 decreased considerably from the previous year. In 2005, more methamphetamine was seized than cocaine or heroin in nearly 50 percent of Illinois counties. However, methamphetamine seizures in all counties in Illinois were reduced by 52 percent in 2006 and by another 53 percent in 2007 (to 9.1 kilograms). Since then, methamphetamine seizures increased to 12.8 in 2008, 15.2 kilograms in 2008, and 20.4 kilograms in 2010. The amount of methamphetamine received by ISP from Cook County in 2006 also decreased considerably from the previous year, from approximately 7.6 to 3.8 kilograms, a reduction of 51 percent. However, in 2008 there was an increase to 7 kilograms of methamphetamine seized by the ISP, followed by 7.2 kilograms in 2009 and 11.9 kilograms in 2010. According to NFLIS laboratories, 0.6 percent of the drug items seized and identified in Chicago in 2009 and 0.4 of the drug items seized and identified in 2010 contained methamphetamine (exhibit 4).

According to the YRBS, self-reported lifetime use of methamphetamine among Chicago public high school students increased significantly, from 1.5 percent in 2005 to 4.7 percent in 2007, before declining slightly in 2009 to 4.3 percent (exhibit 5). Use was greater ($p=0.03$) among male students (5.5 percent) than among female students (2.1 percent). In Chicago, African-American students had the lowest proportion reporting lifetime methamphetamine use (2.4 percent), while non-Hispanic Whites and Hispanic students were the most likely to use the drug (4.8 percent and 5.1 percent, respectively). For the State as a whole, use was greatest among Hispanic (5.4 percent) and Asian (4.8 percent) students, followed by Whites (3.4 percent) and African-Americans (1.2 percent).

Within Chicago, a low but stable prevalence of methamphetamine use has been reported for a number of years in the north side gay community. In a 2007 study of young (age 16–24) MSM ($n=270$), 13 percent reported past-year use of methamphetamine (Garofalo et al. 2007). Use was more likely

among those who were older, non–African-American, or HIV positive. During this reporting period, COIP staff for the first time heard of modest availability of methamphetamine in some south side African-American neighborhoods. In the SATH-CAP study, 13 percent of participants reported ever trying amphetamine or methamphetamine, and only 4 percent reported use in the 30 days prior to being interviewed. Among MSM, these figures increased to 16 and 8 percent, respectively.

NDIC reported no prices for methamphetamine in Chicago for mid-2009. NDIC reported that in 2008 a pound of “ice” methamphetamine ranged in price from \$10,000 to \$14,000. Ounce prices in 2008 ranged from \$1,000 to \$1,500. Gram prices for ice were the same in 2008, at \$80–\$100. Ethnographic reports in mid-2011 indicated bag prices for methamphetamine ranging from \$15 to \$50.

Marijuana

Marijuana continued to be the most widely available and reported illicit drug in Chicago and Illinois. Marijuana users represented 18 percent ($n=8,890$) of all treatment admissions in Chicago in FY 2009 and 27 percent of admissions elsewhere in the State, close to the figures for FY 2007. Primary marijuana-related treatment admissions increased as a percentage of total admissions in Chicago between FY 2002 and FY 2007, peaking in 2007 at 9,639 admissions. Alcohol remained the most commonly reported secondary drug among persons receiving treatment for primary marijuana (41 percent). In Chicago, primary treatment admissions for marijuana were highest for males (80 percent) and for African-Americans (71 percent) (exhibit 2).

The number of marijuana-related ED visit reports for 2009 in weighted DAWN ED data was 12,561 (exhibit 3). Marijuana-involved ED visits in 2009 constituted 22 percent of total ED reports for major substances of abuse (including alcohol). The rate of marijuana-related visits per 100,000 population ($n=131$ per 100,000) in 2009 was nearly identical to 2008 ($n=130$ per 100,000) and was not significantly different than in 2004–2007. The majority of the marijuana ED reports involved males (69 percent). The most common age groups in marijuana-involved reports were patients age 18–24 (26 percent), 25–34 (24 percent), and 35–44 (17 percent). Non-Hispanic African-Americans constituted 40 percent of estimated marijuana ED visits in 2009, while non-Hispanic Whites and Hispanics constituted 31 and 13 percent, respectively (race/ethnicity was not documented for 15 percent of the marijuana ED reports).

Of arrestees in ADAM II, 53 percent tested positive for marijuana, the second highest proportion nationally (and an increase from 44 percent in 2009, although slightly less than the 56 percent in 2007). Males 30 and younger were more likely to test positive than older male arrestees. When participants in the 2010 ADAM II were asked about their most recent purchase of marijuana, 81 percent said they used an outdoor drug market, well above levels reported in 2007, 2008, and 2009 (50, 66, and 63 percent, respectively).

According to the DEA, the bulk of marijuana shipments were transported by Mexico-based poly-drug trafficking organizations. The primary wholesalers of marijuana were the same Mexico-based organizations that supplied most of the cocaine, methamphetamine, and heroin in the Midwest. In addition, high-quality marijuana was brought from the west coast to Chicago by Whites involved in trafficking and from Canada by Chinese, Vietnamese, and Albanian traffickers. Marijuana produced locally (indoor and outdoor) by independent dealers was also available.

The abundance and popularity of marijuana across the city has led to an array of types, quality, and prices. According to the NDIC mid-2009 report, a pound of marijuana in Chicago cost about \$1,400 for commercial grade, although prices as low as \$750 were reported. High quality marijuana (“BC Bud”) sold for \$4,000 per pound, according to the NDIC, and there were reports of “kush” marijuana selling for \$5,000 per pound. Ethnographic reports regarding marijuana in mid-2011 indicated the same price range as reported by NDIC for 2009 for commercial grade (\$750–\$1,400) and a range of \$3,200–\$5,000 for high grade. Cost for an ounce of high grade marijuana was reported at around \$300 in mid-2011 (ethnographic data) and \$400 in mid-2009 (NDIC), while lesser grades sold for \$80–\$175 (ethnographic reports). On the street, marijuana was most often sold in bags for \$5–\$20 or as blunts. Both ISP and NFLIS laboratories analyzed more marijuana samples than samples for any other drug in 2010. Fifty-nine percent of drug samples analyzed by the NFLIS for Chicago in CY 2010 were identified as marijuana/cannabis (exhibit 4).

According to the CDC’s YRBS, in 2009, 41.0 percent of students reported ever smoking marijuana, the lowest level since the 1995 survey (33.7 percent). Marijuana use in the past 30 days, reported by 22.2 percent of students (95- percent CI: 19.2–25.5), has leveled since the 2003 survey. In 2009, 41.5 percent of male students, compared with 40.3 percent of female students, reported lifetime marijuana use; 47.8 percent of Hispanic students reported having used marijuana at least once in their lifetime, compared with 47.9 percent of African-American and 38.9 percent of White students. These differences, however, were not statistically significant. According to data from SAMHSA’s NSDUH, 11.7 percent of Illinois youth age 12–17 reported past-year use of marijuana in 2007–2008.

Club Drugs

In the Chicago area, MDMA or “ecstasy” (3,4-methylenedioxymethamphetamine) continued to be the most prominently identified of the club drugs, and its use in Chicago appeared to be most common among African-Americans. In FY 2007, treatment admissions for MDMA in Illinois were relatively low, with only 124 primary MDMA treatment admissions reported. Direct comparisons to earlier years are not possible, because reports of treatment for MDMA use were subsumed in the category of “club drug” use. Nonetheless, the number of treatment admissions for MDMA in 2007 exceeded the number for club drug use by about 50 percent for both FY 2005 and FY 2006. Despite declines in numbers of treatment admissions overall in FY 2009 due to budget reductions, admissions for primary MDMA abuse increased to 159. For the remainder of the State, there were only 94 MDMA-related primary treatment admissions. MDMA treatment admissions in Chicago usually more often involved males (92 percent) and African-Americans (65 percent).

The number of MDMA-involved visit reports for 2009 in weighted DAWN ED data was 703 (exhibit 3) and constituted 1.2 percent of total ED reports for major substances of abuse (including alcohol). The rate of MDMA-related visits in 2009 ($n=7.3$ per 100,000 population) was identical to 2008, but was significantly higher than 2004 ($n=3.6$ per 100,000) and 2007 ($n=4.5$ per 100,000). The rate was highest for those between age 18–20 ($n=41.5$ per 100,000), 21–24 ($n=29.4$ per 100,000), and 25–29 ($n=18.4$ per 100,000). The majority of the MDMA-involved ED visits were for males (64 percent). Non-Hispanic African-Americans constituted 39 percent of marijuana-involved ED visit reports in 2009, while non-Hispanic Whites constituted 34 percent.

Lifetime use of MDMA among 9th through 12th grade students in Chicago was 3.3 percent in 2005, 6.4 percent in 2007, and 6.5 percent (95-percent CI=4.6-9.0) in 2009, according to the YRBS (exhibit 5). In 2009, the proportion of non-Hispanic White students reporting lifetime MDMA use was 7.3 percent; Hispanics reported 5.9 percent; and African-American students reported 4.5 percent. The percentage of male students who reported lifetime use of MDMA was 8.9 percent, compared with 5.1 percent for female students. None of these differences were statistically significant.

MDMA samples sent to the ISP laboratory from Cook County decreased from 4.6, 3.3, and 3.0 kilograms in 2007, 2008, and 2009, respectively, then increased to 3.8 kilograms in 2010. NFLIS reported an increase in the proportion of all items analyzed for Chicago that contained MDMA, from 0.8 percent in FY 2006 to 1.6 percent in CYs 2009 and 2010 (exhibit 4). BZP (1-benzylpiperazine) is a drug often sold as, or in combination with, MDMA. Following large increases in the number of samples of BZP from 15 in CY 2007, to 380 in CY 2008, to 1,188 in CY 2009, a decline was observed in the number of drug items seized and identified by NFLIS laboratories as containing BZP to 542 samples in 2010.

Ecstasy was available in street drug markets, although availability varied across the city. In some areas, ecstasy was reported by street sources to be sold by the same persons who sold heroin and cocaine. In other markets, ecstasy was sold by persons who specialize in the drug. Ecstasy continued to be sold in pill or capsule form, and, according to the NDIC, prices have been decreasing slightly in recent years. In 2008, per-tablet wholesale prices ranged from \$5 to \$10 (no wholesale prices were available for mid-2009). Mid-level prices, according to NDIC, ranged from \$10 to \$20 per pill, and there was a report of \$1,100 for a jar of 100 pills. The retail price in 2008 was \$20 per tablet, according to NDIC. Ethnographic reports indicated that mid-2011 retail prices ranged from \$5 to \$30 per pill, and a “jar” of 1,000 tablets cost \$1,200.

There have been increasing reports over the past few years of ecstasy use from participants in local studies of drug users. These reports indicate increased use of ecstasy by African-Americans, principally those in their teens and twenties, but some older. This use of ecstasy occurs not only in the context of club going and house parties, but also among street populations, including sex workers. Marijuana and alcohol are the drugs most often intentionally consumed in combination with ecstasy. Users commonly claim that ecstasy can be obtained in “upper” and “downer” forms, which suggests MDMA tablets include different combinations of drugs. Some users describe their experience with MDMA as a “rollercoaster,” meaning the effects of the drugs vary considerably from purchase to purchase. However, the decline in BZP seizures observed in NFLIS data (exhibit 4) suggests that MDMA may more often be present in drugs purchased as MDMA.

GHB (gamma hydroxybutyrate) is a central nervous system depressant with hallucinogenic effects. GHB is not tracked in most quantitative indicators, but its use was perceived to be low in Chicago compared with ecstasy. Ethnographic reports in mid-2011 indicated the use of GHB in nightclubs was uncommon. There were no recent drug treatment or weighted DAWN data regarding GHB. GHB is sold as a liquid (“Liquid G”), in amounts ranging from drops to capfuls. Prices for a capful have been reported at \$10 and have remained level. Ethnographic reports for mid-2011 indicated prices for bottles ranging from \$50 to \$120 (20 ounces for \$120). Compared with other club drugs, overdoses were more frequent with GHB, especially when used in combination with alcohol.

Ketamine, an animal tranquilizer, is another depressant with hallucinogenic properties and is often referred to as “Special K,” among other names. DASA did not report anyone treated for ketamine use in FY 2009 in publicly funded treatment programs in Illinois. The number of exhibits of ketamine analyzed by NFLIS in the Chicago area declined from 63 in CY 2007, to 41 in CY 2008, 28 in CY 2009, and to 11 in CY 2010 (exhibit 4). Ketamine was usually sold in \$5–\$30 bags of powder or in liquid form, a price range that has been stable since at least 2004. The only report of a gram price in mid-2011 was \$90.

PCP, LSD, and Other Hallucinogens

In FY 2009, PCP admissions totaled 126, while there were 7 for other hallucinogens. The majority of primary treatment admissions for PCP occurred among African-Americans (86 percent); females (63 percent) outnumbered males.

In general, both PCP and LSD indicators in Chicago remained low, relative to other drugs; although street reports suggested PCP use was fairly common in some neighborhoods. The number of PCP-involved visits for 2009 in weighted DAWN ED data was 898 (exhibit 3), composing 1.6 percent of total ED reports for major substances of abuse (including alcohol). The rate of PCP-involved ED visits in 2009 (9.4 per 100,000 population) was significantly higher than in 2007 (4.2 per 100,000). Seventy-four percent of PCP-involved ED visits in 2009 were male. Non-Hispanic African-Americans constituted 54 percent of PCP ED visits in 2009, followed by Hispanics (19 percent), and non-Hispanic Whites (15 percent).

The volume of PCP samples from Cook County received by the ISP laboratory for analysis has fluctuated since 2002; 0.46 kilograms were seized in 2009, and 0.54 kilograms were seized in 2010. Drug items analyzed by NFLIS laboratories and identified as containing PCP and LSD totaled 0.4 and 0.1 percent, respectively, as a proportion of all items analyzed in CY 2010 (exhibit 4).

According to the Illinois Youth Survey, hallucinogen use (including LSD and PCP) has decreased markedly among 8th, 10th, and 12th grade students in Cook County since the turn of the century. Past-year use was reported by 4 percent of students in 2000; 1.8 percent reported use in 2004; and 1.2 percent reported use in 2006. Hallucinogen use was reported by 2.7 percent of the male students and by 1.5 percent of the female students in 2009. The proportion of White students reporting past-year use of hallucinogens was 2.5 percent in 2009, compared with 0.6 percent for both African-American and Hispanic students.

Ethnographic reports on PCP use in mid-2011 suggested that PCP “sticks” about the size of toothpicks were reportedly available for \$5–\$20, with the most common price being \$10. LSD hits typically cost \$10–\$15. LSD was available in the city and suburbs. According to some accounts by White young adults, hallucinogenic mushrooms remained available. Reported prices were \$10 per gram, \$20–\$30 for one-quarter ounce, and \$130 per ounce.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

While Chicago accounts for 23 percent of Illinois’ population, 75 percent of the State’s diagnosed HIV infections in 2009 were from Chicago, and 84 percent were from metropolitan Chicago (Cook County and the collar counties of DuPage, Kane, Lake, McHenry, and Will).

There were 22,762 persons known to be living with HIV/AIDS in Chicago in 2008. Of the 982 new cases of HIV (not AIDS) diagnosed in 2008, only 12 percent were attributed to injection drug use, well below the 26 percent reported in 2000. MSM contact continued to be the leading single mode of transmission (63 percent) of new HIV infections. Non-Hispanic African-Americans constituted 59 percent of new HIV diagnoses despite constituting about 35 percent of the city's population. Non-Hispanic Whites and Hispanics constituted 22 and 15 percent of new infections, respectively. While there have been declines since 2001 in new HIV infections among females that were attributed to drug injection and to those attributed to heterosexual contact, the latter began increasing after 2005, while injection-related cases continued to decline. SATH-CAP data suggest that noninjection use of heroin and cocaine is a predictor of heterosexual HIV infection.

A considerable proportion of Chicago students in grades 9 through 12 continued to report behavior that may place them at risk for sexually transmitted infections. Data from the YRBS suggested that 54 percent have had sex; 35 percent did not use a condom during their last intercourse; and 18 percent consumed alcohol or drugs before their last sexual intercourse. Many students also live in neighborhoods with a high background prevalence of HIV, which increases their chances of having a sexual partner who is HIV positive.

The prevalence of HIV infection among the mostly low-income participants in the SATH-CAP study was about 7 percent. Prevalence was highest (47 percent) among males who reported only male sex partners in the past 6 months. HIV prevalence was only slightly higher among injection drug users compared with noninjection drug users, which reflects declines in infections among the former and increases among the latter.

ACKNOWLEDGMENTS

The author wishes to thank the field staff of the Community Outreach Intervention Projects, School of Public Health, University of Illinois at Chicago, for their contributions to this report, particularly site supervisors Mary Bonilla, David Cosey, Otillo Green, Matta Kelly, and Ben Davis, and field staff Robert Banks, Heber Burguete, James Crues, Julio Garcia, Floyd McGee, Angel Ocasio, Mike Phillips, Ed Snulligan, and Sheldon Worlds for assisting with preparing the report. The author also thanks Oscar Colon and Lillian Pickup at DASA and staff at the other agencies and organizations that contributed data used in this report.

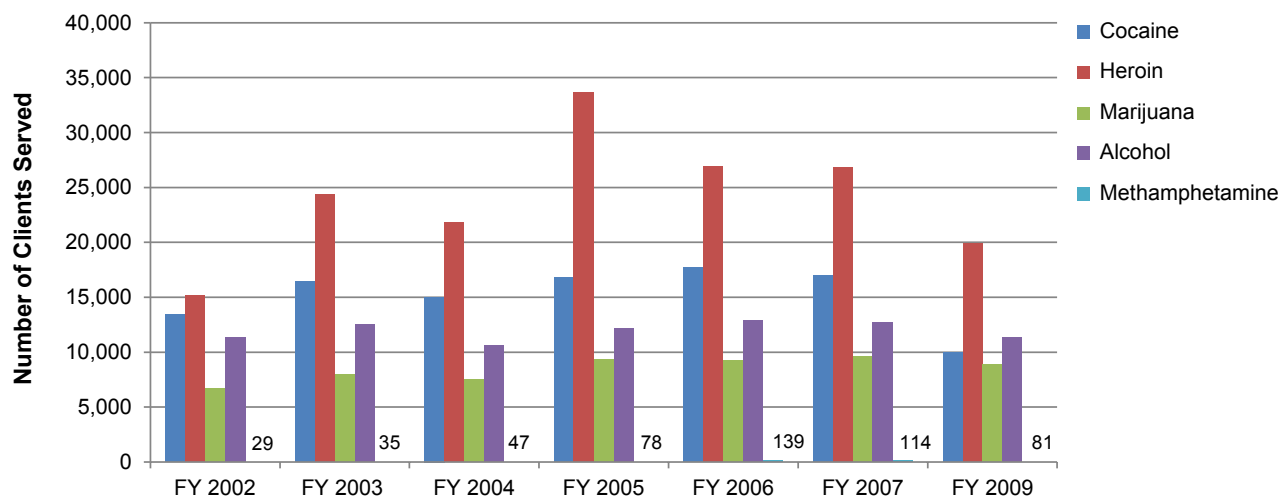
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Exhibit 1. Number of Clients Served in Publicly Funded Treatment Programs, by Primary Substance, in Chicago: FYs¹ 2002–2009



Note: Since methamphetamine values were so much lower than those for other drugs, the treatment admissions are shown numerically in the graph. Declines in persons served for cocaine and heroin treatment reflect reductions in funding.

¹FY=July 1–June 30 of each year.

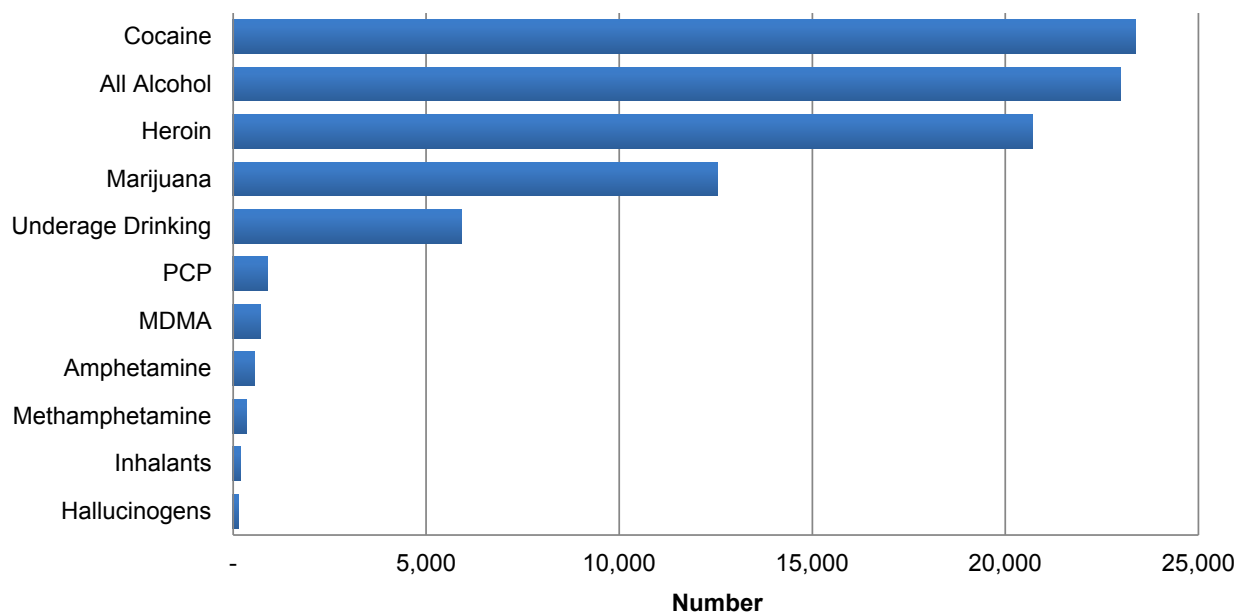
SOURCE: Division of Alcoholism and Substance Abuse, Illinois Department of Human Services

Exhibit 2. Demographic Characteristics of Clients Served in Publicly Funded Treatment Programs, by Primary Substance and Percentage, in Chicago: FY 2009

Characteristics N=50,424	Heroin n=19,099	Cocaine n=9,992	Alcohol n=11,329	Marijuana n=8,890	Other Opioids n=239	Metham- phetamine n=81
Percent of Total	38	20	22	18	<1	<1
Gender						
Male	57	62	74	80	54	81
Female	43	38	26	20	46	19
Race/Ethnicity						
White	11	10	19	6	46	74
African-American	78	79	55	71	38	17
Hispanic	8	7	23	19	8	-
Other	<1	1	1	1	1	4
Other Single Race	2	4	3	3	8	5
Age						
17 or Younger	<1	<1	4	42	3	-
18–25	5	5	11	32	18	25
26–34	12	14	21	17	29	43
35 and Older	83	81	64	10	50	32
Route of Administration						
Oral	1	2	100	2	72	1
Smoking	1	89	-	97	4	47
Inhalation	81	9	-	1	20	4
Injecting	17	<1	-	<1	4	48
Secondary Drug	Cocaine 35	Alcohol 42	Cocaine 27	Alcohol 41	Cocaine 21	Cocaine 28

SOURCE: Division of Alcoholism and Substance Abuse, Illinois Department of Human Services

Exhibit 3. Estimated Number of Selected Illicit Drug Visits Reported from EDs in the Chicago MSA, Chicago DAWN (Weighted): January–December 2009



	Hallucino- gens	Inhalants	Metham- phetamine	Amphe- tamine	MDMA	PCP	Underage Drinking	Marijuana	Heroin	All Alcohol	Cocaine
#	149	203	363	571	703	898	5,926	12,561	20,710	22,987	23,373

SOURCE: DAWN, CBHSQ, SAMHSA, 10/05/2010

Exhibit 4. Number and Percentage of Drug Seizure Items Analyzed by Forensic Laboratories in the Chicago MSA: CYs¹ 2008–2010

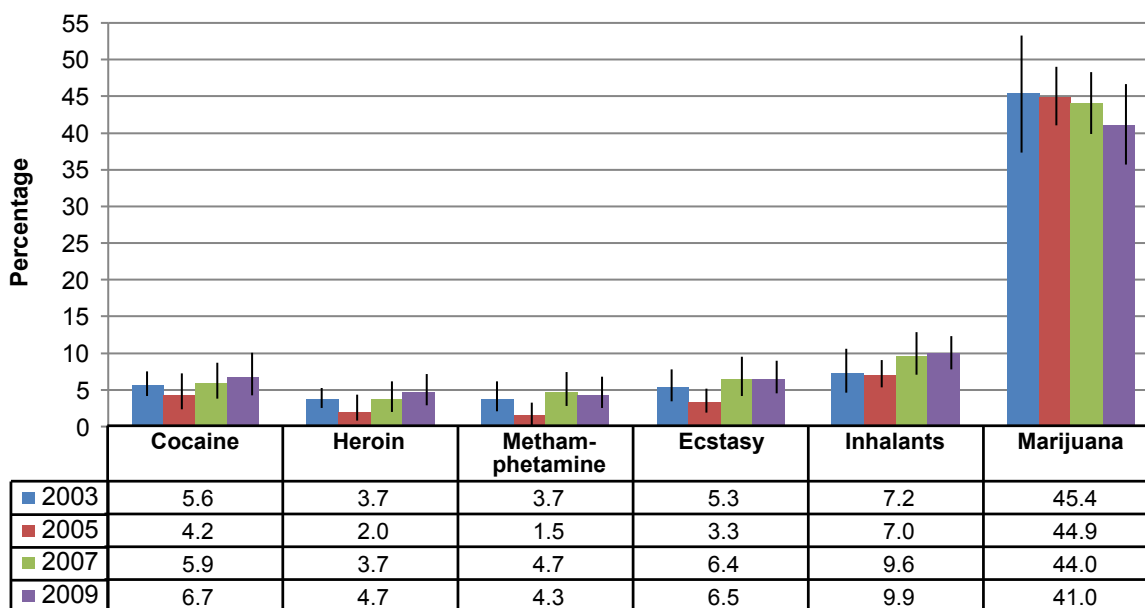
Selected Substance	CY 2008		CY 2009		CY 2010	
	Count	Percent	Count	Percent	Count	Percent
Marijuana/Cannabis	43,123	55.96	47,212	58.67	47,710	59.25
Cocaine	19,745	25.62	17,803	22.12	16,122	20.01
Heroin	10,121	13.13	10,671	13.26	11,637	14.45
Clonidine	NA ²	NA	21	0.03	6	0.00
Methamphetamine	781	1.01	457	0.57	290	0.36
MDMA (3,4-Methylenedioxymethamphetamine)	1,163	1.50	1,314	1.63	1,250	1.55
BZP (1-Benzylpiperazine)	380	0.49	1,188	1.48	542	0.67
PCP (Phencyclidine)	195	0.25	215	0.27	303	0.38
Hydrocodone	380	0.49	508	0.63	516	0.64
Methadone	79	0.10	113	0.14	105	0.13
Alprazolam	206	0.25	321	0.40	372	0.46
Psilocin	72	0.09	114	0.14	115	0.14
Codeine	58	0.07	64	0.08	62	0.08
Diazepam	42	0.05	69	0.09	51	0.06
Clonazepam	38	0.05	61	0.08	90	0.11
Oxycodone	65	0.08	102	0.13	94	0.12
Amphetamine	61	0.08	65	0.08	120	0.15
Ketamine	41	0.05	28	0.03	11	0.01
Propoxyphene	NA	NA	NA	0.00	16	0.02
Morphine	NA	NA	57	0.07	47	0.06
Psilocybin	NA	NA	32	0.04	22	0.03
Lorazepam	NA	NA	24	0.03	23	0.03
Pseudoephedrine	NA	NA	11	0.01	21	0.03
Chlordiazepoxide	0	0.00	NA	NA	2	0.00
LSD (Lysergic acid diethylamide)	21	0.02	33	0.04	51	0.06
Total Items Reported	86,681		77,456		80,530	

¹Drug items analyzed between January 1 and December 31 of each year.

²NA=data not available.

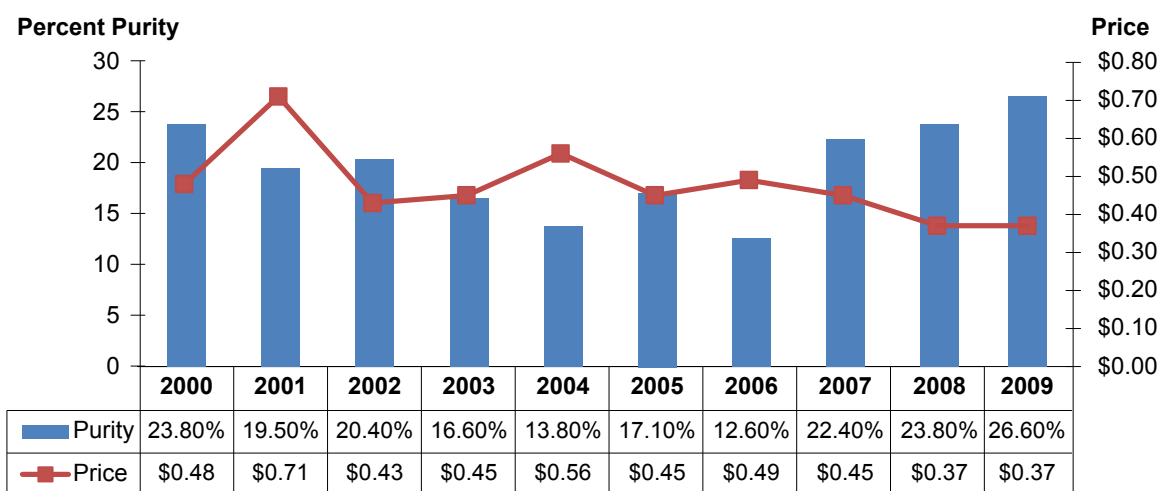
SOURCE: NFLIS, DEA

Exhibit 5. Percentage (With 95 Percent Confidence Intervals) of Lifetime Illicit Drug Use Among Public High School Students in Chicago, by Survey Year: 2003, 2005, 2007, and 2009



SOURCE: YRBS, CDC

Exhibit 6. Heroin¹ Price and Purity Trends in Chicago: 2000–2009



¹South American heroin.

SOURCE: DMP, DEA

Drug Abuse Patterns and Trends in Cincinnati, Ohio: 2010

Jan Scaglione, B.S., M.T., Pharm.D., DABAT¹

ABSTRACT

The predominant drug issues in Cincinnati involved marijuana and cocaine as primary drugs of abuse in 2010. The indicators for crack and powder cocaine began decreasing in 2008, however, and have continued that downward trend through 2010. Both the supply and quality of cocaine/crack cocaine on the street in Cincinnati dropped in 2008 as larger drug seizures were recorded by law enforcement; this carried over through 2010. Subjective data sources indicated that cocaine dealers switched to selling heroin due to short supply and higher profit. Indicators for marijuana in the Cincinnati region remained stable at high levels. Marijuana dominated all other reported illicit drugs among treatment admissions, accounting for 29.3 percent of the admissions during calendar year (CY) 2010; marijuana was second only to alcohol for primary treatment admissions. Drug items seized and identified as marijuana accounted for 39.6 percent of the total number of items submitted for forensic analysis in Hamilton County in 2010. Indicators for heroin continued to increase during 2010 versus the previous 2 years. Treatment admissions for primary heroin abuse were not delineated from other opiate/opioid admissions; together they accounted for 20.5 percent of all admissions. National Forensic Laboratory Information System (NFLIS) items submitted for forensic analysis for heroin increased by 40 percent in 2010 compared with the previous year. The Medical Examiner recorded a nearly 17-percent increase in deaths attributed to heroin in 2010 from 2009 and a 50-percent increase from 2008. Methamphetamine indicators were low in Cincinnati compared with other drugs of abuse. There were a comparable number of clandestine methamphetamine laboratory seizures during 2010 as in 2009. According to the Ohio Bureau of Criminal Investigation and Identification, methamphetamine encountered in the Cincinnati area is primarily locally produced using the one-pot method. Indicators for MDMA (3,4-methylenedioxymethamphetamine) remained at a low to moderate level in Cincinnati during 2010, compared with 2009. Abuse of prescription drugs, specifically benzodiazepine-based tranquilizers and opioid narcotics, continued to be an increasing drug issue in Cincinnati. Qualitative indicators pointed to relative high availability of opioid narcotics, with some evidence of stabilization of indicators occurring between 2009 and 2010. The most frequently used benzodiazepine continued to be alprazolam, with clonazepam following closely behind, according to both users and law enforcement (based on key informant data and focus group information). A 14.9-percent increase in human exposure cases reported to Ohio poison control centers involving buprenorphine-containing pharmaceuticals occurred in 2010 over the previous year, with 39 percent of these exposures involving children age 3 or younger. An increasing number of reports of exposure to buprenorphine were also reported to poison control centers in 2010, representing 21 percent of all cases recorded. A low, but increasing, number of human exposures reported to poison control centers regarding oxycodone was noted and will be monitored in the future.

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INTRODUCTION

Area Description

The city of Cincinnati is 1 of 36 municipalities within Hamilton County located in the southwest region of the State of Ohio along the Ohio River. Hamilton County is also home to 12 separate townships. Since 1990, the U.S. Census Bureau recorded consistent decreases in the population in the city of Cincinnati, at the rate of approximately 1 percent per year. U.S. census projections indicated that there were 308,728 residents of Cincinnati in 2003, along with 823,472 Hamilton County residents. New population projections, prompted by a challenge from the mayor of Cincinnati to the U.S. Census Bureau, lead to a revision in the population in October 2006 to record 331,310 residents, an increase of 6.8 percent over previous census figures. Similarly, the numbers of residents within Hamilton County rose 4.3 percent, to 860,652, with the revised census data. The census list that was released in May 2011 showed Cincinnati losing population again, ranking fourth among cities losing the most number of residents since 2000. The U.S. Census Bureau data from the 2010 census showed 296,943 residents in the city of Cincinnati, a loss of more than 10 percent from the previous numbers. The Cincinnati population distribution shifted slightly to show a 3.7-percent decline for Whites, to 49.3 percent of the total, and a 1.8-percent increase in African-Americans, to 44.8 percent. The Hispanic population makes up 2.8 percent of the city's population, an increase of 1.5 percent. By comparison, residents of Hamilton County were nearly 71.6 percent White, 24.9 percent African-American, and 2.2 percent Hispanic.

Various factors were identified by law enforcement as influences on drug trafficking and substance abuse in the Cincinnati region and State of Ohio. Ground travel is the predominant source of drugs to the city of Cincinnati and the State of Ohio, as many major thoroughfares pass through the State, making transport relatively easy across the State line. Law enforcement recently identified over-the-road truckers as a significant source of bulk drug shipment into Cincinnati from interstate routes connecting through Indianapolis, Indiana. Most drug shipments coming through this particular route were further identified as having originated from the Mexico border.

Cincinnati is within close proximity of the Northern Kentucky/Cincinnati International Airport to the south and the Dayton International Airport to the north. There are 164 public use airports, along with 661 privately owned/private use airports and heliports, throughout the State. Canada has become a source for drug traffic into Ohio as well. Smaller amounts of drugs were reported to be coming through these routes of travel into the State.

Data Sources

The primary sources of data/information for this report are as follows:

- **Treatment data** were provided by the Hamilton County Mental Health and Recovery Services Board for fiscal years (FYs) 2005 through 2009 and calendar year (CY) 2010 for publicly funded treatment programs within Hamilton County only. Primary drugs of abuse at admission were determined through billing data submitted by reporting agencies. Data are captured by group classification and not necessarily by specific drug type or route of administration. Beginning in 2007, data capture methodology differed from previous reporting periods and does not provide for direct comparison to previous reports. Treatment data for 2007–2009 may be comparable, but those from 2010 may not be consistent with previous data since the timeframe of data capture was calendar year data.

- **Poison control center data** were provided by the Cincinnati Drug and Poison Information Center (DPIC) for CYs 2005–2010. Only human case data captured for purposes of illustration of drug exposures were reported. DPIC provides a 24/7 telephone hotline for drug and poison information, as well as management and treatment information of hazardous or toxic exposures for the public, health care professionals, business, and government officials. The information obtained from DPIC includes exposures to illicit substances (e.g., heroin, cocaine, MDMA [3,4-methylenedioxy-methamphetamine]), as well as prescription drugs used for purposes of intentional abuse or suicide. Data may also include intentional misuse or intentional use for unknown reason. All human exposure calls, regardless of exposure type, that referenced buprenorphine-containing pharmaceuticals were accessed for purposes of this report. Additional data regarding human exposures to buprenorphine-containing pharmaceuticals were obtained from the other Ohio poison control centers—the Central Ohio Poison Control Center and the Northern Ohio Poison Control Center—for CYs 2007–2010.
- **Crime laboratory drug analyses data** were derived from the National Forensic Laboratory Information System (NFLIS), Drug Enforcement Administration (DEA), and the Hamilton County Crime Laboratory for 2010.
- **Drug seizure data** were provided by the Cincinnati Regional Enforcement Narcotics Unit (RENU) for CYs 2006 through 2010.
- **Mortality data** were provided by the Hamilton County Coroner's Office for CYs 2006 through 2010.
- **Drug purity and cost data** came from the DEA, Cincinnati Resident Office, Greater Warren County Drug Task Force, and the Ohio Substance Abuse Monitoring Network (OSAM).
- **Human immunodeficiency virus (HIV) data** were provided by the Ohio Department of Health for the years 1995–2009.
- **Methamphetamine laboratory seizure data** were provided by the Ohio Bureau of Criminal Investigation and Identification (BCI&I) for FYs 2000–2010.
- **Qualitative data** came from focus group interviews conducted for the OSAM Project, funded by the Ohio Department of Alcohol and Drug Addiction Services. Focus group interview data were provided through June 2010.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine continued to be a primary substance of abuse in Cincinnati, but evidence of lower cocaine availability continued to be reported during 2010. Primary cocaine admissions accounted for 10.4 percent of all treatment admissions during calendar year 2010 (representing a decline, from 1,776 admissions in 2009 to 1,561 admissions in 2010) (exhibit 1).

Poison control center data recorded a total of 56 cocaine (salt/crack) human exposure calls captured by the Cincinnati DPIC during 2010, a 26-percent decline from the previous year (exhibit 2). All cases involved the intentional use of cocaine (salt/crack).

The Hamilton County Coroner's Office recorded 33 deaths in which evidence of cocaine/crack use was documented by the Medical Examiner (ME) during 2010, representing an 8.3-percent decrease from the previous year (exhibit 3). The number of deaths recorded in which cocaine was detected in a decedent steadily dropped by 65 percent between 2006 and 2010. (Deaths were recorded in one of three categories: accidental, suicide, or homicide. Evidence of cocaine was not necessarily reported as cause of death.)

The Cincinnati RENU removed more than 11,000 grams of cocaine from the streets of Cincinnati during 2010 (exhibit 4). Qualitative data also indicated decreased street availability of both powder and crack cocaine during 2010. The quality of available powder or crack cocaine was described as "poor," having decreased during 2010 from the previous year. A high number of users reported that it was commonplace to "re-rock" crack cocaine after a purchase to remove as many impurities as possible.

Analysis of the purity of cocaine samples seized by the local DEA in 2010 showed that the purity of crack cocaine ranged between 24 and 81.5 percent, whereas the purity of cocaine hydrochloride (powder cocaine) ranged from 27.7 to 53.6 percent (exhibit 5). Impurities detected in the submitted items included benzocaine, tetramisole, diltiazem, sodium bicarbonate, and caffeine. Tetramisole (levamisole) was detected in 21 of 27 (78 percent) items submitted during 2010. Of the 13,730 drug items seized and identified by NFLIS laboratories in Hamilton County in 2010, 26.5 percent were identified as containing cocaine (exhibit 6). The number of items seized and identified as cocaine declined nearly 39 percent between 2007 and 2010 in Hamilton County.

The retail (street) price of powder cocaine ranged from \$50 to \$100 per gram in 2010 (exhibit 7). Mid-level prices for powder cocaine ranged from \$1,000 to \$1,200 per ounce, and wholesale prices ranged between \$30,000 and \$33,000 per kilogram. The retail prices of crack cocaine ranged from \$40 to \$60 per gram in 2010. Mid-level prices for crack cocaine ranged from \$700 to \$900 per ounce.

Heroin

Indicators for heroin abuse continued to increase throughout 2010 from 2009. Heroin and prescription opioid abuse was the primary substance abuse problem for 20.5 percent (968 admissions) of all primary treatment admissions during CY 2010 (exhibit 1). The number of heroin and opioid admissions to treatment has been rising steadily since 2007, surpassing treatment admissions for cocaine. Qualitative data indicated moderate availability of heroin during 2010. Mexican brown powder heroin was the most available form of heroin, but reports of availability of both Mexican black tar heroin and South American white powder heroin continued in the Cincinnati area.

Poison control center data showed that 80 heroin exposure calls related to intentional abuse were reported during 2010, a decrease of 24 percent over 2009 (exhibit 2). Overall, the ME recorded 42 deaths during 2010 with evidence of heroin abuse as the manner of death (exhibit 3). This number represented a 17-percent increase over the previous year and a 320-percent increase since 2006.

All of the deaths were ruled accidental in nature by the ME. The RENU seized more than 2,100 grams of heroin during 2010 (exhibit 8).

Heroin accounted for approximately 14 percent of the items analyzed by NFLIS in 2010, an increase of 3 percent from the previous year (exhibit 6). The purity of heroin varied greatly, ranging from 15.7 to 78.8 percent per milligram pure during 2010, compared with 39.4 to 77.5 percent per milligram pure in 2009 (exhibit 5). Heroin could be purchased at the street level for \$100–\$130 per gram for Mexican brown powder (exhibit 7). Mid-level prices for heroin ranged from \$2,200 to \$3,500 per ounce for Mexican brown powder heroin. Wholesale prices for a kilogram of heroin were reported at \$45,000.

Other Opiates/Opioids

Primary treatment admissions in CY 2010 for prescription opioid abuse, which were not reported separately from heroin admissions, accounted for 20.5 percent ($n=968$ admissions) of total admissions (exhibit 1). Qualitative data continued to indicate availability of pharmaceutical opioids at a moderately high but stable level. While most opioids are ingested, according to key informant users, OxyContin® and immediate-release oxycodone products were the most likely opioid pharmaceuticals to be crushed and insufflated or injected.

Poison control center data showed that hydrocodone and oxycodone pharmaceutical products were more likely to be the subject of human exposure calls than other opiates/opioids available (exhibit 9). There were a total of 338 exposure calls for intentional abuse, including suicide, of oxycodone products during CY 2010, representing a 23-percent increase over exposure calls recorded in 2009. The number of hydrocodone-combination narcotic exposures in 2010 for intentional abuse, including suicide, totaled 318, representing less than a 1-percent decrease from 2009. The number of intentional methadone cases recorded during 2010 was 48, a decrease of 25 percent from the previous year.

Among the drug items seized and identified by NFLIS forensic laboratories in 2010, items identified as oxycodone accounted for 7.4 percent of the total items, an increase of 4.2 percent over the previous year. Items identified as hydrocodone represented nearly 2.5 percent of all items analyzed, and items identified as other opiates/opioids accounted for 2.3 percent of the items submitted for analysis in 2010 (exhibit 6).

The Hamilton County Coroner's Office recorded 96 deaths during 2010 that showed evidence of prescription opioid use on the part of the decedent, representing a 2-percent increase from the previous year (exhibit 3). Not included with these pharmaceutical opioid deaths were 10 deaths specifically attributed to methadone and 8 attributed to fentanyl (exhibit 10).

The reformulation of OxyContin® with added abuse deterrent technology, introduced in the fall of 2010, may have resulted in a shift in use patterns since users found the drug harder to abuse. Qualitative data, corroborated by law enforcement, showed that users switched from OxyContin® to one of three substances: immediate-release oxycodone, Opana®, or heroin. While diversion of OxyContin® to the street continued to be reported, the desirability of the new formulation decreased substantially, resulting in a drop in the prices in 2010. OxyContin® sold on the streets of Cincinnati for \$35–\$40 for 80 milligrams and \$15–\$20 for 40 milligrams (exhibit 7).

Benzodiazepines

Primary treatment admissions for benzodiazepines accounted for 0.7 percent ($n=32$ admissions) of all admissions for CY 2010 (exhibit 1). Benzodiazepines identified in NFLIS drug items in 2010 totaled 3.1 percent of the total items submitted for analysis (exhibit 6). The Hamilton County Coroner's Office recorded two cases in which tranquilizers were found in decedents in 2010 (exhibit 10). Poison control center data showed 1,044 intentional human exposure cases reported with benzodiazepines in 2010; nearly 35 percent involved alprazolam, and another 32.7 percent involved clonazepam.

Methamphetamine/Amphetamines

Methamphetamine indicators in the Cincinnati area and State of Ohio remained low but showed a slight increase in 2010 over 2009. Of the primary drug treatment admissions in CY 2010, methamphetamine/amphetamines (including MDMA) accounted for only eight (0.2 percent) admissions (exhibit 1). Poison control data showed a total of 25 intentional abuse exposures, including suicide, to methamphetamine reported in 2010.

Methamphetamine-containing items analyzed and identified in the NFLIS system in 2010 totaled 95, accounting for only 0.7 percent of the total drug items identified (exhibit 6). In 2010, the retail price for methamphetamine was \$60–\$100 per gram for locally produced powder methamphetamine. Mid-level prices for methamphetamine were unavailable (exhibit 7).

The number of methamphetamine incidents involving laboratories, dumpsites, and chemical/glass findings throughout Ohio increased in 2010 to 359, a 3-percent increase over 2009 and an 81-percent increase over 2008 (exhibit 11).

Marijuana

Marijuana continued to be a primary drug problem in the Cincinnati region in 2010, reported as both widely available and widely used. Marijuana accounted for 29.3 percent ($n=1,384$ admissions) of total treatment admissions in CY 2010 (exhibit 1). Poison control center data revealed 80 human exposure cases involving intentional abuse of marijuana, including suicide, reported in 2010 (exhibit 2).

Marijuana/cannabis was the most frequently reported drug item identified by NFLIS laboratories, representing 39.6 percent of the total drug items analyzed in 2010 (exhibit 6). The Cincinnati RENU recorded seizures of more than 556 kilograms of marijuana during 2010 (exhibit 12).

Retail prices for high-grade marijuana were \$20 per gram (exhibit 7). The mid-level price for high quality "BC bud" mix marijuana from Mexican sources was \$250–\$350 per ounce. The wholesale price for marijuana from Mexican sources was \$1,100–\$1,300 per pound and up to \$5,000 per pound for high-grade marijuana.

MDMA

Indicators for MDMA increased slightly in 2010. Primary treatment admissions for stimulants, including MDMA, for CY 2010 accounted for only eight admissions. Qualitative data indicated that MDMA availability remained at a moderate level during 2010. Poison control center data showed a total of 20 intentional abuse exposures to MDMA for 2010, an increase over the 17 reported in 2009.

Of the NFLIS items analyzed in 2010, 79 contained MDMA, accounting for 0.6 percent of the items analyzed and identified. BZP (1-benzylpiperazine), a piperazine derivative sold as MDMA in the United States, accounted for 68 items submitted to NFLIS laboratories for analysis in 2010, representing 0.5 percent of all drug items (exhibit 6). MDMA sold at the retail level for \$7–\$25 for a single tablet (exhibit 7).

Emerging Patterns

Indicators of patterns for buprenorphine-containing pharmaceuticals began to become more evident in 2010. NFLIS laboratories recorded 105 such items submitted to the DEA for analysis (exhibit 6), ranking buprenorphine as the seventh most seized and identified drug item in 2010.

Human exposure data collected from all three Ohio poison control centers (PCCs) revealed a total number of 247 cases of buprenorphine reported in 2010. This was a nearly 15-percent increase over the previous year (exhibit 13) and an increase of 1,025 percent over 2008. Drug identification calls to a PCC act as a qualitative measure of diversion of a pharmaceutical drug to the street. In 2010, 376 identification calls were received by the DPIC for buprenorphine-containing pharmaceuticals, a 17-percent increase from the previous year. Buprenorphine remains an area for increased education about storage practices, as 39 percent of the human exposures reported to PCCs in Ohio involved children younger than 3. In addition, 21 percent of the human exposures involved intentional misuse of buprenorphine.

Synthetic cannabinoid products were heavily marketed during 2010, with adverse events related to use being reported to poison control centers throughout the United States. The Cincinnati DPIC recorded 16 calls related to synthetic cannabinoids during 2010 and an additional 30 calls during January–May 2011. A total number of 46 exposures were managed by the DPIC for these products. The majority of exposures involved males (78 percent) who were younger than 24 (76 percent). Symptoms more commonly reported included tachycardia, agitation, hallucinations, confusion, drowsiness, and dilated pupils. The DEA placed five of the synthetic cannabinoids (JWH-018; JWH-073; JWH-200; CP-47,497; and CP-47,497 C8 homolog) under emergency schedule in March 2011.

Synthetic cathinone products, containing mephedrone, methyldone, or MDPV (3,4-methylenedioxypyrovalerone), were also reported to area poison control centers during 2010. The Cincinnati DPIC recorded 2 exposures in 2010, but 77 additional cases were recorded from January to May 2011. The majority of exposures involved males (73 percent) and those age 20–39 (68 percent). Insufflation was the primary route of administration of the synthetic cathinone products (64 percent). Symptoms commonly reported included tachycardia, intense visual and auditory hallucinations, agitation, hypertension, and seizures. The State of Ohio had legislation pending at the time of this report to ban these chemical substances in the State.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV

HIV infection reported in Hamilton County occurred more often from exposure among men who have sex with men (MSM) than from other modes of transmission (exhibits 14 and 15). Only 8

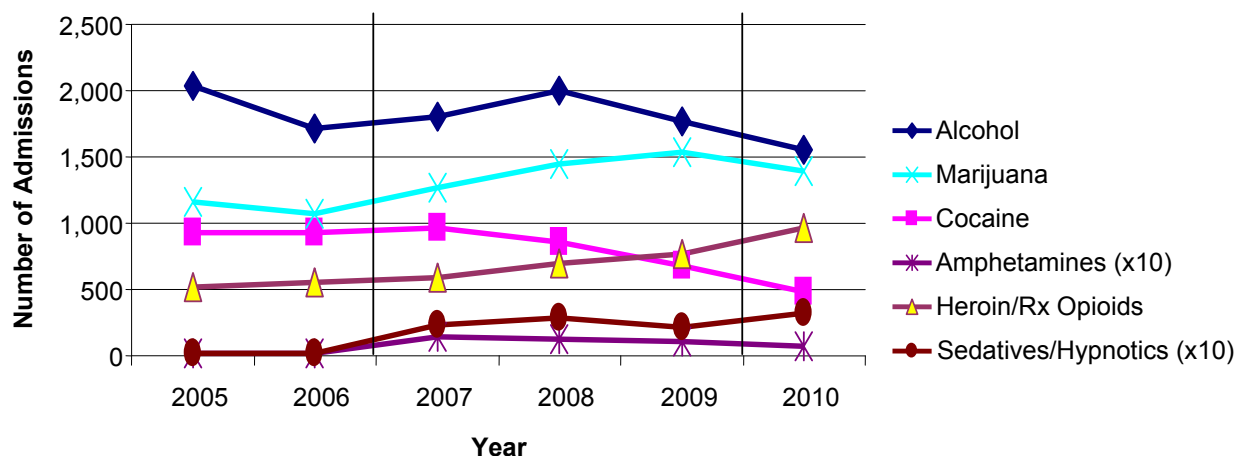
percent of the transmission of HIV in Hamilton County in 2009 was reported through intravenous drug use or a combination of intravenous drug use and MSM (exhibit 15).

ACKNOWLEDGMENTS

The author would like to thank those individuals and agencies that contribute alcohol- and drug-related data, statistics, and information that are used to form these reports. Cincinnati's contribution to the Community Epidemiology Work Group would be vastly limited without the cooperation of local, State, and Federal agencies. In particular, the author thanks Dr. O'dell Owens and Terry Daly (Hamilton County Coroner's Office), Frank Younker and Richard Gelsomino (Cincinnati Resident Office, DEA), Erik Stewart (Hamilton County Mental Health and Recovery Services Board), Erin Durocher (Ohio Bureau of Criminal Investigation and Identification), and participating members of the Ohio Poison Control Centers.

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Exhibit 1. Number of Primary Treatment Admissions, by Primary Drug of Abuse, in Hamilton County: FYs¹ 2005–2009², CY 2010³



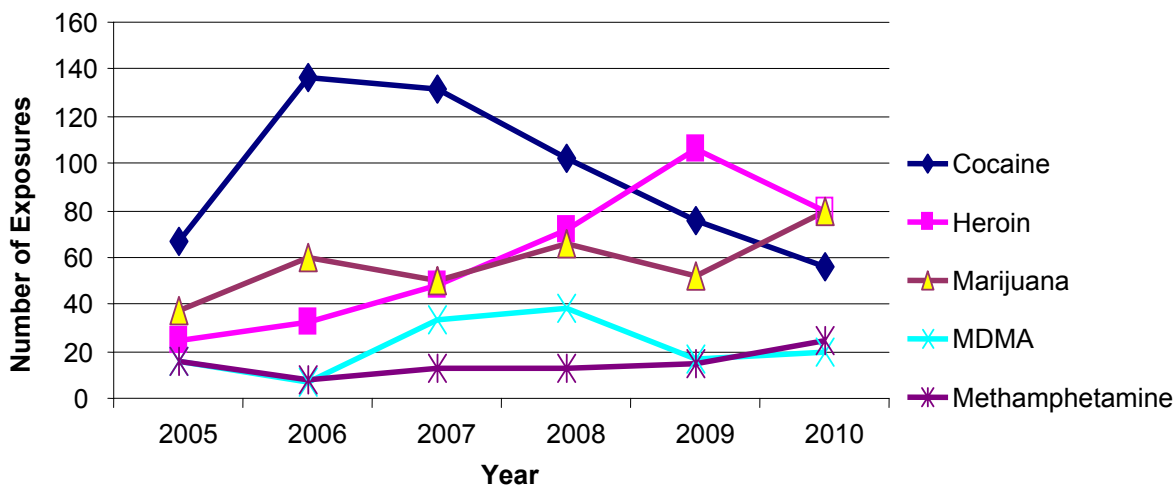
¹FY=July to June.

²Treatment data methodology from 2007 to 2009 differed from previous years; direct comparison to years prior to 2007 cannot be made.

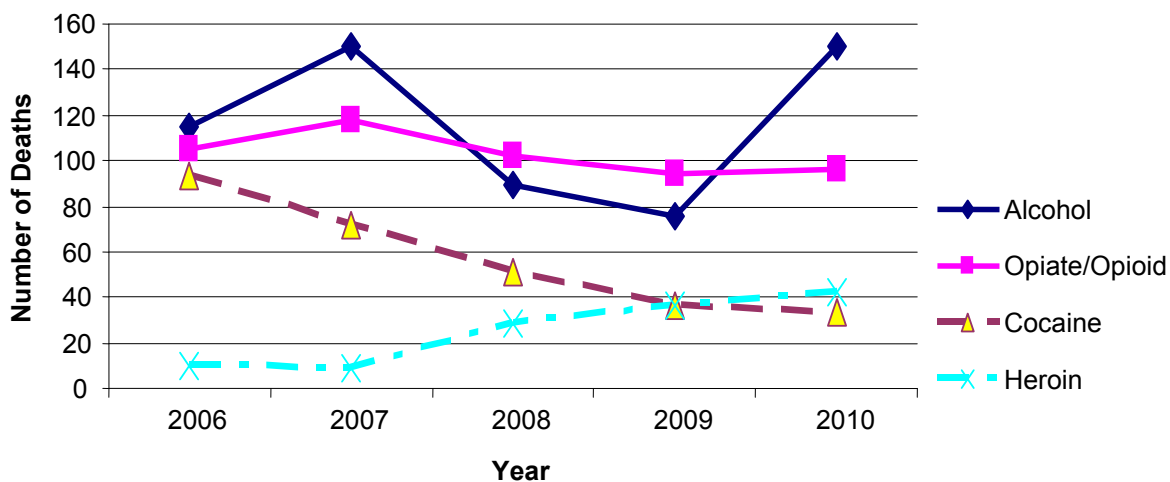
³Treatment data for 2010 were captured as calendar year; direct comparison to previous years cannot be made.

SOURCE: Hamilton County Mental Health and Recovery Services Board

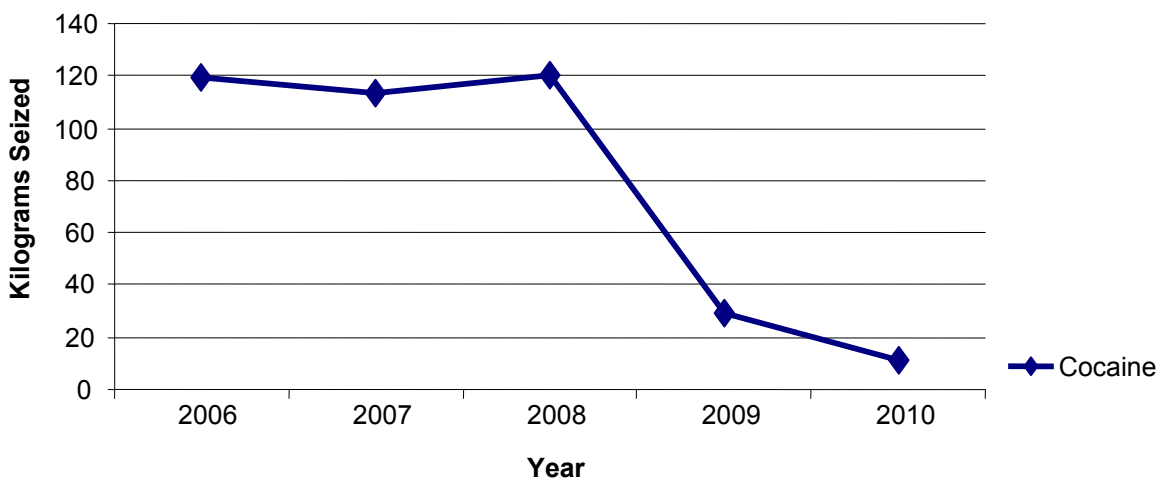
Exhibit 2. Number of Human Exposure Cases for Select Drugs, in Cincinnati: 2005–2010



SOURCE: Cincinnati Drug and Poison Information Center

Exhibit 3. Number of Deaths, by Drugs Detected at Death, in Hamilton County: 2006–2010

SOURCE: Hamilton County Coroner's Office

Exhibit 4. Seizures of Cocaine, in Kilograms, in Cincinnati: 2006–2010

SOURCE: Cincinnati Regional Enforcement Narcotics Unit

Exhibit 5. Purity Analysis of Drug Seizures, by Percent, in Cincinnati: 2006–2010

Drug	2006 ¹ Percent	2007 ¹ Percent	2008 ¹ Percent	2009 Percent	2010 Percent
Powder Cocaine	80.5 ²	57.5	45.8 ³	29.1–73.4 ^{3,4}	27.7–53.6 ^{3,4}
Crack Cocaine	80.5 ²	77.0	39.2 ³	39.4–77.5 ^{3,4}	24–81.5 ^{3,4}
Heroin	68.0	68.0	—	24.6–94.3 ⁴	15.7–78.8 ⁴
Methamphetamine	—	56.3 ⁵	49.3 ⁵	46.1 ^{1, 5}	—

¹Purity analysis represented by an average percent of all submitted items.

²Purity analysis for powder and crack cocaine not delineated in reported data.

³Impurities detected: benzocaine, tetramisole, diltiazem, sodium bicarbonate, and caffeine.

⁴Purity analysis represented by range of purities analyzed for all items submitted.

⁵Impurities detected: dimethylsulfone (MSM).

SOURCE: Cincinnati Resident Office, DEA

Exhibit 6. Number and Percentage of Total Items Identified for Selected Drugs Analyzed by Forensic Laboratories, in Hamilton County: 2007–2010

Drug	2007 ¹		2008 ²		2009 ³		2010 ⁴	
	Number	Percent of Total Items	Number	Percent of Total Items	Number	Percent of Total Items	Number	Percent of Total Items
Cocaine	6,573	43.10	5,084	38.66	4,100	32.81	3,632	26.45
Marijuana/Cannabis	6,393	41.92	5,814	44.21	5,281	42.26	5,442	39.64
Heroin	748	4.90	886	6.74	1,364	10.91	1,915	13.95
Oxycodone	320	2.10	272	2.07	404	3.23	1,013	7.38
Methamphetamine	73	0.48	57	0.43	85	0.68	95	0.69
Hydrocodone	240	1.57	197	1.50	211	1.69	347	2.53
Other Opiates/ Opioids	121 ⁵	0.79	87 ⁶	0.66	150 ⁷	1.20	319 ⁸	2.32
Benzodiazepines	294 ⁹	1.93	236 ¹⁰	1.79	330 ¹¹	2.64	426 ¹²	3.10
MDMA	192	1.26	194	1.48	167	1.34	79	0.58
Amphetamines	39	—	30	0.23	46	0.37	73	0.53
BZP (1-Benzyl- piperazine)	—	—	—	—	156	1.25	68	0.50

¹Total Items analyzed in 2007=15,252.

²Total Items analyzed in 2008=13,151.

³Total Items analyzed in 2009=12,497.

⁴Total Items analyzed in 2010=13,730.

⁵Includes methadone (63), morphine (33), propoxyphene (10), and codeine (8).

⁶Includes methadone (47), morphine (19), dextropropoxyphene (13), and codeine (13).

⁷Includes methadone (55), morphine (41), buprenorphine (24), codeine (14), hydromorphone (10), dextropropoxyphene (3), and oxymorphone (3).

⁸Includes methadone (68), morphine (72), buprenorphine (105), codeine (26), oxymorphone (17), hydromorphone (13), fentanyl (11), and dextropropoxyphene (7).

⁹Includes alprazolam (129), diazepam (88), clonazepam (64), and lorazepam (13).

¹⁰Includes alprazolam (100), diazepam (61), clonazepam (59), and lorazepam (16).

¹¹Includes alprazolam (168), clonazepam (83), diazepam (69), lorazepam (9), and chlordiazepoxide (1).

¹²Includes alprazolam (236), clonazepam (98), diazepam (71), lorazepam (16), oxazepam (2), temazepam (2), and chlordiazepoxide (1).

SOURCE: NFLIS, DEA

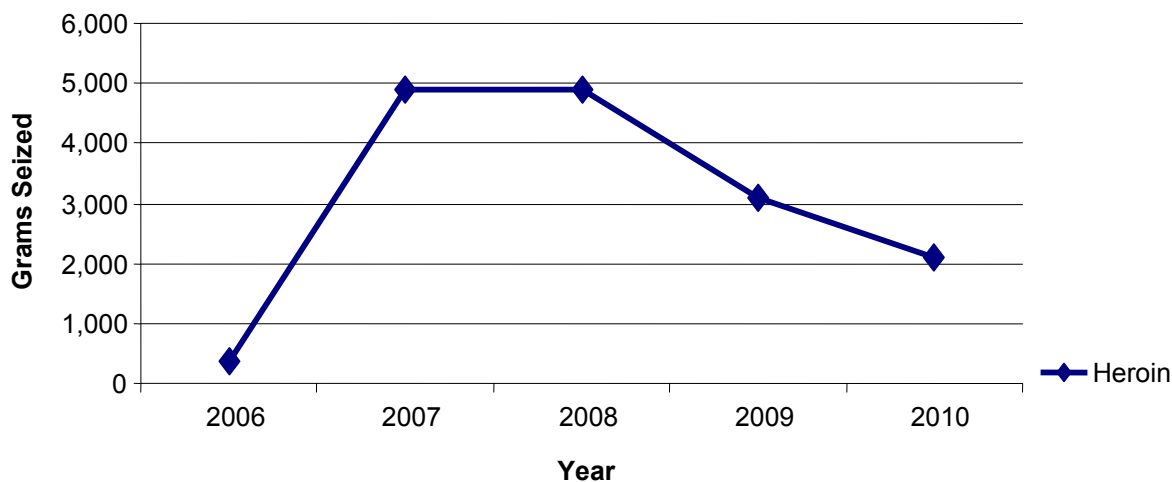
Exhibit 7. Prices for Selected Drugs¹, by Distribution Level and Quantity², in the Cincinnati Area: 2010

Drug	Wholesale	Mid-level	Retail
Powder Cocaine	\$30,000–\$33,000/kg	\$1,000–\$1,200/oz	\$50–\$100/g
Crack Cocaine	-----	\$700–\$900/oz	\$10/rock \$40–\$60/g
Heroin	\$45,000/kg	\$2,200–\$3,500/oz MBP	\$10–\$15/0.1g MBP \$100–\$130/g MBP
Marijuana	\$1,100–\$1,300/lb MX \$5,000 (high-quality indoor grown)	\$250–\$350/oz (high-quality BC Bud MX)	\$20/g (high grade)
Methamphetamine	-----	-----	\$60–\$100/g LP
MDMA	-----	-----	\$7–\$25/tablet
Oxycodone	-----	-----	\$35–\$40/80 mg \$15–\$20/40 mg

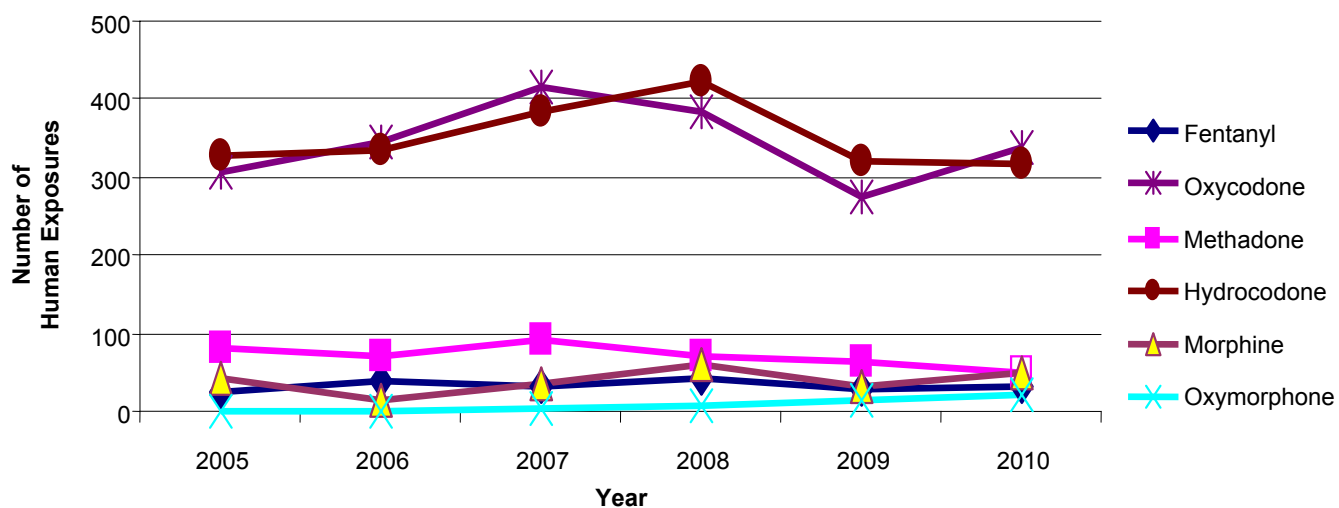
¹Key: MX=Mexican; LP=locally produced; MBP=Mexican brown powder, BC=British Columbian.

²kg=kilogram; lb=pound; oz=ounce; g=gram; mg=milligram.

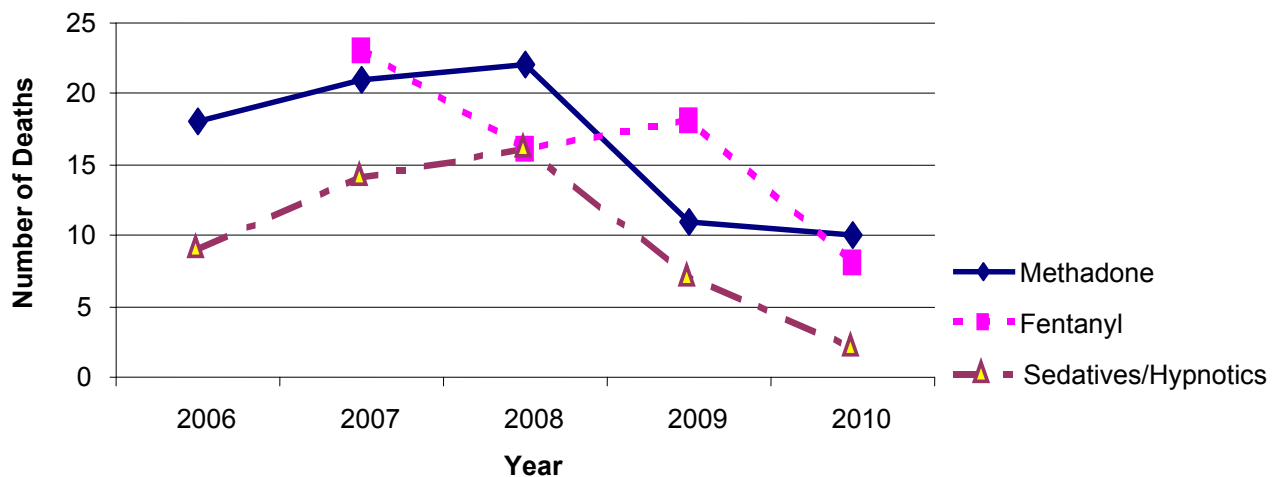
SOURCES: Cincinnati Regional Enforcement Narcotics Unit (RENU), Warren-Clinton County Drug Task Force, Ohio Substance Abuse Monitoring Network (OSAM)

Exhibit 8. Seizures of Heroin, in Grams, in Cincinnati: 2006–2010

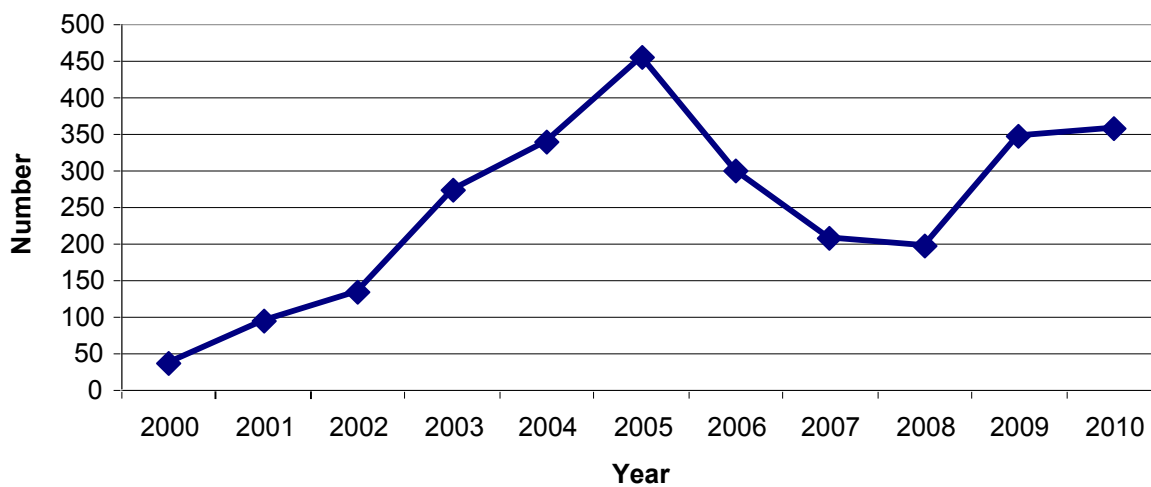
SOURCE: Cincinnati Regional Enforcement Narcotics Unit (RENU)

Exhibit 9. Number of Human Exposure Cases, for Select Drugs, in Cincinnati: 2005–2010

SOURCE: Cincinnati Drug and Poison Information Center

Exhibit 10. Number of Deaths, by Drugs Detected at Death, in Hamilton County: 2006–2010

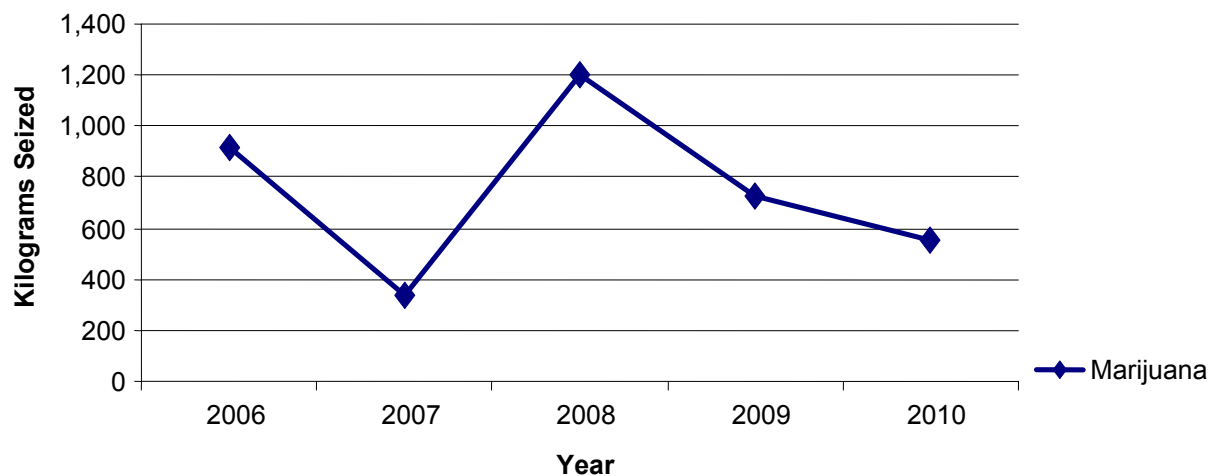
SOURCE: Hamilton County Coroner's Office

Exhibit 11. Number of Methamphetamine Sites¹, in Ohio: FYs² 2000–2010

¹Includes laboratories, dumpsites, and chemical/glass/equipment findings.

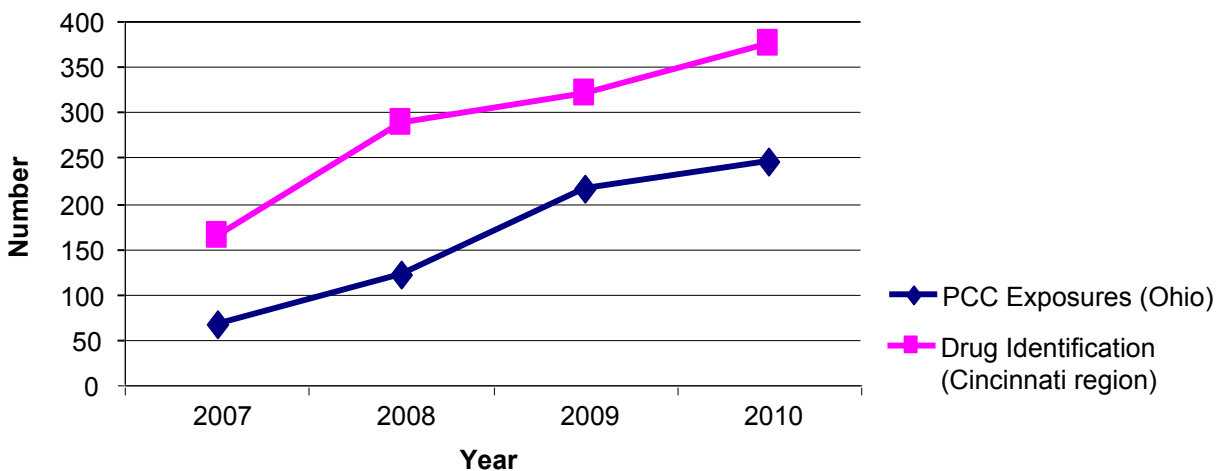
²FY=July to June.

SOURCE: Ohio Bureau of Criminal Identification and Investigation

Exhibit 12. Seizures of Marijuana, in Kilograms, in Cincinnati: 2006–2010

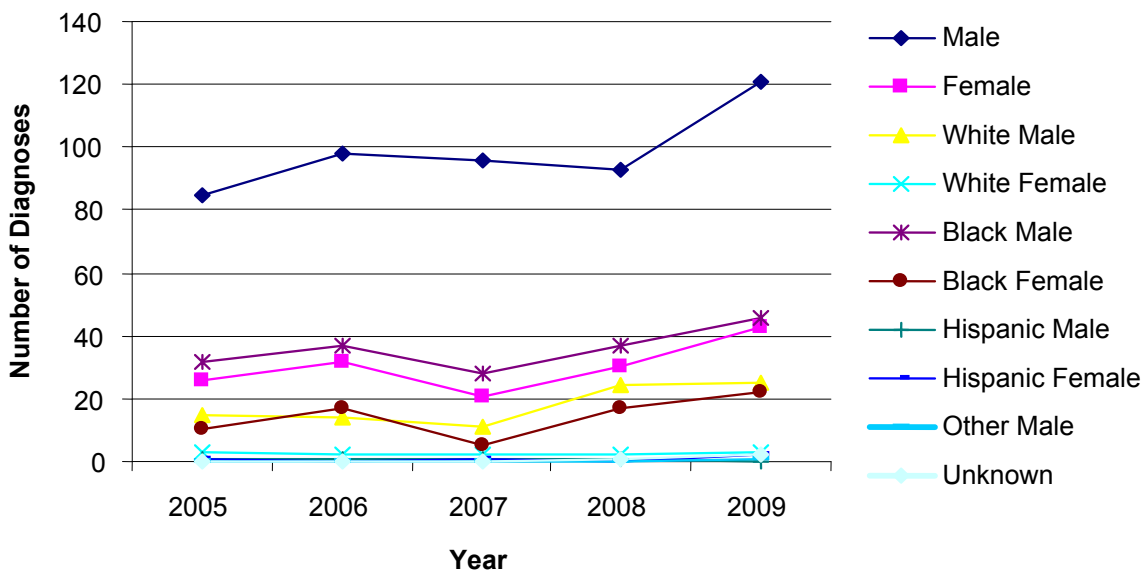
SOURCE: Cincinnati Regional Enforcement Narcotics Unit (RENU)

Exhibit 13. Number of Human Exposures and Drugs Identified as Buprenorphine by Poison Control Centers (PCCs), in Cincinnati and Ohio: 2007–2010

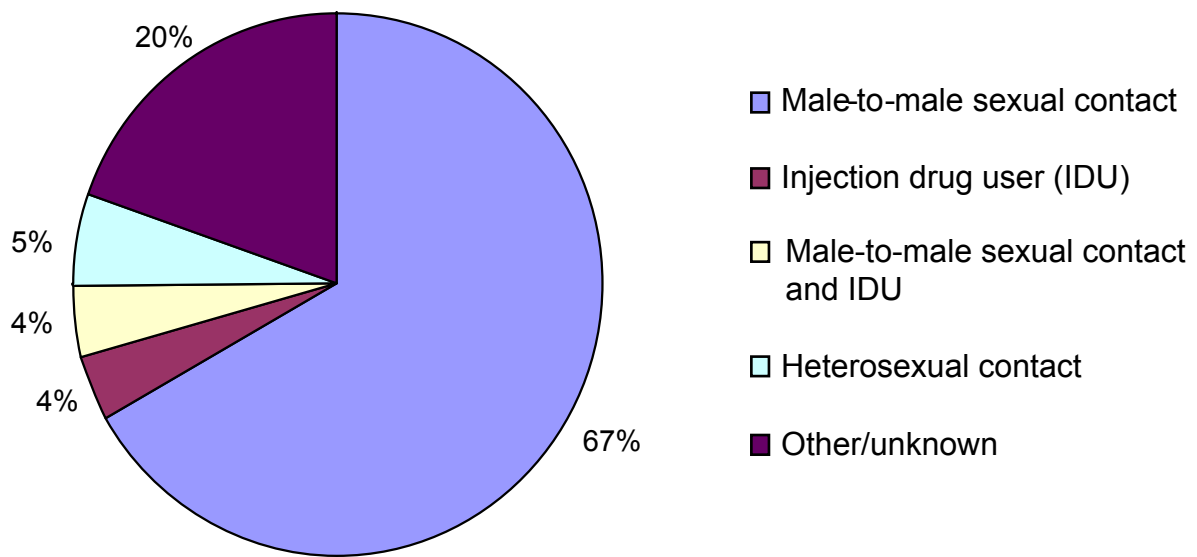


SOURCES: Central Ohio Poison Control Center, Northern Ohio Poison Control Center, and Cincinnati Drug and Poison Information Center

Exhibit 14. HIV Diagnosis, by Race and Gender, in Hamilton County: 2005–2009



SOURCE: Ohio Department of Health

Exhibit 15. Percentage of HIV Mode of Transmission, by Gender, in Hamilton County: 2009

SOURCE: Ohio Department of Health

Patterns and Trends in Drug Abuse in Denver and Colorado: 2010

Kristen A. Dixon, M.A., L.P.C.¹

ABSTRACT

Excluding alcohol, marijuana has continued to result in the highest number of treatment admissions in Denver and statewide in Colorado annually since 2000. After decreasing from 40 to 34 percent from 2002 to 2006 statewide, the proportion of primary marijuana treatment admissions rose to 38 percent in 2010. Likewise, after declining from 39 percent in 2004 to 37 percent in 2007, Denver/Boulder metropolitan area (greater Denver) marijuana treatment admissions increased to 39 percent in 2010. Increases were also realized in the rate of marijuana hospital discharges in Denver from 2000 (140 per 100,000 population) to 2009 (223 per 100,000). Additionally, the Drug Abuse Warning Network weighted rate of Denver area emergency department (ED) visits involving marijuana increased significantly from 2004 (50 per 100,000) to 2009 (124 per 100,000). In the Denver area samples, cannabis/marijuana ranked second, at 25 percent, of the drugs seized and identified in 2010 in the National Forensic Laboratory Information System (NFLIS). Rocky Mountain Poison and Drug Center (RMPDC) marijuana calls ranked number one for the first time and nearly doubled in volume, from 54 calls in 2009 to 107 calls in 2010. Almost all marijuana indicators increased in the last year. In 2010, cocaine ranked third in statewide and Denver metropolitan treatment admissions, but primary cocaine treatment admissions for both areas decreased from 2009. Cocaine has accounted for the highest number and rate of illicit drug hospital discharges in Denver since 2000. Cocaine had the highest number and proportion of Denver area illicit drug ED reports since 2005; however, in 2010, cocaine ED visit rates fell below marijuana ED rates for the first time. Although both indicators were ranked first in DAWN, they both experienced decreases in 2009. Also, despite a declining trend, cocaine accounted for the highest drug-related mortality percentage (of total drug-related mortality cases) in Denver from 2003 through 2009. Cocaine accounted for the highest number of statewide illicit drug-related calls to the RMPDC each year from 2004 through 2009, except for 2005 (calls related to methamphetamine were higher) and 2010 (marijuana and methamphetamine calls were higher). In the Denver area, cocaine ranked first (at 34 percent) among drug items identified in 2010 in the NFLIS laboratory system. However, despite the high ranking in virtually all the indicators, cocaine trends were declining. Methamphetamine has exceeded cocaine in numbers of statewide treatment admissions since 2003, and it was more common than all other drugs except marijuana among drug admissions in the Denver/Boulder area during 2005 and again in 2009 and 2010. The proportion of statewide methamphetamine admissions has been on a steady decline since 2005, but they remained stable from 2009 to 2010, at 25 percent. Denver area admissions have shown slight decreases since 2007 but also remained stable from 2009 to 2010, at 19 percent. The Denver area weighted rate of methamphetamine-involved ED visits declined significantly from 2007 to 2009. The Denver rate of

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stimulant hospital discharges (which are predominantly methamphetamine) increased from 2000 (44 per 100,000) to 2005 (129 per 100,000) but then steadily decreased through 2008 (60 per 100,000). However, the Denver rate of stimulant hospital discharges increased slightly in 2009 (66 per 100,000). Most methamphetamine indicators remained stable or had slight increases in 2010. While clandestine methamphetamine laboratory closures have decreased steadily since 2003, methamphetamine availability increased in 2010, due to heavy trafficking from Mexico. Statewide and Denver area proportions of heroin treatment admissions declined steadily from 2001 through 2008, but both statewide and Denver area proportions increased in 2009. Statewide heroin treatment admissions remained stable in 2010, at 10 percent; Denver area heroin treatment admissions increased slightly, from 13 percent in 2009 to 14 percent in 2010. The weighted rate of Denver area heroin-involved ED visits increased from 2004 (33 per 100,000) to 2009 (53 per 100,000). Denver heroin mortality represented a substantial percentage of total Denver drug mortality from 2003 through 2009. Overall, heroin trends were mostly slightly upward or stable. Both statewide and Denver area other opioid treatment admissions increased from 2001 through 2009. In 2010, statewide other opioid treatment admissions increased slightly, from 9 percent in 2009 to 10 percent in 2010; Denver area treatment admissions remained stable, at 9 percent. Likewise, the rate of Denver other opioid hospital discharges has steadily increased, along with the proportion of other opioid deaths among Denver drug mortality cases. In sum, other opioid trends were mostly upward. While numbers for benzodiazepines are low among statewide and Denver area treatment admissions, estimated benzodiazepine-involved ED visits in Denver increased from 2004 to 2009. Mortality cases also increased. Beyond abuse of illicit drugs, alcohol remained Colorado's most frequently abused substance and accounted for the most treatment admissions, estimated ED visits, poison center calls, drug-related hospital discharges, and drug-related deaths in this reporting period.

INTRODUCTION

Area Description

Denver, the capital of Colorado, is located slightly northeast of the State's geographic center. Covering only 154.6 square miles, Denver is bordered by several suburban counties: Arapahoe on the southeast; Adams on the northeast; Jefferson on the west; Broomfield on the northwest; and Douglas on the south. These areas made up the Denver Metropolitan Statistical Area (MSA) through 2004, which accounted for 50 percent of the State's total population.

For this report, both statewide data and data for the Denver/Boulder metropolitan area were analyzed; the latter includes the counties of Denver, Boulder, Adams, Arapahoe, Broomfield, Clear Creek, Douglas, Gilpin, and Jefferson and accounts for 56 percent of the total State population (2,798,757 out of 5,029,196; 2010 census counts).

Excluding Gilpin and Clear Creek Counties (which are usually left out of Denver metropolitan area statistics), the median age of residents in the Denver area was 35.5 in 2010. Males constitute 50.7 percent of the population. Ethnic and racial characteristics of the area are as follows: Whites, 67 percent; Black/African-Americans, 5 percent; American Indians, 0.5 percent; and Asian/Pacific Islanders, 4 percent. Those of Hispanic origin (of any race) represent 22 percent of the area's population.

Two major interstate highways, I-25 and I-70, intersect in Denver—I-25 runs north-south from Wyoming through New Mexico, and I-70 runs east-west from Maryland through Utah. The easy transit across multiple States facilitated by these highways, along with the following other factors, may influence drug use in Denver and Colorado:

- The area's major international airport is nearly at the Nation's midpoint.
- The area has a growing population and expanding economic opportunities.
- A large tourism industry draws millions of people to Colorado each year.
- Remote, rural areas are ideal for the undetected manufacture, cultivation, and transport of illicit drugs.
- Several major universities and small colleges are located in the area.
- A young citizenry is drawn to the recreational lifestyle available in Colorado.

Data Sources

The data sources used in this report are listed below:

- **Treatment data** were provided by the Drug/Alcohol Coordinated Data System (DACODS), which is maintained by the Division of Behavioral Health (DBH) at the Colorado Department of Human Services. Data for this system are collected on clients at admission and discharge from all Colorado alcohol and drug treatment agencies licensed by DBH. Treatment admissions are reported by the primary drug of use (as reported by the client at admission), unless otherwise specified. Annual figures are given for calendar years (CYs) 2001 through 2010.
- **Drug-related emergency department (ED) data** for the Denver metropolitan area were provided through the Drug Abuse Warning Network (DAWN), Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). DAWN *Live!* data include unweighted data (i.e., proportions only) for January through December 2010. Eligible hospitals in the Denver metropolitan area totaled 16; there were 16 EDs in the DAWN sample. During this time period, between 11 and 13 EDs reported data each month, and not all data are complete. The unweighted data were accessed on and reflect cases received by DAWN as of May 18, 2011, and are subject to change in future quality reviews. Because these data were unweighted, they cannot be used as estimates for the reporting area. Only weighted DAWN data released by SAMHSA can be used for trend analysis or to generalize to a population. To that end, weighted ED visits (as numbers and rates per 100,000) for selected drugs from 2004 through 2009 were prepared by CBHSQ and are included in this report. Because a patient may report more than one drug, the number of drug reports may exceed the number of cases. Data presented include the number of weighted DAWN estimated visits by drug and the percentage of total estimated visits for 2004–2009, with significant changes in visits ($p < .05$) between 2009 versus 2004, 2007, and 2008 noted (original table production date: 10-05-2010). These are the most recent data available at the time of the report. A full description of the DAWN system can be found at <http://dawninfo.samhsa.gov>.

- **Drug-related mortality data** for the city and county of Denver for CYs 2005 through 2009 came from the Denver Office of the Medical Examiner, courtesy of the Office of Drug Strategy. These are the most recent data available.
- **Hospital discharge data** for the Denver metropolitan area for 2001–2009 were provided by the Colorado Hospital Association, courtesy of the Denver Office of Drug Strategy. Data included diagnoses (ICD-9-CM codes) for inpatient clients at discharge from all acute care hospitals and some rehabilitation and psychiatric hospitals. These data exclude ED care.
- **Rocky Mountain Poison and Drug Center (RMPDC) data** are presented for Colorado. The data represent the number of calls (human exposure only) to the center regarding “street drugs” from 2005 through 2010.
- **National Forensic Laboratory Information System (NFLIS) data** are presented for Denver, Jefferson, and Arapahoe Counties for CY 2010. NFLIS is a Drug Enforcement Administration (DEA) program through the Office of Diversion Control that systematically collects drug identification results and associated information from drug cases analyzed by Federal, State, and local forensic laboratories.
- **Statistics on prescriptions filled** for Denver residents by drug type, from the third quarter of 2007 through the fourth quarter of 2010, were obtained from the Colorado Prescription Drug Monitoring Program (PDMP), Colorado Department of Regulatory Agencies, Division of Registrations, Board of Pharmacy.
- **Availability and price data** were obtained from the February 2010 National Drug Intelligence Center’s report, *National Illicit Drug Prices, Mid-Year Report 2009*. These are the most recent data available.
- **Drug purity data** were obtained from the DEA’s Domestic Monitoring Program (DMP) drug intelligence report.
- **Intelligence data and qualitative data** were obtained from the Denver Epidemiology Work Group (DEWG), whose membership includes clinicians, outreach workers, researchers, medical examiner’s office staff, public health, and regional and local law enforcement officials (including the Denver Police Department) (exhibit 1).
- **Acquired immunodeficiency syndrome (AIDS) data and human immunodeficiency virus (HIV) data** were obtained from the Colorado Department of Public Health and Environment (CDPHE) and are presented from 2001 through December 2010.
- **Population statistics** were obtained from the Division of Local Government, State Demography Office, Census 2010, including estimates and projections, and from factfinder2.census.gov.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—cocaine ranked third in both statewide and Denver metropolitan area treatment admissions, second in statewide calls to the RMPDC, second in the proportion of Denver metropolitan area DAWN Live! ED reports for 2010, first in Denver County mortality cases and hospital discharges, and first in the proportion of drug items seized and identified in Denver metropolitan area crime laboratories. However, despite the high ranking in virtually all of the indicators, cocaine trends were mostly downward.

During 2010, cocaine was reported as a primary drug in 14.2 percent of treatment admissions (excluding alcohol) statewide; this reflects an 11-year low (exhibit 2). Cocaine admissions statewide dropped by 26 percent from 2008 to 2010. In the Denver metropolitan area, cocaine was reported in 16.2 percent of treatment admissions (excluding alcohol) during 2010 (exhibit 3).

Statewide, the proportion of male cocaine admissions declined from a high of 61.5 percent in 2004 to 56.9 percent in 2010 (exhibit 4). In the Denver metropolitan area, the proportion of male cocaine admissions declined from 62.9 to 59.9 percent between 2004 and 2010 (exhibit 5). Historically, Whites have accounted for the largest proportion of cocaine admissions statewide (43.1 percent overall in 2000–2010). However, the proportion of Hispanics/Latinos, which constituted 32.4 percent of admissions overall from 2000 to 2010, increased from 27.4 percent in 2001 to 33.0 percent in 2010. In Denver, in 2010, Hispanic/Latinos represented 29.1 percent of Denver area cocaine admissions. From 2009 to 2010, the proportion of African-American treatment admissions increased slightly, from 22.1 to 22.5 percent statewide and from 27.8 to 28.3 percent in the Denver metropolitan area.

Statewide, 1.5 percent of all primary cocaine admissions in 2010 were for clients younger than 18, and 11.3 percent were for clients age 18–24 (exhibit 4). However, that age group's proportion of cocaine treatment admissions declined steadily, from 76.0 percent in 2000 to 58.4 percent in 2010, while the proportion of admissions among those older than 44 increased from 8.1 to 28.8 percent during that time. This is indicative of an aging cohort. The Denver metropolitan area showed similar trends. A decline was observed in total cocaine admissions of clients age 25–44 (from 80.0 to 56.7 percent between 2000 and 2010), and there was a corresponding increase in clients older than 44 (from 7.5 percent in 2000 to 30.9 percent in 2010). There has also been a decrease in Denver area admissions for clients age 18–24, from 14.3 percent in 2005 to 10.6 percent in 2010.

Statewide, in 2010, the proportions of all admitted clients who smoked, inhaled, or injected cocaine were 61.1, 30.5, and 5.6 percent, respectively (exhibit 4). The proportion who smoked has been on the rise, from 58.3 percent in 2007 to 61.1 percent in 2010. The proportion of cocaine admissions inhaling cocaine increased from 25.7 percent in 2002 to 33.0 percent in 2007. In 2010, the proportion inhaling cocaine decreased slightly to 30.5 percent. The proportion injecting fell from 12.0 percent in 2002 to 5.6 percent in 2010. The Denver area proportions in 2010 were 57.6, 35.2, and 4.6 percent, respectively, of cocaine users who smoked, inhaled, or injected the drug (exhibit 5). Treatment data showed that cocaine users most often used alcohol as a secondary drug (exhibits 4 and 5).

Excluding alcohol, cocaine accounted for 29.9 percent of illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver metropolitan area from January through December 2010 (exhibit 6). The Denver metropolitan area weighted rate for cocaine ED visits is compared with that of the entire United States in exhibit 7. The weighted cocaine ED visit rate per 100,000 population for the Denver metropolitan area decreased from 168.5 in 2008 to 109.6 in 2009; this represents a statistically significant decrease of 34 percent.

Excluding alcohol, cocaine was the most common drug found in Denver drug-related decedents from 2005 to 2009 (exhibit 8). However, as a proportion of total decedents, cocaine increased, from 48.2 percent in 2005 to 50.3 percent in 2006, but it declined to approximately one-half that percentage (25.6 percent) in 2009.

Cocaine has been second only to alcohol in Denver drug-related hospital discharges since 2000. Although cocaine-related hospital discharges rose relatively steadily through 2006, they declined from 282 per 100,000 in 2007, to 258 per 100,000 in 2008, to 238 per 100,000 in 2009 (exhibit 9).

During the 2005–2010 time period, cocaine was second only to alcohol in 4 of the 6 reporting years in the number of “street drug” calls to the RMPDC. In 2010, there were 64 calls related to cocaine, which represents fewer calls than those for alcohol, marijuana, and methamphetamine (exhibit 10).

Drug samples seized and identified in Federal, State, and local forensic laboratories and reported to the DEA’s NFLIS system are shown for 2010 for the Denver area (in this case consisting of Denver, Arapahoe, and Jefferson Counties), compared with all of the United States in exhibit 11. As indicated, drug samples seized and identified as cocaine were the most common among the top 10 drugs analyzed in the Denver area, constituting more than 1 in 3 (33.6 percent of total), compared with approximately 1 in 4 (21.3 percent) for the United States (ranking second).

Cocaine continued to be supplied primarily by the Mexican drug trafficking organizations (DTOs). Large cocaine loads were transported to Colorado from the southwest border and Mexico. The National Drug Intelligence Center (NDIC) reported that cocaine availability was stable, but it was difficult to obtain in large quantities. Denver police narcotic officers reported that inter- and intra-DTO warfare and pressure from the United States and Mexican governments have made it difficult for Mexican DTOs to bring cocaine across the border. Additionally, the DEA, Denver Division, stated a lot of cocaine was going to Europe, through trafficking systems that flowed through Africa.

The DEA stated that the gram price and purity levels of cocaine remained consistent. There was an increase from mid-to-late 2002 in cocaine purity at the ounce level (from 36 to 53 percent pure) and price (from \$718 to \$774). A kilogram of cocaine cost approximately \$25,000 in 2009.

Based on the “Proceedings of the DEWG” and “Recent Drug Trends in the Denver Metro Area through 2010,” authored by Bruce Mendelson, some Denver area clinicians and outreach workers reported that cocaine seemed less popular than it was a few years ago, especially among noninjecting street users, but it remained popular among street injection drug users (IDUs) (used for speedballs, i.e., cocaine and heroin injected at the same time). Adolescent treatment programs did not see much cocaine use, because other drugs were more available and cheaper (e.g., marijuana, K2, Spice, MDMA [methylenedioxymethamphetamine], and methamphetamine). However, some were found to be experimenting with cocaine at a younger age (e.g., 13 and 14). It was also apparent that the cohort of treatment clients was aging (as shown in exhibit 3).

Heroin

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—heroin ranked fourth in both statewide and Denver metropolitan area treatment admissions, fourth in statewide calls to the RMPDC, second in Denver County mortality, and fourth in drug samples seized and identified in Denver metropolitan area crime laboratories. Overall, heroin trends were mostly upward, although slightly.

From 2002 to 2008, the proportion of heroin primary treatment admissions declined, from 13.1 to 7.1 percent statewide, and from 22.9 to 10.1 percent in the Denver area. However, the proportion of statewide heroin treatment admissions increased, from 7.1 percent in 2008, to 9.5 percent in 2009, and to 10.2 percent in 2010. In the Denver metropolitan area, heroin treatment admission also increased, from 10.1 percent in 2008, to 13.1 percent in 2009, and to 13.9 percent in 2010 (exhibits 2 and 3).

Heroin treatment admissions have been predominately male over the past few years in the State of Colorado and in the Denver area. The proportion of male admissions among all heroin admissions increased from 63.8 percent in 2008 to 66.1 percent in 2010 statewide, and they increased slightly, from 63.8 percent in 2009 to 65.7 percent in 2010, in the Denver area (exhibits 4 and 5).

Historically, Whites have accounted for the largest proportion of heroin admissions, and in 2010 that proportion was the highest it had been since 1997. Statewide, the 2010 proportions of total admissions for Whites, Hispanics, and African-Americans, respectively, were 76.2, 17.7, and 3.1 percent. In Denver, in 2010, the proportions of White, Hispanic, and African-American admissions were 74.9, 18.4, and 3.5 percent, respectively.

Statewide in 2010, the average age of heroin clients admitted to treatment was 33.5 (median age=30), down from 35.3 (median age=32.0) in 2009. Since 2000, less than 1 percent of heroin users entering treatment were younger than 18, and in 2010 the proportion younger than 18 was 0.8 percent. In recent years, the proportion of younger heroin treatment clients statewide has been on the rise. Heroin users younger than 25 increased from 2007 (14.6 percent) to 2010 (27.5 percent). In 2010, 20.1 percent of statewide heroin treatment admissions were for clients older than 44 (exhibit 4).

In Denver in 2010, the average age of heroin clients entering treatment was 34.3 (median age=31.0); this was down from 35.9 (median age=33.0) in 2009. The Denver metropolitan area experienced a decline in heroin admissions of clients age 35–44 (from 32.9 percent in 2000 to 19.0 percent in 2010) and increases in clients younger than 25, from 2007 (12.9 percent) and 2008 (14.6 percent) to 2009 (21.4 percent) and 2010 (25.3 percent) (exhibit 5).

Heroin is a drug that is predominantly injected. Statewide, the proportion of heroin treatment clients who were injectors continued a several-year decline and reached a new low of 78.9 percent in 2010 (a decline from 83.7 percent in 2005) (exhibit 4). The proportion of clients smoking heroin continued a multiyear increase, increasing from 13.4 percent in 2009 to a new high of 14.2 percent in 2010. In 2010, 5.1 percent inhaled heroin statewide.

Denver area proportions were similar to statewide figures. The proportion of heroin treatment admissions injecting in Denver declined from 88.2 percent in 2001 to 78.1 percent in 2010 (exhibit 5). The proportion who smoked heroin was gradually increasing, from 9.5 percent in 2007, to 14.9 percent in 2009, to a new high of 15.4 percent in 2010. The proportion of heroin clients inhaling decreased from previous years to 4.5 percent in 2010 (exhibit 5). Overall, treatment data showed that heroin treatment admissions most often used cocaine as a secondary drug, followed by marijuana (exhibits 4 and 5).

Excluding alcohol, heroin accounted for 13.1 percent of illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver metropolitan area from January through December 2010 (exhibit 6). Also, the Denver metropolitan area rate for heroin ED visits is compared with that of the entire United States (exhibit 7). The Denver rate increased significantly from 33.1 to 51.7 per 100,000 population from 2004 to 2009 (or by 72 percent).

Based on Bruce Mendelson's analysis of the Denver mortality data, which was provided to the Denver Office of Drug Strategy by the Denver Medical Examiner's Office, heroin was found in 4.0 percent (2004) to 12.7 percent (2008) of Denver drug-related decedents from 2004 to 2008. However, it is likely that this percentage was much higher. Heroin is metabolized into 6-monoacetylmorphine (6-MAM), then into morphine. Also, heroin typically contains codeine, because codeine naturally occurs in the opium poppy plant (from which heroin is produced). The 6-MAM needs to be present to confirm that heroin was related to the cause of death. However, this metabolite has a very short half-life and may be undetectable by the time blood work is done as part of an autopsy, whereas morphine and codeine will very likely be present in the blood toxicology. This sometimes makes it difficult to determine whether heroin was the specific cause of a drug-related death. Often, an autopsy report will describe the circumstances surrounding a drug-related death, including information such as drug use history (e.g., decedent had history of heroin abuse). While such information cannot be used to specify heroin as a cause of death in the absence of 6-MAM, it does indicate that heroin is the likely "culprit." This proved to be true as represented by the 2009 data. Beginning in 2008 and reflected in the 2009 data, a new urine toxicology test is able to identify the presence of 6-MAM, a definitive marker for heroin. Therefore, the proportion of heroin Denver drug-related decedents increased from 12.7 percent in 2008 to 23.7 percent in 2009 (exhibit 8). Additionally, as predicted, the percentage of codeine and morphine deaths decreased.

Denver metropolitan hospital discharge data for 2001–2009 combined all narcotic analgesics and other opioids, including heroin. While trends in this indicator for heroin alone cannot be assessed, the hospital discharge rate per 100,000 population for all opioids increased overall from 133 in 2001 to 203 per 100,000 in 2009. This was a 53-percent increase (exhibit 9). During the 2005 to 2010 time period, statewide heroin/morphine drug-related calls to the RMPDC were far behind those of alcohol, marijuana, methamphetamine, and cocaine. Heroin calls decreased slightly from 29 calls in 2009 to 19 calls in 2010 (exhibit 10).

According to local law enforcement, the Colorado and Denver metropolitan area heroin was supplied by Mexican DTOs, with Mexican black tar and brown powder the predominant heroin types both statewide and in Denver. Much of the heroin was transported from source locations in Mexico, through Arizona and southern California into Colorado and the Denver metropolitan area. From Denver, heroin was further distributed to markets in the Midwest and on the east coast. The Denver Division of the DEA reported that the heroin was more stable than cocaine because it is not affected

by cartel infighting. Additionally, heroin loads are smaller and easier to smuggle across the border undetected by law enforcement. Mexican heroin distributors are smaller, generally tight knit family-based organizations, largely independent of the well-known polydrug cartels.

According to the DEA's DPM, the Mexican heroin purity has declined since mid- to late 2009. The 20 DMP purchases between January and June 2009 were 50-percent higher in purity (70.7 percent pure) than the 41 samples purchased between August 2009 and August 2010 (typically less than 30 percent pure). Only two exhibits purchased between August 2009 and August 2010 were greater than 40 percent pure.

Based on the "Proceedings of the DEWG," Denver Police Department (DPD) and NDIC reported an increase in local heroin distribution by people of Honduran and Nicaraguan decent. Anecdotally, DPD reported many new heroin users are young, working professionals who prefer to smoke (or in some cases inhale) heroin. There seemed to be an apparent connection between increased prescription opioid use and increased heroin demand, with some opioid users switching to heroin because it is cheaper. Additionally, the economic status of users was changing, which is reflected in the marketing and distribution of heroin, with the drugs being delivered and sometimes even marketed outside treatment facilities.

Denver street outreach workers and clinicians continued to see an increased number of young heroin users. They reported many were suburban White males and females who were abusing prescription narcotics but found smoking heroin to be less expensive. Some new young users refer to "smoking black tar opium," which makes it more socially acceptable. Only a small number of these new users were "graduating" to injecting.

Denver clinicians were noticing an increase of heroin treatment intakes and recognized the trend of new heroin users admitted as a result of a progression from prescription opioids to heroin based on price and availability. A Denver area treatment program also reported an increase in female heroin admissions, which may have been due to availability of treatment options for females versus males.

Other Opioids

The other opioids category excludes heroin and includes all other opioids, such as methadone, morphine, hydrocodone, hydromorphone, codeine, and oxycodone. Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—other opioids ranked fifth in both statewide and Denver metropolitan area treatment admissions and second in Denver County mortality cases. Other opioid trends were mostly upward.

During 2010, opioids other than heroin were reported as primary drugs in 9.9 percent of statewide treatment admissions, excluding alcohol (exhibit 2); this proportion was an increase from a low of 3.8 percent in 2002 and represented an 11-year high. In Denver, other opioids had composed between 4.9 and 8.5 percent of treatment admissions (excluding alcohol) from 2002 to 2009. The proportion of other opioid primary treatment admissions increased from 8.5 percent in 2009, to a high of 9.4 percent of admissions in 2010 (exhibit 3).

Treatment admissions related to nonheroin opioids in Denver and the State of Colorado have always represented higher proportions of females than the other four major illicit drugs. However,

statewide, females constituted 48.8 percent of these admissions in 2010, while males constituted 51.2 percent (exhibit 4). In Denver, females accounted 50.9 percent of other opioid admissions in 2010 (exhibit 5).

Statewide and in Denver, Whites accounted for the largest proportion of primary treatment admissions related to other opioids. Since 2000, the proportion of Whites fluctuated between 75.7 and 87.8 percent statewide; they represented 75.7 percent in 2010 (exhibit 4). African-American treatment admissions for other opioids have remained stable since 2007, at 2 percent. The proportion of Hispanic other opioid admissions in Colorado reached a high of 18.4 percent in 2010. (They constituted 12.7 of all admissions in 2007.)

In the Denver metropolitan area, the proportion of White other opioid admissions was 76.8 percent in 2010, a decrease from 81.8 percent in 2009 (exhibit 5). In 2010, African-Americans represented 3.7 percent of admissions, down from a high of 7.0 percent in 2005. However, the moderate change in proportion is influenced by the small numbers of African-American other opioid admissions (numbering between 8 and 32 from 2000 through 2010). Hispanics reached a high of 14.7 percent of Denver area opioid admissions in 2010. However, the Hispanic proportions vacillated between 4 and 13.8 percent during the entire 2000 to 2009 time period, which may also be based on the small numbers of admissions (ranging between 15 and 67 over the 10-year period).

Like heroin users, treatment admission clients for other opioids tended to be older than other drug-using groups, although this may have been changing. Statewide, the average age of other opioid users entering treatment in 2010 was 32.6 (median age=30); 2.1 percent were younger than 18, and 16.7 percent were older than 44. Two age ranges demonstrated a possible trend toward younger users. From 2000 to 2010, the proportion of clients age 18–34 increased from 33.6 to 63.5 percent, while clients 35 and older declined from 64.5 percent in 2000 to 34.3 percent in 2010 (exhibit 4). Likewise, in Denver, there was an overall increase in admissions for other opioids in clients age 18–34 (from 31.5 to 63.6 percent between 2000 and 2010) (exhibit 5).

Nonheroin opioids were most often taken orally. Statewide, in 2010, 72.7 percent of admissions for other opioids ingested the drugs orally, and 13.9 and 10.0 percent, respectively, inhaled and injected the drugs (exhibit 4). The proportion of clients inhaling the drugs increased from 4.7 percent in 2007 to 13.9 percent in 2010. The proportion injecting increased from 7.4 percent in 2009 to 10.0 percent in 2010. Perhaps the overall increase in other opioid inhalation reflects the practice of crushing and inhaling OxyContin®; however, the new crush-proof tablet may affect these proportions in the future.

Denver's proportions for preferred route of administration were similar to statewide figures. The proportion of other opioid admissions ingesting the drugs orally ranged from 89.0 percent in 2000 to 73.6 percent in 2010 (exhibit 5). The 2010 proportions of clients who inhaled and injected were 14.2 and 7.5 percent, respectively. Injection of other opioids in Denver has remained fairly stable since 2007. Inhalation in the Denver area reached a new high of 14.2 percent in 2010. Treatment data, overall, showed that other opioid users most often used marijuana and alcohol as secondary and tertiary drugs (exhibits 4 and 5).

In exhibit 12, narcotic analgesic ED reports are broken out by specific drug. Hydrocodone (e.g., Vicodin®) and oxycodone (e.g., Percodan®) accounted for two-thirds of all narcotic analgesics in CY 2010 unweighted ED reports from the DAWN *Live!* system. In exhibit 6, the Denver metropolitan

area estimate ED visit rate (per 100,000 population) involving narcotic analgesics is compared with that of the entire United States. The Denver rate increased significantly, from 30.1 to 104.6 visits per 100,000 population from 2004 to 2009.

Other opioids were among the most common drugs found in Denver drug-related decedents from 2005 to 2008. Morphine was involved in 22.6–37.9 percent of Denver drug-related deaths during the 2005 to 2008 time period, and codeine was involved in 9.0–21.3 percent of Denver drug-related deaths during the same time period. However, based on the prior discussion of the short half-life of the marker for heroin deaths (i.e., 6-MAM) and the fact that codeine and morphine are usually present in blood toxicology related to a heroin death, it is likely that a substantial proportion of morphine and codeine deaths are really heroin-related deaths. This is reflected in the 2009 data, with the urine toxicology test confirming the presence of 6-MAM. Both morphine and codeine proportions among decedents decreased in 2009, to 12.6 and 5.3 percent, respectively. Oxycodone accounted for only 4.1 percent of Denver drug-related deaths in 2006, but the proportion increased to 23.2 percent by 2009 (exhibit 8). As noted earlier, Denver metropolitan hospital discharge data for 2001–2009 combined all opioids, including heroin. Heroin and other opioids among hospital cases increased by 53 percent, from 133 per 100,000 population in 2001 to 203 per 100,000 in 2009 (exhibit 9).

Data from the Colorado PDMP showed substantial increases in the number and rate of hydrocodone and oxycodone prescriptions filled for Denver residents. Exhibit 13 details hydrocodone prescriptions filled for Denver residents from the third quarter of 2007 through the fourth quarter of 2010. Hydrocodone prescriptions peaked at 46,601 (79.2 per 1,000 population) in the first quarter of 2010; there was an overall rate increase from 68.6 to 79.2 per 1,000, or by 18 percent, during this same time period. However, hydrocodone prescriptions decreased slightly through the end of 2010. Oxycodone increased steadily from 47.6 to 68.9 prescriptions per 1,000 population, or by 48 percent, from the third quarter of 2007 to the third quarter of 2010 (exhibit 16). No poison control center call data were received for opiates other than heroin and morphine. Drug items seized and identified by NFLIS laboratories in the Denver area that were identified as containing oxycodone (2.3 percent of all items) and hydrocodone (1.2 percent of all items) were among the top 10 drugs analyzed in 2010 in Arapahoe, Denver, and Jefferson Counties, based on NFLIS data.

Based on the “Proceedings of the DEWG” and the “Recent Drug Trends in the Denver Metro Area through 2010 Report,” authored by Bruce Mendelson, local law enforcement and intelligence reported a dramatic increase in prescription opioid availability and use. Denver law enforcement described a “400-percent increase in reported diversion and drug seeking crimes such as fraudulent prescription writing.” In general, local law enforcement believed that the availability and quality of prescription opioids has led to greater popularity and more addicts. The most common ways illicit users obtained prescription opioids were doctor and ED “shopping,” and forgery (Mendelson, 2011). Law enforcement described several investigations of “organized groups writing or calling in fraudulent opioid orders.” The Internet was a less commonly used method to illegally obtain prescription opioids (Mendelson, 2011). Also contributing to the problem was the widespread availability of prescription medication, which can be found in medicine cabinets, sold at parties, and exchanged on the street between users. There appeared to be ignorance about the safety of prescription opioids, especially when mixing them with other substances such as alcohol or benzodiazepines.

Denver area clinicians reported that their clients most commonly used oxycodone and hydrocodone, but most clients would take “anything they could get.” Many clients became addicted to pain

medication after being prescribed opioids for a legitimate reason. However, younger clients began using prescription opioids as a recreational drug and did not realize how potent and dangerous they were. Adolescents and young adults often obtained prescription medications from their parents' medicine cabinets. Clinicians also reported that clients acquired the prescription opioids through the same methods described by law enforcement (i.e., doctor shopping, EDs, and the Internet). Some Denver street outreach workers said that prescription opioids were not sold as often on the street except between users. This "business" was not typically run by street gangs, but rather by "doctor shoppers" who were able to obtain large quantities of prescription opioids. This "filters down" to the street addicts who trade pills with items stolen from stores in order to maintain their habits (Mendelson, 2010).

Benzodiazepines

Benzodiazepines are a class of psychoactive drugs with varying sedative, hypnotic, and antianxiety (i.e., anxiolytic) properties. Most common are the benzodiazepine tranquilizers (diazepam, alprazolam, lorazepam, and clonazepam). Benzodiazepines presented a "mixed picture" in the Denver metropolitan area drug scene in 2010. This drug category is not shown as a separate breakout on exhibits 2 or 3. From 2001 to 2010, benzodiazepines were somewhat infrequent among Colorado treatment admissions; there were 85 statewide benzodiazepine admissions in 2010, constituting 0.5 percent of all drug admissions, excluding alcohol. Denver metropolitan benzodiazepine admissions from 2001 to 2010 were also somewhat infrequent; there were 29 Denver metropolitan benzodiazepine admissions in 2010, constituting 0.3 percent of all drug admissions, excluding alcohol.

In exhibit 7, the Denver metropolitan area weighted rate for benzodiazepine-involved ED visits is compared with that of the entire United States. The weighted visit rate per 100,000 involving benzodiazepines in Denver increased significantly by 224 percent from 2004 to 2009.

Taken together, alprazolam, clonazepam, and diazepam accounted for 1.3 percent of the drugs seized and identified by NFLIS laboratories in 2010 in the Denver area, compared with 3.9 percent in the entire United States.

While benzodiazepines were not among the most common drugs found in Denver drug-related decedents, diazepam accounted for 5.9 to 11.1 percent of Denver drug-related mortality from 2005 to 2009. Alprazolam constituted 5.9 to 9.7 percent of Denver drug-related mortality during the same time period (exhibit 9).

As reported by Denver area clinicians, benzodiazepines used with prescription opioids, heroin, or alcohol create a synergistic effect, increasing their desirability. This combination of substances also causes many unintentional overdoses. Most individuals who use benzodiazepines often obtain them through others who have prescriptions, and they are reportedly "pretty easy" to get from clinicians in therapeutic amounts.

Methamphetamine

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—methamphetamine ranked second in both statewide and Denver metropolitan area treatment admissions. Historically, Denver area methamphetamine treatment admissions ranked third behind marijuana

and cocaine admissions. This change in rank broke a 10-year trend in 2009 and continued in 2010. Methamphetamine ranked second in statewide calls to the RMPDC, fifth in the proportion of Denver metropolitan area weighted ED visits, fourth in Denver County mortality cases, and third in the proportion of drug samples seized and identified in Denver metropolitan area crime laboratories. Most methamphetamine indicators showed stable trends, with a few slight increases.

In 2010, methamphetamine was the primary drug reported for 25.0 percent of all treatment admissions (excluding alcohol) statewide (exhibit 2), representing a stable proportion from 2009. Primary methamphetamine admissions have been second to marijuana admissions since 2003. In the Denver metropolitan area, methamphetamine represented proportionately a lower proportion of treatment admissions (18.7 percent in 2010) than it did among statewide admissions (exhibit 3). While the proportion of methamphetamine admissions (excluding alcohol) in Denver increased each year from 2002 through 2007 (from 12.1 to 21.7 percent), there was a decline from 2008 (20.4 percent) to 2009 (18.7 percent). They then remained stable in 2010, at 18.7 percent. In 2009, Denver area methamphetamine admissions slightly exceeded cocaine admissions, but this most likely can be attributed to the sizable decrease in Denver cocaine admissions rather than an increase in methamphetamine admissions. In 2010, numbers of methamphetamine admissions continued to surpass cocaine admissions in Denver.

After admissions for nonheroin opioids and sedatives, methamphetamine admissions had the highest proportion of female admissions statewide (47.7 percent) in 2010 (exhibit 4). In the Denver area, the proportions of female methamphetamine admissions represented 44.3 percent of all admissions in 2010 (exhibit 5). In 2010, methamphetamine admissions in Colorado and Denver were predominately White (exhibits 4 and 5). From 2000 to 2010, the proportion of White treatment admissions declined, from 87.8 to 77.3 percent statewide and from 90.1 to 79.1 percent in the Denver area. During the same time period, the proportion of Hispanic methamphetamine admissions increased, from 8.5 to 17.3 percent statewide and from 7.0 to 13.5 percent in Denver.

Compared with cocaine, methamphetamine admissions tended to be younger. In 2010, the average age of clients entering treatment was 33.1 (median age=32.0) statewide and 33.6 (median age=32.5) for Denver admissions. Also, 16.6 percent of statewide admissions and 15.3 percent of Denver admissions were younger than 25. Statewide in 2010, 71.2 percent of admissions were clients age 25–44, compared with 72.3 percent for the Denver area.

In 2010, the proportions of clients statewide who smoked, injected, or inhaled methamphetamine were 62.9, 24.5, and 10.4 percent, respectively (exhibit 4). The proportion who smoked increased from 2000 (38.7 percent) to 2010 (62.9 percent), while the proportion who inhaled decreased substantially during that time, from 21.5 percent in 2000 to 10.4 percent in 2010. Injectors decreased from 33.9 percent in 2000 to 20.2 percent in 2007 and then increased to 24.5 percent in 2010. In 2010, in the Denver area, the proportions of treatment admissions who smoked, injected, or inhaled methamphetamine were 56.5, 26.8, and 14.3 percent, respectively (exhibit 5). As with the State overall, the proportion who smoked increased substantially from 2000 to 2006, from 35.6 to 65.7 percent. However, this proportion dropped to 61.4 percent in 2007 and to 56.5 percent in 2010. Similarly, those who injected declined from 38.5 to 18.2 percent from 2000 to 2006. This percentage rose to 20.1 percent in 2007 and then to 26.8 percent in 2010. The proportion of inhalers declined from 19.8 to 9.4 percent from 2000 to 2003, but during 2004 through 2010, the proportions

fluctuated between 12.2 and 15.1 percent. Treatment data, overall, showed that methamphetamine clients most often used marijuana as a secondary drug, followed by alcohol (exhibits 4 and 5).

Excluding alcohol, methamphetamine accounted for 11.0 percent of illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver metropolitan area from January through December 2010 (exhibit 6). Also, the Denver metropolitan area weighted rate for methamphetamine-involved ED visits from 2004 to 2009 is compared with that of the entire United States (exhibit 7). From 2005 through 2009, the Denver estimated ED rate per 100,000 population for methamphetamine-involved ED visits was substantially higher than the United States rate (exhibit 8). However, the Denver rate declined significantly, from 49.7 per 100,000 in 2007 to 33.9 per 100,000 population in 2009.

While methamphetamine was not among the most common drugs found in Denver drug-related decedents, it still accounted for 4.8 percent of drug deaths in 2009 (exhibit 9). Methamphetamine could not be identified separately, but rather it was included in the stimulants category in hospital discharge data. Overall, Denver metropolitan stimulant-related hospital discharges nearly tripled from 2001 to 2005, from 47 to 129 per 100,000 population, but they then dropped to only 66 per 100,000 population by 2009 (exhibit 10).

Methamphetamine was second after marijuana (excluding alcohol calls) in the number of statewide drug-related calls to the RMPDC in 2010 (exhibit 10). Methamphetamine had ranked first in RMPDC calls in 2005, but it fell to third place behind cocaine and marijuana 2006 through 2008.

The proportion of drug samples seized and identified by NFLIS laboratories as containing methamphetamine accounted for 14.0 percent of all samples in the Denver area in 2010. Methamphetamine ranked third among the top 50 drugs analyzed in 2010 in the Denver area, compared with 10.5 percent (also ranking third) across the United States (exhibit 11).

Despite the precursor crackdown in Mexico, local law enforcement officials reported that most methamphetamine was produced and supplied by Mexican DTOs. Mexican DTOs obtain large batches of precursor chemicals from China or they possibly change their recipe. The Denver DEA Division reported that large loads of methamphetamine were transported from Mexico, Texas, Arizona, and California to Colorado in 2010. The Denver DEA reported that methamphetamine purity was very high, and it was common to see purity at 95 percent per milligram pure and above (as high as 99 percent). Prices were around \$900 per ounce and \$16,000–\$17,000 per pound in 2009. It was very cheap when compared with cocaine prices. The supply came from larger laboratories on the western side of Mexico controlled by organizations. NDIC also reported high-ranking members of methamphetamine cartels operating in cells in southwest Colorado to avoid violence and disruptions on the border.

Based on the “Proceedings of the DEWG,” Denver area clinicians reported that the decrease in methamphetamine use might have stalled. There previously was a decrease in the supply resulting from precursor crackdowns and a decrease in demand resulting from publicity about the negative effects of methamphetamine use. However, methamphetamine appeared to be readily available and inexpensive. Theories have surfaced indicating the possible “switch” of cocaine users to methamphetamine. Although most methamphetamine was from Mexico, there were reports that users were making methamphetamine themselves or getting it from private “cooks.”

Street outreach workers in Denver reported that there were continuing reports of substantial methamphetamine use in the gay community (especially among gay men), with many injecting as opposed to smoking the drug. The drug is reported to increase sexual desire and stamina, and it is often associated with risky sexual behavior. There were also reports that methamphetamine had made significant inroads into the Latino community (Mendelson, 2010). Denver methamphetamine price information for 2009 is shown in exhibit 15.

Marijuana

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—marijuana ranked first in both statewide and Denver metropolitan area treatment admissions, first in statewide calls to RMPDC, second in Denver County hospital discharges, and second in the proportion of drug samples seized and identified by Denver metropolitan area crime laboratories. Almost all marijuana indicators increased in 2010.

Statewide, the percentage of marijuana treatment admissions decreased from 36.6 percent in 2008 to 37.7 percent in 2010; these were stable from 2009 (37.4 percent) (exhibit 2). In Denver, the proportion of marijuana admissions increased slightly, from 37.9 percent in 2009 to 38.6 percent in 2010 (exhibit 3). Historically, marijuana admissions have represented the highest proportion of males among drug groups. In 2010, 76.5 percent of marijuana admissions statewide and 78.4 percent in Denver were male (exhibits 4 and 5).

In 2010, Whites, Hispanics, and African-Americans represented 48.4, 34.1, and 12.7 percent of marijuana admissions, respectively, statewide (exhibit 4). From 2000 to 2010, the proportion of White admissions decreased from 58.3 to 48.4 percent. However, the statewide proportion of African-American marijuana admissions increased from 2000 (7.4 percent) to 2010 (12.7 percent). The proportion of Hispanics in statewide admissions decreased from 30.7 to 26.2 percent from 2000 to 2003, increased to 30.0 percent in 2005, decreased to 28.4 percent in 2006, and has then gradually increased to 34.1 percent in 2010.

In Denver, White marijuana admissions remained fairly stable from 2006 to 2009, at 43–44 percent. In 2010, the proportion of White marijuana users was 43.3 percent (exhibit 5). There was a consistent rise in African-American admissions, from 11.5 percent in 2000 to 21.4 percent in 2005, but this proportion declined to 21.1 and 20.1 percent in 2006 and 2007, respectively. In 2010, African-American admissions in the Denver area represented 18.9 percent of all admissions. As with the statewide trend, the proportion of Hispanics declined from 2001 to 2003 (27.1 to 24.6 percent) but increased to 32.1 percent in 2005. In 2010, the proportion of Hispanic marijuana users represented 32.2 percent.

In both Colorado and the Denver metropolitan area, marijuana clients were typically the youngest of the treatment admissions groups. In 2010, the average age of marijuana clients entering treatment was 24.5 (median age=22) statewide and 24.1 (median age=21) in Denver. In 2009, both Colorado and Denver experienced declines in the median age of marijuana treatment admissions, to ages 22 and 21, respectively, where they remained stable in 2010. Treatment data, overall, showed that marijuana users most often used alcohol as a secondary or tertiary drug (exhibits 4 and 5).

Excluding alcohol, marijuana accounted for 33.4 percent of illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver metropolitan area from January through December

2010 (exhibit 6). In exhibit 7, the Denver metropolitan area weighted estimated rate for marijuana-involved ED visits is compared with that of the entire United States. The Denver estimate visit rate involving marijuana increased significantly, tripling from 50.4 to 151.3 visits per 100,000 population from 2004 to 2009. In 2009, however, the rate for marijuana ED visits decreased significantly to 124.1 visits per 100,000, from 151.7 per 100,000 in 2008.

Marijuana ranked first in the number of State drug-related calls to the RMPDC in 2010. This was a change in rank and the first time marijuana has led the number of statewide calls (excluding alcohol calls) (exhibit 10). In the Denver area samples, the proportion of drug items seized and identified by NFLIS laboratories as cannabis/marijuana ranked second as a proportion of all items analyzed, at 25.2 percent; this is compared with 37.1 percent for the United States, where it ranked first (exhibit 11).

The supply of marijuana is impacted by a number of sources. The Denver DEA and NDIC continued to report that Mexican Nationals cultivated large marijuana grow sites on public land in Colorado. There were large scale “grows” and seizures in the Roosevelt National Forest in 2010. Mexico continued as a predominant source for marijuana in the Denver area, with law enforcement reporting increases in Mexican marijuana seizures. Mexican-grown low-grade marijuana sold for \$440 per pound, but domestic marijuana sold for \$3,200 per pound. Likewise, high-grade marijuana from the Pacific Northwest ranged from \$3,000 to \$4,000 per pound in price. However, much of the domestic marijuana, once available in abundance on the illicit retail market, was being sold to licensed care givers at high retail prices through dispensaries (Mendelson, 2011). There were warehouses dedicated to producing medical marijuana in and around the Denver area. For example, the DEA reported there were cases of 1 million square footage of space rented out to marijuana growers; depending on the size, that may only represent 20 to 30 growers.

The large influx of medical marijuana dispensaries appeared to be contributing to the availability and acceptability of marijuana use. For example, Denver area adolescent treatment providers reported caregivers, older peers, or family members of clients often have medical marijuana licenses, so more individuals have more accessibility with a lowered stigma of marijuana use. The Denver police department reported that they were finding medical marijuana in schools and in the hands of people who were not medical marijuana patients. They found different forms of medical marijuana, such as candies. Most people do not realize the high potency of medical marijuana and the effects different strains can produce, which may lead to more adverse reactions. They were also finding some medical marijuana being “cut” with inexpensive Mexican marijuana and sold as hydroponic marijuana. The DEA reported a significant amount of medical marijuana was being shipped out of State and that organizations were setting up “false front” dispensaries to grow and “traffic” marijuana out of State. While medical marijuana regulations are intended to monitor every step in the grow process, Colorado agencies are far behind, and it is unlikely they can monitor everything (Mendelson, 2011).

Based on the “Proceedings of the DEWG” and the “Recent Drug Trends in the Denver Metro Area through 2010 Report,” authored by Bruce Mendelson, Denver street outreach workers and clinicians described a Denver scene in which medical marijuana dispensaries have made marijuana more available with less of a stigma, and with a lowered perceived risk of use. Most outreach workers reported the “normalization of THC use in the community, where users are more open about their use and dealers are more open about selling or trading.” Marijuana price information for 2009 is shown in exhibit 15.

MDMA

MDMA (3,4-methylenedioxymethamphetamine), or ecstasy, morbidity and mortality remained relatively low in Denver in 2010. Although the number of club drug treatment admissions was still very small, they nearly doubled since 2009. Of the 112 statewide “club drug” treatment admissions shown in 2010 (exhibit 2), which represented 0.6 percent of total nonalcohol admissions, 106 were for MDMA. In the Denver metropolitan area, club drugs accounted for 63 treatment admissions in 2010 (0.8 percent of total non-alcohol admissions) (exhibit 3). Of these, 59 were for MDMA.

Excluding alcohol, MDMA accounted for 2.7 percent of illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver metropolitan area from January through December 2010 (exhibit 6). In exhibit 7, the Denver metropolitan area weighted rate for MDMA-involved ED visits is compared with that of the entire United States. The Denver rate more than doubled from 4.5 estimated visits per 100,000 population in 2004 to 11.6 visits per 100,000 in 2009. Drug samples seized and identified as MDMA accounted for 4.3 percent of the total items submitted for testing to NFLIS laboratories in 2010 in the Denver area, compared with 1.4 percent across the United States (exhibit 11).

According to law enforcement/intelligence, MDMA found in Colorado was produced primarily in Canadian laboratories. MDMA was mostly transported and distributed by Asian DTOs and continued to have a solid presence in the Denver club scene. In addition to the usual stamped tablet, there were different forms of MDMA, such as wafers and powder (which are easier and cheaper to produce). In general, law enforcement/intelligence reported an overall increase in the MDMA distribution and seizures in Colorado. In Colorado, in 2009, MDMA sold for \$3–\$6 per tablet wholesale, \$5–\$17 retail, and \$10–\$25 per tablet on the street (exhibit 15). Prices in 2010 remained fairly constant depending on the quantity purchased.

BZP (1-Benzylpiperazine)

In 2010, 43 drug samples (representing 0.6 percent) were seized and identified as containing BZP by forensic laboratories in Arapahoe, Denver, and Jefferson Counties, based on NFLIS data. Unfortunately, several data sources—treatment admissions, ED data, mortality cases, and hospital discharge data—did not report BZP. It appeared that only the crime laboratories were isolating this drug, making it difficult to determine actual BZP usage levels. BZP was recently made a Schedule 1 controlled substance and, therefore, may be less available than it once was. Although probably not a substantial problem in Denver in terms of user numbers, research indicates that BZP and TFMPP, when taken together, have a synergistic effect on certain neurotransmitters (dopamine and serotonin), which may lead to seizures (Bauman, et al., 2005).

Emerging Synthetic Drugs

Synthetic Cannabinoids

Synthetic cannabinoids (e.g., Spice, K2, and Black Mamba) have been a recent growing concern in the Denver area; however, there are few indicators that have the ability to isolate and capture the data, and it is difficult to determine actual usage levels.

Sold at “head shops,” gas stations, and over the Internet, there are various brands of synthetic cannabinoids. They are designed to produce effects similar to marijuana and are marketed as a “legal high” or a natural alternative to marijuana. Synthetic cannabinoids were, until recently, unable to be detected by drug screens, which appealed to individuals on probation or parole. There are now a few drug screens on the market that detect some of the cannabinoids; however, they are expensive and the results take longer than other drug screens for other drugs. Adolescents and young adults have reportedly been the primary users of this “legal” substance. However, one Denver area clinician reported that some clients do not see the benefit of using synthetic cannabinoids when real marijuana is so accessible.

The DEA reported that they could issue a temporary control, but that may not be very effective, because so many different compounds make up K2 or Spice (or other synthetics). Each compound must be isolated, researched, and individually federally controlled. This process is difficult, and once one compound is controlled, manufacturers will move on to another compound, which has been the case in other States, such as Wyoming.

The RMPDC captured data on synthetic cannabinoids in CY 2010. There were 44 human exposure calls, of which 36 were male and 8 were female. Individuals reported the following top symptoms: tachycardia ($n=15$), agitated/irritable ($n=11$), confusion ($n=10$), hallucinations/delusions ($n=5$), nausea ($n=4$), drowsiness/lethargy ($n=4$), tremor ($n=4$), vomiting ($n=4$), mydriasis (pupil dilation) ($n=4$), seizure ($n=2$), and other ($n=20$). Additionally, there were 35 Denver area ED visits as a result of synthetic cannabinoid use from the DAWN Live! system in 2010. Excluding alcohol, synthetic cannabinoids accounted for 0.6 percent of illicit drug-related ED reports in the unweighted DAWN Live! data for the Denver metropolitan area from January through December 2010 (exhibit 6).

Synthetic Cathinones: Mephedrone, 4-methylmethcathinone, and MDPV (3,4 Methylene-dioxypyrovalerone)

Synthetic cathinones, or “bath salts,” with names like “Ivory Wave” or “Vanilla Sky,” are another synthetic drug category that is surfacing as an emerging concern. They are marketed as “bath salts” or “plant food” and are labeled “not for human consumption.” However, these synthetic drugs actually are manufactured and sold in “head shops” and over the Internet for individuals to consume. They reportedly produce effects similar to methamphetamine, cocaine, and/or ecstasy; however, the drugs appear to have a wide range of effects on individuals. There currently is no control over these drugs, and they are very dangerous because consumers have no idea what they are using. As indicated on Internet blogs, after the use of “bath salts,” users report a distinct smell emanating from their bodies, such as a fishy, vanilla, bleachy, stale urine, or electric smell.

The RMPDC captured some initial data related to bath salts, and it is the only known institutional data source currently available in Colorado. RMPDC reported nine human exposure calls ($n=8$ male, $n=1$ female) from January 1, 2011, to April 30, 2011. The clinical effects that were documented are as follows: tachycardia ($n=5$); agitated/irritable ($n=4$); confusion ($n=2$); seizure (single) ($n=2$); other ($n=2$); acidosis (increased acid in the blood, which increases hydrogen as a result of kidneys not working correctly) ($n=1$); chest pain ($n=1$); diaphoresis (excessive/unpredictable sweating, which can be a result of shock or medical emergency) ($n=1$); hypertension ($n=1$); seizures (multi/discrete) ($n=1$); and slurred speech ($n=1$). The outcome of these exposures ranged from minor effects to a potentially toxic exposure.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS Among Injection Drug Users

Of the 9,870 cumulative AIDS cases reported in Colorado through December 31, 2010, 8.9 percent were classified as injection drug users (IDUs), and another 10.6 percent were classified as homosexual or bisexual males and IDUs (exhibit 16). The proportion of newly diagnosed HIV cases attributed to injection drug use has stayed fairly stable over the last several years (exhibit 17). However, the proportion of newly diagnosed AIDS cases attributed to injection drug use decreased from 14 percent in 2009 to 3 percent in 2010 (exhibit 18). This sharp decline in proportions may partly be due to a smaller “*n*,” which resulted in a higher percentage in 2009.

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Exhibit 1. Denver Epidemiology Work Group Membership: 2010

Name	Agency	Field
Kendra Bernard	DAWN-WESTAT	Emergency department drug episodes
Candace Cadena	Denver Office of Drug Strategy	Prevention evaluator
Chris Conner	Urban Peak	Outreach
Terry Demmel	Denver Police Department	Detective in Narcotics Bureau
Kristen Dixon	Division of Behavioral Health	Data analysis
Vanessa Fenley	Denver Office of Drug Strategy	Director
Lt. Mark Fleecs	Denver Police and HIDTA	Drug control and intelligence
Beverly Gmerek	Peer Assistance Services	Prescription drug prevention program
Ron Gowins	Denver Health, Outpatient Behavioral Health Services	Substance abuse treatment
Jonathan Gray	Arapahoe House	Substance abuse treatment
Ron Hollingshead	National Drug Intelligence Center & HIDTA	Drug control and intelligence
Helen Kaupang	DEA Diversion Group Supervisor	Pharmaceutical controlled substances education, diversion, and regulatory matters
Eric Lavonas	Rocky Mountain Poison and Drug Center	Poison and drug toxicology
Jodi Lockhart	Denver Office of Drug Strategy	Prevention Coordinator
John Lundin-Martinez	Denver Health, Outpatient Behavioral Health Services	Substance abuse treatment
Amy Martin	Denver Office of Medical Examiner	Chief medical examiner
Andrew McClure	Urban Peak	Street outreach
Bruce Mendelson	Denver Office of Drug Strategy	Substance use and abuse data analysis and Chair DEWG
Fred Morck	DEA	Drug control and intelligence
Amber Murray Anderson	OMNI Institute	Research
William Nagle	Denver Police Department	Vice Drug Control Bureau
Linda Orr	Denver Office of Drug Strategy	DODS Administrative Assistant
Katie Page	OMNI Institute	Research
Wendy Roewer	Drug Enforcement Administration	Drug control and intelligence
Mark Royer	Project Safe	Injection drug use outreach and research
Allison Sabel-Soteres	Denver Health	Medical biostatistics
Donald Shriver	Denver Police Department Crime Laboratory	Technical Lead Forensic Chemistry Unit
Jamie Sims	Children's Hospital	Prevention
Christian Thurstone	Denver Health	Psychiatry
Dale Wallis	Denver Police Department	Narcotics
Michael Webster	DEA	Investigation of illicit prescription drug trafficking
Libby Whitmore	University of Colorado Denver ARTS-Synergy Outpatient	Drug treatment and research

SOURCE: Denver Epidemiology Work Group, 2010

Exhibit 2. Number and Percentage of Treatment Admissions, by Primary Drug Type, State of Colorado: 2003–2010

Drug		2003	2004	2005	2006	2007	2008	2009	2010
Alcohol	<i>n</i>	7,263	9,873	10,189	11,481	10,977	11,755	12,040	12,364
	%	37.8	40.7	38.8	40.9	39.7	41.1	42.2	41.7
Marijuana	<i>n</i>	4,236	5,305	5,568	5,653	5,783	6,156	6,160	6,518
	%	22.0	21.9	21.2	20.1	20.9	21.5	21.6	22.0
(excluding alcohol)	%	35.4	36.8	34.7	34.0	34.7	36.6	37.4	37.7
Methamphetamine	<i>n</i>	2,794	3,846	5,084	5,053	4,914	4,543	4,123	4,322
	%	14.5	15.8	19.4	18.0	17.8	15.9	14.5	14.6
(excluding alcohol)	%	23.3	26.7	31.7	30.4	29.5	27.0	25.0	25.0
Cocaine	<i>n</i>	2,368	3,034	2,929	3,476	3,374	3,319	2,660	2,459
	%	12.3	12.5	11.2	12.4	12.2	11.6	9.3	8.3
(excluding alcohol)	%	19.8	21.1	18.3	20.9	20.3	19.7	16.2	14.2
Heroin	<i>n</i>	1,676	1,273	1,421	1,271	1,223	1,201	1,570	1,755
	%	8.7	5.2	5.4	4.5	4.4	4.2	5.5	5.9
(excluding alcohol)	%	14.0	8.8	8.9	7.6	7.3	7.1	9.5	10.2
Other Opioids ¹	<i>n</i>	541	614	713	824	961	1,113	1,475	1,715
	%	2.8	2.5	2.7	2.9	3.5	3.9	5.2	5.8
(excluding alcohol)	%	4.5	4.3	4.4	5.0	5.8	6.6	9.0	9.9
Depressants ²	<i>n</i>	131	101	97	121	127	141	143	120
	%	0.7	0.4	0.4	0.4	0.5	0.5	0.5	0.4
(excluding alcohol)	%	1.1	0.7	0.6	0.7	0.8	0.8	0.9	0.7
Other Amphetamines/ Stimulants	<i>n</i>	78	56	57	52	36	55	45	56
	%	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.2
(excluding alcohol)	%	0.7	0.4	0.4	0.3	0.2	0.3	0.3	0.3
Hallucinogens ³	<i>n</i>	31	27	33	35	31	38	31	27
	%	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(excluding alcohol)	%	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Club Drugs ⁴	<i>n</i>	37	56	50	47	59	67	68	112
	%	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4
(excluding alcohol)	%	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.6
Other ⁵	<i>n</i>	77	90	92	88	142	181	195	191
	%	0.4	0.4	0.4	0.3	0.5	0.4	0.7	0.6
(excluding alcohol)	%	0.6	0.6	0.6	0.5	0.9	1.1	1.2	1.1
Total	N	19,232	24,275	26,233	28,101	27,627	28,569	28,510	29,639
(excluding alcohol)	N	11,969	14,402	16,044	16,620	16,650	16,814	16,470	17,275

¹Includes nonprescription methadone and other opiates and synthetic opiates.

²Includes barbiturates, benzodiazepine tranquilizers, clonazepam, and other sedatives.

³Includes LSD (lysergic acid diethylamide), PCP (phencyclidine), and other hallucinogens.

⁴Includes Rohypnol®, ketamine (Special K), GHB (gamma hydroxybutyrate), and MDMA (ecstasy).

⁵Includes inhalants, over-the-counter, and other drugs not specified.

SOURCE: Drug/Alcohol Coordinated Data System, Alcohol and Drug Abuse Division, Colorado Department of Human Services

Exhibit 3. Number and Percentage of Treatment Admissions, by Primary Drug Type, Denver/Boulder Metropolitan Area: 2003–2010

Drug		2003	2004	2005	2006	2007	2008	2009	2010
Alcohol	<i>n</i>	2,360	3,551	3,575	4,408	4,321	4,586	4,597	4,826
	%	29.1	33.6	33.1	36.0	35.9	37.8	38.5	37.3
Marijuana	<i>n</i>	1,859	2,703	2,695	2,901	2,824	2,882	2,787	3,133
	%	22.9	25.6	24.9	23.7	23.5	23.7	23.3	24.2
(excluding alcohol)	%	32.3	38.5	37.2	37.0	36.6	38.2	37.9	38.6
Methamphetamine	<i>n</i>	946	1,271	1,494	1,696	1,672	1,540	1,373	1,520
	%	11.7	12.0	13.8	13.8	13.9	12.7	11.5	11.7
(excluding alcohol)	%	16.4	18.1	20.6	21.6	21.7	20.4	18.7	18.7
Cocaine	<i>n</i>	1,264	1,619	1,460	1,849	1,807	1,662	1,333	1,315
	%	15.6	15.3	13.5	15.1	15.0	13.7	11.2	10.2
(excluding alcohol)	%	21.9	23.1	20.2	23.6	23.4	22.0	18.1	16.2
Heroin	<i>n</i>	1,226	922	1,007	810	807	761	960	1,130
	%	15.1	8.7	9.3	6.6	6.7	6.3	8.0	8.7
(excluding alcohol)	%	21.3	13.1	13.9	10.3	10.5	10.1	13.1	13.9
Other Opioids ¹	<i>n</i>	300	340	434	412	400	472	627	762
	%	3.7	3.2	4.0	3.4	3.3	3.9	5.2	5.9
(excluding alcohol)	%	5.2	4.8	6.0	5.3	5.2	6.3	8.5	9.4
Depressants ²	<i>n</i>	55	47	45	57	48	62	57	44
	%	0.7	0.4	0.4	0.5	0.4	0.5	0.5	0.3
(excluding alcohol)	%	1.0	0.7	0.6	0.7	0.6	0.8	0.8	0.5
Other Amphetamines/ Stimulants	<i>n</i>	31	24	21	34	17	28	21	31
	%	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.2
(excluding alcohol)	%	0.5	0.3	0.3	0.4	0.2	0.4	0.3	0.4
Hallucinogens ³	<i>n</i>	18	16	17	25	17	16	15	9
	%	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
(excluding alcohol)	%	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1
Club Drugs ⁴	<i>n</i>	22	29	24	24	39	42	35	63
	%	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.5
(excluding alcohol)	%	0.4	0.4	0.3	0.3	0.5	0.6	0.5	0.8
Other ⁵	<i>n</i>	39	41	40	37	75	87	142	115
	%	0.5	0.4	0.4	0.3	0.6	0.7	1.2	0.9
(excluding alcohol)	%	0.7	0.6	0.6	0.5	1.0	1.2	1.9	1.4
Total	N	8,120	10,563	10,812	12,253	12,027	12,138	11,947	12,948
(excluding alcohol)	N	5,760	7,012	7,237	7,845	7,706	7,552	7,350	8,122

¹Includes nonprescription methadone and other opiates and synthetic opiates.

²Includes barbiturates, benzodiazepine tranquilizers, clonazepam, and other sedatives.

³Includes LSD (lysergic acid diethylamide), PCP (phencyclidine), and other hallucinogens.

⁴Includes Rohypnol®, ketamine (Special K), GHB (gamma hydroxybutyrate), and MDMA (ecstasy).

⁵Includes inhalants, over-the-counter, and other drugs not specified.

SOURCE: Drug/Alcohol Coordinated Data System, Alcohol and Drug Abuse Division, Colorado Department of Human Services

Exhibit 4. Demographic Characteristics of Clients Admitted to Treatment, by Percentage, State of Colorado: 2010

Characteristics	Alcohol ¹ Only or in Combination	Marijuana (MJ)	Cocaine	Meth- amphet- amine	Heroin	Other Opioids	Seda- tives	Other Stimu- lants ²	Hallucino- gens	Club Drugs	All Other ³
Total (N=29,639)	(12,364)	(6,518)	(2,459)	(4,322)	(1,755)	(1,715)	(120)	(56)	(27)	(112)	(191)
Gender											
Male	67.5	76.5	56.9	52.3	66.1	51.2	39.2	53.6	92.6	67.9	68.1
Female	32.5	23.5	43.1	47.7	33.9	48.8	60.8	46.4	7.4	32.1	31.9
Race/Ethnicity											
White	64.4	48.4	39.2	77.3	76.2	75.7	75.8	75.0	66.7	77.7	47.6
African-American	5.8	12.7	22.5	1.8	3.1	2.2	1.7	0.0	11.1	8.0	17.3
Hispanic	23.8	34.1	33.0	17.3	17.7	18.4	20.8	21.4	11.1	12.5	29.3
Other	6.0	4.8	5.3	3.7	3.0	3.8	1.7	3.6	11.1	1.8	5.8
Age at Admission											
Younger than 18	3.3	31.8	1.5	1.2	0.8	2.1	5.0	16.1	7.4	8.9	15.7
18–24	17.0	28.4	11.3	15.4	27.5	24.0	16.7	21.4	37.0	20.5	20.4
25–34	29.2	24.4	28.6	44.4	33.2	39.5	31.7	32.1	29.6	39.3	31.4
35–44	24.0	10.3	29.8	26.8	18.3	17.6	20.8	17.9	18.5	22.3	14.1
45–54	19.8	4.4	24.8	10.9	13.7	11.5	17.5	10.7	7.4	8.0	16.8
55 and Older	6.7	0.7	4.0	1.3	6.4	5.2	8.3	1.8	0.0	0.9	1.6
Route of Ingestion											
Smoking	0.3	91.7	61.1	62.9	14.2	2.7	4.2	14.3	14.8	43.8	5.8
Inhaling	3.7	6.4	30.5	10.4	5.1	13.9	3.3	19.6	11.1	10.7	23.6
Injecting	0.1	0.0	5.6	24.5	78.9	10.0	0.8	5.4	3.7	15.2	2.1
Oral/Other	95.9	1.9	2.8	2.2	1.8	73.4	91.7	60.7	70.4	30.3	68.5
Secondary Drug	MJ	Alcohol	Alcohol	MJ	Cocaine, opioids	MJ, Alcohol	Other opioid	Alcohol & MJ	MJ	MJ	MJ
	25.1	42.0	32.0	30.8	23.5, 16.5	15.9, 15.0	26.7	17.9	29.6	25.0	12.0
Tertiary Drug	Cocaine	Alcohol	Alcohol	Alcohol	MJ	Alcohol & MJ	Alcohol, MJ	MJ	Alcohol	MJ	MJ
	4.6	6.4	11.9	13.2	12.6	8.6	10.81 0.0	14.3	11.1	11.6	5.8

¹Includes alcohol only or in combination with other drugs.²Includes other stimulants (e.g., Ritalin®) and amphetamines (e.g., Benzedrine®, Dexadrine®, Desoxyn®).³Includes over-the-counter drugs, inhalants, anabolic steroids, and other nonclassified substances.

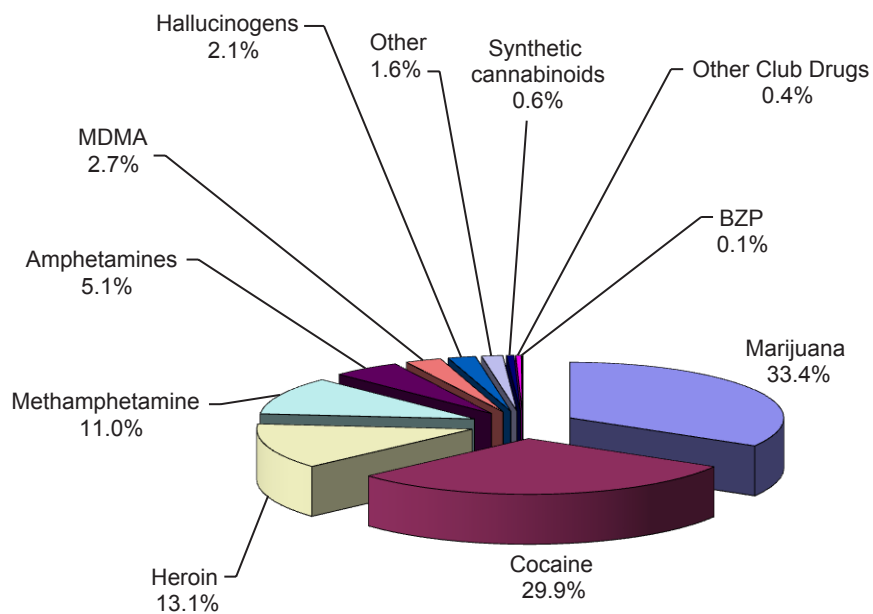
SOURCE: Drug/Alcohol Coordinated Data System, Alcohol and Drug Abuse Division, Colorado Department of Human Services

Exhibit 5. Demographic Characteristics of Clients Admitted to Treatment, by Percentage, Denver/Boulder Metropolitan Area: 2010

Characteristics	Alcohol ¹ Only or in Combo	Mari- juana (MJ)	Cocaine	Meth- amphet- amine	Heroin	Other Opioids	Seda- tives	Other Stimu- lants ²	Hallu- cinogens	Club Drugs	All Other ³
Total (N=12,948)	(4,826)	(3,133)	(1,315)	(1,520)	(1,130)	(762)	(44)	(31)	(9)	(63)	(115)
Gender											
Male	64.1	78.4	59.9	55.7	65.7	49.1	40.9	51.6	100.0	63.5	72.2
Female	35.9	21.6	40.1	44.3	34.3	50.9	59.1	48.4	0.0	36.5	27.8
Race/Ethnicity											
White	62.9	43.3	36.7	79.1	74.9	76.8	84.1	77.4	66.7	73.0	39.1
African-American	9.3	18.9	28.3	1.9	3.5	3.7	2.3	0.0	11.1	12.7	19.1
Hispanic	21.2	32.2	29.1	13.5	18.4	14.7	9.1	19.4	22.2	12.7	35.7
Other	6.6	5.5	5.9	5.5	3.3	4.9	4.5	3.2	0.0	1.6	6.1
Age at Admission											
Younger than 18	3.3	35.6	1.9	1.2	0.6	0.8	0.0	25.8	11.1	14.3	17.4
18–24	15.3	26.3	10.6	14.1	24.7	22.0	25.0	19.4	22.2	22.2	14.8
25–34	29.2	23.4	26.4	42.0	34.1	41.6	31.8	29.0	44.4	38.1	33.0
35–44	26.0	9.1	30.3	30.3	19.0	19.0	20.5	16.1	11.1	19.0	13.0
45–54	20.0	4.7	27.0	11.5	13.9	11.0	18.2	6.5	11.1	6.3	20.9
55 and Older	6.1	0.8	3.9	0.9	7.7	5.5	4.5	3.2	0.0	0.0	0.9
Route of Ingestion											
Smoking	0.4	87.9	57.6	56.5	15.4	4.2	6.8	22.6	11.1	38.1	3.5
Inhaling	6.5	10.3	35.2	14.3	4.5	14.2	4.5	16.1	33.3	12.7	22.6
Injecting	0.1	0.0	4.6	26.8	78.1	7.5	0.0	3.2	0.0	14.3	0.9
Oral/Other	93.0	1.8	2.6	2.4	2.0	74.1	88.7	58.1	55.6	34.9	73.0
Secondary Drug	MJ	Alcohol	Alcohol	MJ	Cocaine	MJ, Alcohol	Other Opioid	MJ	MJ	MJ	MJ
	24.8	43.5	32.2	28.6	24.8	15.5, 15.2	22.7	22.6	56.6	23.8	6.1
Tertiary Drug	Cocaine	Alcohol, Cocaine	MJ	Alcohol	MJ	Alcohol, MJ	Alcohol	Alcohol & MJ	Alcohol	MJ	Alcohol, Cocaine & MJ
	5.1	5.9, 5.2	11.5	12.3	11.7	7.2, 7.0	15.9	12.9	11.1	19.0	1.7

¹Includes alcohol only or in combination with other drugs.²Includes other stimulants (e.g., Ritalin®) and amphetamines (e.g., Benzedrine®, Dexadrine®, Desoxyn®).³Includes over-the-counter drugs, inhalants, anabolic steroids, and other nonclassified substances.

SOURCE: Drug/Alcohol Coordinated Data System, Alcohol and Drug Abuse Division, Colorado Department of Human Services

Exhibit 6. DAWN Live! ED Reports¹ of Illicit Drugs, by Major Substances of Abuse: January–December 2010

¹Unweighted data.

SOURCE: DAWN Live!, updated 5/18/2011

Exhibit 7. Weighted DAWN Rates per 100,000 Population for Selected Estimated Drug-Involved Visits, in the Denver Metropolitan Area and the United States: 2004–2009

ED Visit Rates per 100,000	2004	2005	2006	2007	2008	2009
Cocaine:						
Denver Metropolitan Rate	93.2	173.3	205.9	205.2	168.5	109.6
U.S. Rate	162.2	163.6	183.7	183.5	158.4	137.7
Heroin:						
Denver Metropolitan Rate	33.1	44.8	53	53.4	52.8	51.7
U.S. Rate	73.2	63.4	63.6	62.4	65.9	69.4
Marijuana:						
Denver Metropolitan Rate	50.5	90.3	137	147.2	151.7	124.1
U.S. Rate	96.1	94.6	97.3	102.3	123.0	122.6
Methamphetamine:						
Denver Metropolitan Rate	32.5	76.2	57.6	49.7	35.6	33.9
U.S. Rate	45.2	37.1	26.8	22.5	21.8	20.9
Narcotic Analgesics:						
Denver Metropolitan Rate	30.1	53.1	67.6	87.7	104.6	104.4
U.S. Rate	49.4	56.9	67.4	78.6	100.5	111.6
MDMA						
Denver Metropolitan Rate	4.5	6.9	10	11.1	14.2	11.6
U.S. Rate	3.5	3.8	5.6	4.2	5.9	7.4
Benzodiazepines						
Denver Metropolitan Rate	23.7	44.6	57.5	68.9	72	69.8
U.S. Rate	49	64.1	65.5	72.5	89.3	101.9

SOURCE: DAWN, CBHSQ, SAMHSA, weighted data, updated 10/5/2010

Exhibit 8. Most Common Drugs in Denver Drug-Related Decedents, by Percentage of All Cases: 2005–2009

Drug Contributing to Cause of Death	2005		2006		2007		2008		2009	
	N	%	N	%	N	%	N	%	N	%
Cocaine	82	48.2	85	50.3	75	39.7	60	28.3	53	25.6
Morphine	60	35.3	64	37.9	43	22.8	48	22.6	26	12.6
Alcohol	44	25.9	65	38.5	66	34.9	75	35.4	72	34.8
Codeine	36	21.2	36	21.3	18	9.5	19	9.0	11	5.3
Heroin	18	10.6	17	10.1	18	9.5	27	12.7	49	23.7
Methadone	17	10.0	16	9.5	14	7.4	15	7.1	15	7.2
Oxycodone	12	7.1	7	4.1	38	20.1	33	15.6	48	23.2
Methamphetamine	12	7.1	9	5.3	12	6.3	15	7.1	10	4.8
Acetaminophen	11	6.5	2	1.2	14	7.4	13	6.1	4	1.9
Diazepam	10	5.9	11	6.5	19	10.1	16	7.5	23	11.1
Alprazolam	10	5.9	5	3.0	13	6.9	15	7.1	20	9.7
Hydrocodone	7	4.1	10	5.9	8	4.2	22	10.4	18	8.7
Diphenhydramine	7	4.1	1	0.6	11	5.8	11	5.2	3	1.4
Clonazepam	2	1.2	0	0	1	0.5	4	1.9	8	3.9
Fentanyl	3	1.8	3	1.8	5	2.6	5	2.4	13	6.3
Decedents	170		169		189		212		207	

SOURCE: Denver Medical Examiner's Office Autopsy Reports, courtesy of Bruce Mendelson, Denver Office of Drug Strategy

Exhibit 9. Number and Rate per 100,000 Population of Drug-Related Hospital Discharge Reports, for Selected Drugs, in Denver: 2001–2009

Drug	2001	2002	2003	2004	2005	2006	2007	2008	2009
Alcohol (n)	10,606	10,429	9,812	10,560	10,060	10,288	10,116	11,361	11,750
Rate	1,893	1,859	1,733	1,856	1,759	1,788	1,747	1,948	2,002
Stimulants (n)	261	323	407	549	738	489	438	350	389
Rate	47	58	72	97	129	85	76	60	66
Cocaine (n)	1,298	1,369	1,423	1,753	1,843	1,862	1,634	1,502	1,399
Rate	232	244	251	308	322	324	282	258	238
Marijuana (n)	846	837	842	1,100	1,163	1,188	1,050	1,218	1,309
Rate	151	149	149	193	203	207	181	209	223
Opioid ¹ (n)	744	720	818	804	987	916	1,038	1,040	1,193
Rate	133	128	145	141	173	159	179	178	203
Population	560,366	560,884	566,174	568,913	571,847	575,294	579,177	583,238	587,045

¹Opioid category includes all narcotic analgesics and other opioids, including heroin.

SOURCE: Colorado Department of Public Health and Environment, Colorado Hospital Association

Exhibit 10. Number of Statewide Drug-Related Calls to the Rocky Mountain Poison and Drug Center (Human Exposure Calls Only), in Denver: 2005–2010

Drug	2005	2006	2007	2008	2009	2010
Alcohol	884	868	858	916	840	913
Cocaine/Crack	107	129	91	104	63	64
Heroin/Morphine	24	25	21	23	29	19
Marijuana	78	45	70	61	54	107
Methamphetamine	127	29	31	51	60	72
Club Drugs ¹	49	47	49	55	46	48

¹Club Drugs include GHB and MDMA.

SOURCE: Rocky Mountain Poison and Drug Center

Exhibit 11. Number of Denver¹ and United States NFLIS Samples Analyzed by Drug Type, Based on Denver Top 10 Drugs, by Number and Percentage: 2010

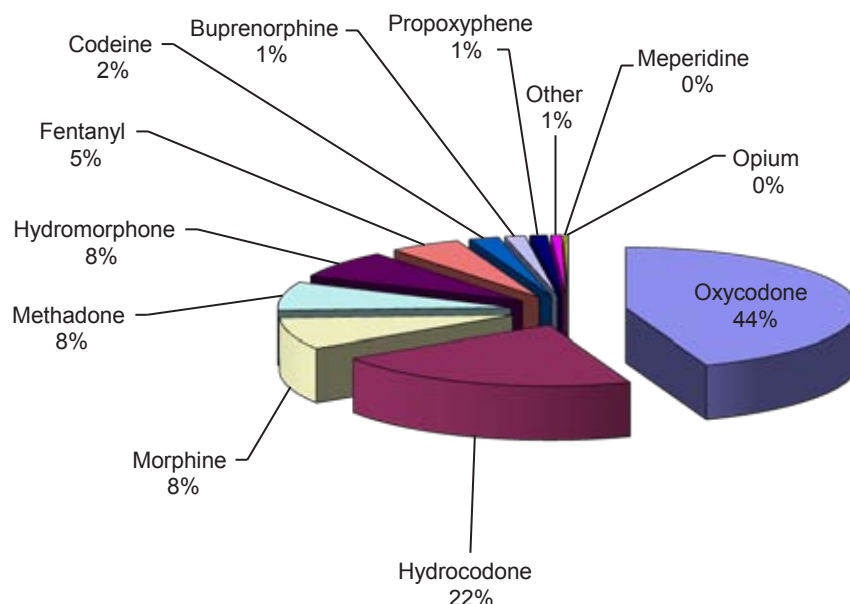
Drug	Denver Area		United States	
	<i>N</i>	%	<i>N</i>	%
Cocaine	2,347	33.6	298,452	21.3
Cannabis/Marijuana	1,758	25.2	521,112	37.1
Methamphetamine	978	14.0	147,232	10.5
Heroin	528	7.6	99,520	7.1
MDMA	298	4.3	20,275	1.4
Oxycodone	161	2.3	56,375	4.0
Hydrocodone	87	1.2	41,269	2.9
Psilocin	52	0.7	3,094 ²	0.2
BZP	43	0.6	7,084 ²	0.5
Alprazolam	38	0.5	38,436	2.7

¹Denver area in this comparison includes Denver, Jefferson, and Arapahoe Counties.

²Not in U.S. Top 10.

SOURCE: NFLIS, DEA, May 3, 2011

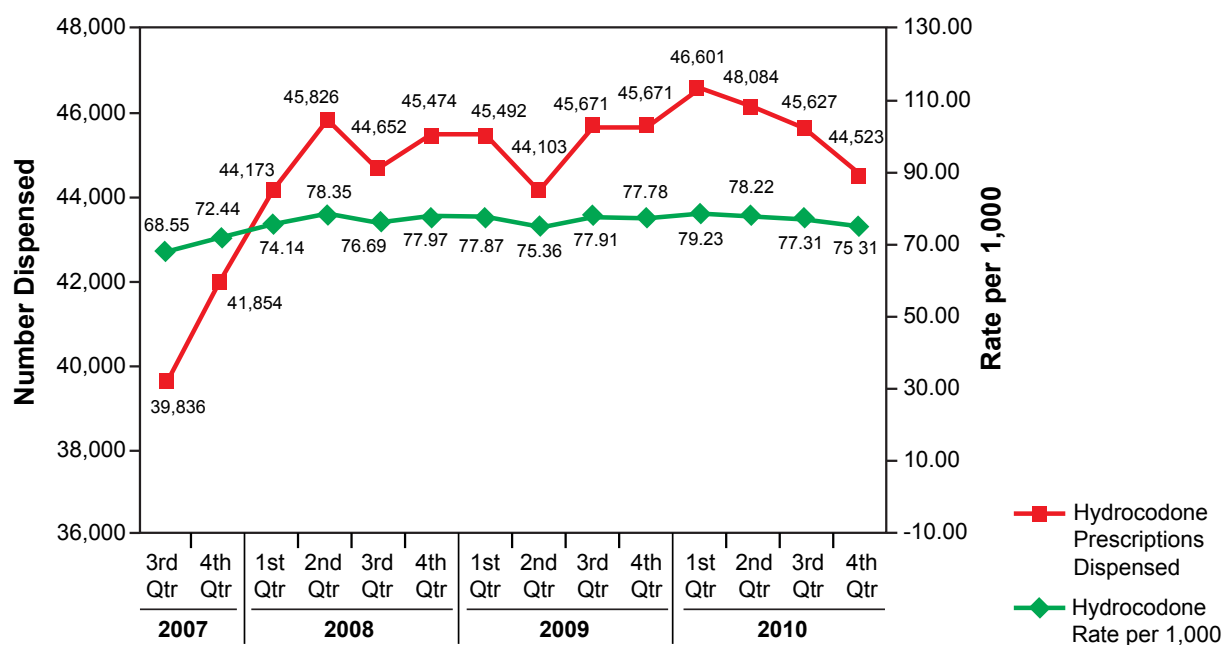
Exhibit 12. Percentage of Narcotic Analgesic Reports¹ in Drug-Involved DAWN Live! ED Visits in Denver, by Specific Drug: January–December 2010



¹Data are unweighted.

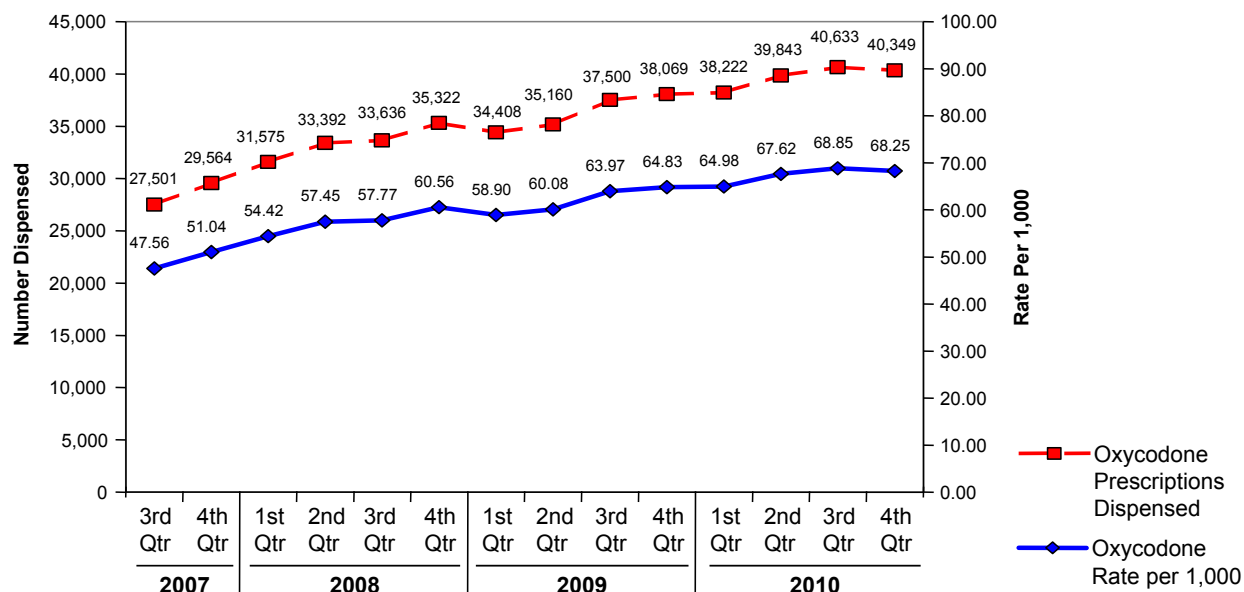
SOURCE: DAWN Live!, updated 5/18/2010

Exhibit 13. Number of Hydrocodone Prescriptions Filled and Rate per 1,000 Population, in Denver: Third Quarter 2007 through Fourth Quarter 2010



SOURCE: Prescription Drug Monitoring Program, Colorado Department of Regulatory Agencies, Division of Registrations, Board of Pharmacy

Exhibit 14. Number of Oxycodone Prescriptions Filled and Rate per 1,000 Population, in Denver: Third Quarter 2007 through Fourth Quarter 2010



SOURCE: Prescription Drug Monitoring Program, Colorado Department of Regulatory Agencies, Division of Registrations, Board of Pharmacy

Exhibit 15. Average Prices of Selected Drugs in Denver: June 2009

Drug	Wholesale Price	Mid-level Price	Retail Price
Powder Cocaine	\$18,000–\$22,000/kg	\$600–\$1,000/oz	\$100–\$150/gm
Crack Cocaine	\$15,000–\$20,000/kg	\$600–\$900/oz	\$20/rock \$70–\$120/gm
Heroin	\$24,000–\$35,000/kg (MBT)	\$800–\$1,600/oz (MBT)	\$130–\$250/gm (MBT)
Methamphetamine	\$12,000–\$20,000/lb (PM, MX) \$24,000–\$28,000/lb (ice, MX)	\$1,300–\$2,200/oz (ice, MX) \$1,000–\$1,500/oz (PM, MX) \$500–\$800/oz (PM, LP)	\$100–\$125/gm (ice and powder)
Marijuana	\$2,600–\$5,000/lb BC \$2,000–\$4,200/lb (DO) \$350–\$500/lb (MX)	\$80–\$100/oz (MX) \$300–\$400/oz (BC) \$350–\$400/oz (LP)	\$40/oz (low) (MX) \$100/oz (low) (BC)
Ecstasy/MDMA	\$3–\$6/tablet	\$5–\$17/tablet	\$10–\$25/tablet

Notes: kg=kilogram; gm=gram; MBT=Mexican black tar; PM=powder methamphetamine; MX=Mexican produced, LP=locally produced; STL=small toxic laboratory; DO=domestic; HY=hydroponic; IG=indoor grown; CG=commercial grade; BC=BC bud from Canada.

SOURCES: National Drug Intelligence Center, DEA, Denver Division; Denver Police Department; Front Range High Intensity Drug Trafficking Area Task Force

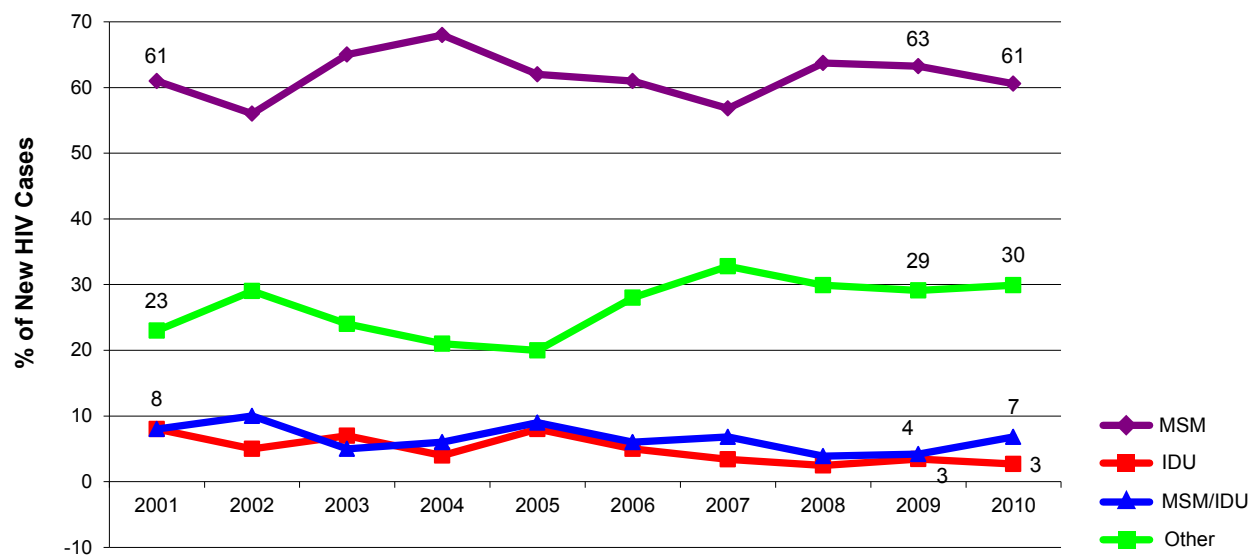
Exhibit 16. Number and Percentage of AIDS Cases, by Exposure Category, in Colorado: Cumulative Through December 31, 2010

Exposure Category	AIDS Cases	
	Number	Percentage
MSM	6,505	65.9
IDU	876	8.9
MSM/IDU	1,046	10.6
Heterosexual	757	7.7
Other risk factor not identified	686	7.0
Total	9,870	100.0

Note: MSM=men who have sex with men; IDU= injection drug user.

SOURCE: Colorado Department of Public Health and Environment

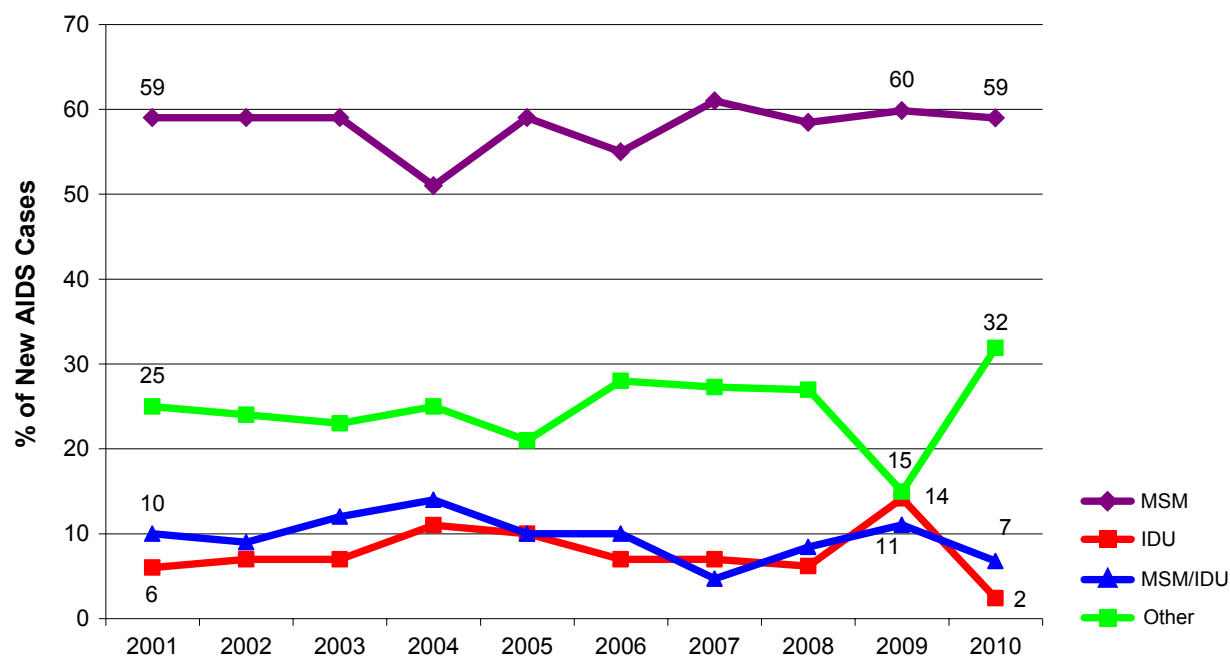
Exhibit 17. Percentage of New HIV Cases, by Exposure Category and Year, in Colorado: 2001–2010



Note: MSM=men who have sex with men; IDU=injection drug user.

SOURCE: Colorado Department of Public Health and Environment

Exhibit 18. Percentage of New AIDS Cases, by Exposure Category and Year, in Colorado: 2001–2010



Note: MSM=men who have sex with men; IDU= injection drug user.
SOURCE: Colorado Department of Public Health and Environment

Drug Abuse in Detroit, Wayne County, and Michigan: 2010

Cynthia L. Arfken, Ph.D.¹

ABSTRACT

Proportions of primary cocaine treatment admissions fell to 16.6 percent of Detroit publicly funded admissions in the first half of fiscal year (FY) 2011. Ninety-one percent of these admissions were for crack cocaine. Of the total cocaine admissions, 58.7 percent were male; 91.3 percent were African-American; and 86.9 percent were older than 34. Cocaine was the second most common drug item seized and identified by the National Forensic Laboratory Information System (NFLIS) in Wayne County in 2010. In 2010, the Wayne County Medical Examiner (ME) reported a decline in the number of deaths involving cocaine (n=229); however, cocaine-involved deaths continued to represent the highest number for any illegal drug. In the first half of FY 2011, primary heroin treatment admissions represented 33.5 percent of the area's publicly funded admissions; 66.2 percent were male; 79.1 percent were African-American; and 86 percent were older than 34. White clients had a lower mean age and were more likely to inject heroin than African-American clients: 36.8 versus 51.1 years, respectively, and 71.8 versus 34.9 percent, respectively. Heroin ranked third in number of items seized and identified by forensic laboratories in Wayne County in 2010. The Wayne County ME reported a decrease in the number of deaths with heroin detected—198 in 2010, compared with 245 in 2009. Calls to the Poison Control Center about intentional use of heroin by humans climbed to 84 in 2010, compared with 76 in 2008. Treatment admissions for marijuana decreased to 14.6 percent of the publicly funded admissions during the first half of FY 2011. Of these admissions, 64.9 percent were male; 91.8 percent were African-American; and 19.3 percent were younger than 18. There was criminal justice involvement in 56.1 percent of the marijuana admissions. Marijuana represented the most common drug item seized and identified by NFLIS laboratories in Wayne County in 2010. Michigan voters approved a Medical Marihuana referendum in the 2008 election but have not seen major changes in numbers of seizures or treatment admissions. Indicators for other opiate use were lower in Detroit than for the rest of the State. The indicators for other drugs, such as methamphetamine and ecstasy, remained relatively low.

INTRODUCTION

Area Description

Detroit and surrounding Wayne County are located in the southeast corner of Michigan's Lower Peninsula. In 2010, the Wayne County population totaled less than 2 million residents (39 percent live in Detroit) and represented 18.4 percent of Michigan's 9.9 million population. Michigan was the only State in the 2010 census to lose population over the decade.

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- Michigan is the eighth most populous State in the Nation. In 2000, Detroit ranked 10th in population among cities (with 951,000 people), but the population has since dropped by 25 percent to 713,777 (currently ranked 18th). However, the six-county Metropolitan Statistical Area ranks 11th in total 2010 population in the country. Detroit has the highest percentage of African-Americans (82 percent in 2000) of any major city in the country. The following factors contribute to the probability of substance abuse in the State:
- Michigan has a major international airport in Detroit, 10 other large airports that also have international flights, and 235 public and private small airports.
- The State shares a 700-mile international border with Ontario, Canada. There are land crossings at Detroit (a bridge and a tunnel), Port Huron, and Sault Ste. Marie, and water crossings through three Great Lakes and the St. Lawrence Seaway, which connects to the Atlantic Ocean. Many places along the 85 miles of heavily developed waterway between Port Huron and Monroe County are less than one-half mile from Canada.
- Michigan has more than 1 million registered boats. In 2004, three major bridge crossings from Canada (Windsor Tunnel, Ambassador Bridge, and Port Huron) had 21.2 million vehicles cross into Michigan. Southeast Michigan is the busiest port on the northern United States border with Canada. Detroit and Port Huron have nearly 10,000 trains entering from Canada each year.

Additional factors influencing substance use in Detroit include the following:

- The percentage of individuals living below the Federal poverty level in 2000 (26.1 percent) was more than twice the national level (12.4 percent). The percentage has increased dramatically with the economic downturn.
- The percentage of working age individuals (age 21–64) with a disability was substantially higher than the national level (32.1 versus 19.2 percent, respectively) in 2000.
- There are chronic structural unemployment problems. At the State level, the unemployment rate has been among the highest in the country since 2002, with no housing appreciation boom, high foreclosure rates, and dropping prices. As of March 2011, the unemployment rate was 10.1 percent. Within the State, Detroit has one of the lowest rates of employed adults. Detroit's labor force has dropped by 42 percent since 1975, while the number of people unemployed has increased dramatically. Detroit's unemployment rate is more than double that of surrounding suburban areas.

Data Sources

Data for this report were drawn from the sources listed below:

- **Treatment admissions data** for the first half of fiscal year (FY) 2011² were provided by the Bureau of Substance Abuse and Addiction Services, Division of Substance Abuse and Gambling Services, Michigan Department of Community Health (MDCH), for the city of Detroit for those clients

²Treatment data for Detroit contained in this report may differ from that in the cross-area treatment tables in Volume I of the June 2011 CEWG report; data here are for the first half of FY 2011 (October 2010–March 2011), while data in Volume I are for CY 2010 (January–December 2010).

whose treatment was covered by Medicaid or Block Grant funds. The data do not include admissions funded by the Department of Corrections. The city of Detroit uses a “Treatment on Demand” approach without a wait list (unless the client is seeking a specific provider).

- **Mortality data** were provided by the Wayne County Medical Examiner (ME) for calendar year (CY) 2010. The Wayne County ME provided data on deaths with positive drug toxicology for 2010. These drug tests were routine when the decedent had a known drug use history, was younger than 50, died of natural causes or homicide, or was a motor vehicle accident victim, or in the absence of another clear cause of death.
- **Heroin purity data** were provided by the Drug Enforcement Administration (DEA) for 2008.
- **Drug intelligence data** were provided by the DEA and National Drug Intelligence Center.
- **Data on drugs seized and identified** in Wayne County were provided by the National Forensic Laboratory Information System (NFLIS) for 2010.
- **Poison control case data** from contact data on cases of intentional abuse of substances for 2010 were provided by the Children’s Hospital of Michigan Poison Control Center in Detroit. This center is now the only poison control center in Michigan. To provide trend data, the report covers the eastern portion of the State.
- **Numbers of prescriptions filled in the State of Michigan** for 2010 were provided by the Board of Pharmacy, Department of Community Health.
- **Drug-related infectious disease data** were provided by the MDCH on newly diagnosed cases of acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) as of April 1, 2011.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine

For the first half of FY 2011, 16.6 percent of all Detroit publicly funded treatment admissions listed either powder cocaine or crack cocaine as the primary drug of abuse (exhibit 1), down from 18.9 percent in FY 2010. Of the current cocaine treatment admissions, 91 percent were for crack cocaine. Clients seeking treatment for cocaine were predominately male (58.7 percent); African-American (91.3 percent); and older (86.9 percent were 35 or older). There was criminal justice involvement in 19.4 percent of the cocaine admissions, and 43.5 percent were homeless at the time of admission. Cocaine ranked second in the percentage of drug items seized and identified in Wayne County by NFLIS forensic laboratories in 2010 (exhibit 2).

Cocaine was detected in 229 deaths during CY 2010 in Wayne County. This was a decrease from 280 deaths with cocaine detected in CY 2009. Levamisole, a known contaminant of cocaine, was detected in 157 of the 229 cocaine-involved decedents. The number of calls for intentional human use of cocaine to the poison control center decreased from 159 in 2008 to 137 in 2010.

Heroin

In the first half of FY 2011, 33.5 percent of Detroit publicly funded treatment admissions reported heroin as the primary drug of abuse (exhibit 1), making it the most common primary drug of abuse. Clients seeking treatment for heroin were likely to be male (66.2 percent); African-American (79.1 percent); and older (86 percent were 35 or older). There was criminal justice involvement in 15.5 percent of the heroin admissions, and 26.5 percent reported being homeless at the time of admission. White clients had a younger mean age and were more likely to inject heroin than African-American clients. White primary heroin admissions had a mean age of 36.8 years, compared with 51.1 years among African-American admissions; 71.8 percent of Whites and 34.9 percent of African-American heroin admissions reported injection as the main route of heroin administration in 2010.

Heroin ranked third in the number of drug items seized and identified in Wayne County forensic laboratories in 2010 (exhibit 2). Heroin was detected in 198 deaths during CY 2010 in Wayne County, compared with 245 deaths during CY 2009. This decline may be due to an overdose program implemented at a needle exchange program. Deaths from heroin continued to occur throughout Michigan. Calls to the poison control center for intentional human use of heroin continued to increase, from 54 in CY 2007, to 76 in CY 2008, to 84 in CY 2010.

Data from 2009 suggest that heroin street prices remained stable and relatively low in Detroit. Nearly all heroin continued to be white in color, but Mexican black and brown heroin could be found. A wide range of purity could also be found, but it averaged 45.3 percent in 2008 for South American and 41.5 percent for Southwest Asian heroin. South America remained the dominant source, although heroin originating in Southwest Asia was identified.

Other Opiates

Other opiates represented 2.4 percent of primary treatment admissions in Detroit during the first half of FY 2011 (exhibit 1). Of the 113 admissions, only 11 (8.9 percent) were for illicit methadone, with the remainder categorized as other opioids. Three opioids (hydrocodone, codeine, and oxycodone) were among the top 10 drug items seized and identified in Wayne County by forensic laboratories in 2010 (exhibit 2).

Toxicology findings from the Wayne County ME laboratory showed 97 decedents with methadone positivity in CY 2010, compared with 106 decedents in 2009. Other opioids detected in decedents included hydrocodone ($n=298$ in 2010, compared with $n=261$ in 2009 and $n=183$ in 2007) and oxycodone ($n=57$ in 2010, compared with $n=64$ in 2009 and $n=43$ in 2007).

Numbers of poison control center calls for intentional human usage of hydrocodone showed increases from 2008 to 2010 ($n=979$ in 2010, compared with $n=541$ in 2009 and $n=512$ in 2008); calls for intentional human usage of oxycodone also increased. They numbered 105 in 2010, compared with 98 in 2009 and 68 in 2008. Calls for intentional human usage of methadone declined from 98 in 2009 to 60 in 2010 (there were 60 such calls in 2008).

The number of prescriptions filled in Michigan across different schedules, including for opioids, continued to climb in 2010. For schedule II medications, the number of prescriptions filled increased

from 2,977,576 in 2008, to 3,178,092 in 2009, to 3,540,701 in 2010. For schedule III medications, the number of prescriptions filled increased from 6,556,999 in 2008, to 6,791,130 in 2009, to 7,065,485 in 2010.

Stimulants

In Detroit during the first half of FY 2011, treatment data showed that admissions for stimulants other than cocaine as primary drugs of abuse included one admission for methamphetamine. The ME found 10 deaths with positive toxicology for methamphetamine during CY 2010, compared with 5 in CY 2009. The poison control center recorded six calls for intentional human usage of methamphetamine in CY 2010. Methamphetamine was not among the top 10 for number of drug items seized and identified by forensic laboratories in Wayne County (exhibit 2).

Marijuana

Marijuana indicators remained mostly stable but at elevated levels in Detroit in 2010. Domestic, Canadian, and Mexican marijuana remained widely available. Among all publicly funded substance abuse admissions in Detroit, marijuana declined to 14.6 percent in the first half of FY 2011 from 17.3 percent in the first half of FY 2010 (exhibit 1). Clients seeking treatment for marijuana were more likely to be male (64.9 percent); African-American (91.8 percent); and have criminal justice involvement (56.1 percent). Approximately one-fifth of the admissions in the first half of 2011 (19.3 percent) were younger than 18, a substantial decline from FY 2007, when they constituted 38.7 percent of all admissions.

Marijuana was the most frequently identified drug item in Wayne County by NFLIS forensic laboratories in 2010 (exhibit 2). The Wayne County ME does not test for marijuana in decedents. The number of poison control center calls for human intentional exposure to marijuana was similar in number to the calls received in 2008 ($n=99$ in 2008 versus $n=98$ in 2010).

Michigan voters approved a Medical Marijuana referendum in the 2008 election with implementation in April 2009. Local area media have reported arrests of owners of dispensaries and growing operations. However, they have not gone to court as of the writing of this report.

Club Drugs

The club drugs category includes MDMA or ecstasy (3,4-methylenedioxymethamphetamine), GHB (gamma hydroxybutyrate), flunitrazepam (Rohypnol®), and ketamine. There were five treatment admissions for club drugs during the first half of FY 2010; such admissions increased to nine during the first half of FY 2011.

Toxicology findings from the Wayne County ME laboratory showed five decedents with MDMA during CY 2008, five during CY 2009, and seven during CY 2010. MDMA ranked sixth in percentage of NFLIS drug items seized and identified by forensic laboratories in Wayne County in 2010 (exhibit 2).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

As of April 1, 2011, there were 61 newly diagnosed cases of AIDS/HIV in Michigan in the first 3 months of 2011. These newly diagnosed people were disproportionally African-American, male, and located in the five-county metropolitan Detroit area. The percentage of newly diagnosed cases with a history of injecting drugs appeared to be stable, at 6 percent in the first 3 months of 2011.

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Exhibit 1. Percentage of Treatment Admissions¹, by Primary and Secondary Drugs of Abuse, Detroit: First Half of FY 2011²

Drug	Primary Drug of Abuse (%)	Secondary Drug of Abuse (%)
NONE	0.1	56.3
Alcohol	32.4	14.0
Heroin	33.5	1.3
Cocaine	16.6	16.6
Other Opiates	2.4	1.4
Marijuana	14.6	9.6
Other Drugs	0.4	0.9

¹N=4,616; 91 percent of the cocaine is crack.

²Data are for October 2010–March 2011.

SOURCE: Michigan Department of Community Health, Division of Substance Abuse and Gambling Services, Bureau of Substance Abuse and Addiction Services

Exhibit 2. Number and Percentage of Most Commonly Seized Drug Items Analyzed in Wayne County: CY 2010¹

Substance	Number of Items Seized	Percent of Items Seized
Marijuana/Cannabis	4,055	49.5
Cocaine	1,847	22.6
Heroin	1,044	12.8
Hydrocodone	325	4.0
Alprazolam	201	2.5
MDMA (3,4-Methylenedioxymethamphetamine)	117	1.4
Oxycodone	99	1.2
BZP (1-Benzylpiperazine)	48	0.6
Codeine	33	0.4
Buprenorphine	30	0.4
Other	388	4.7
Total Items Reported	8,187	100.0

¹Data are for January–December 2010.

Note: Percentages may not sum to the total due to rounding.

SOURCE: NFLIS, DEA

Drug Abuse Trends in Honolulu and the State of Hawaii: 2010

D. William Wood, M.P.H., Ph.D.¹

ABSTRACT

This report presents 2010 data on drug use in Honolulu and the State of Hawaii. During this year, statewide primary treatment admissions and the Honolulu Police Department (HPD) arrests for cocaine decreased, while cocaine-related deaths in Oahu increased. Heroin indicators were mixed, with heroin-related deaths in Oahu and statewide primary treatment admissions showing decreases. Overall, opioid-related deaths and HPD arrests increased. Statewide primary treatment admissions and HPD arrests for marijuana increased in 2010 from 2009, and deaths with positive toxicology screens for marijuana decreased over the same period. HPD arrests related to methamphetamine recovered slightly from their downward trend; both treatment admissions and deaths related to methamphetamine decreased. Despite the continued downturn in the general economy in Hawaii, the drug economy was stable or increasing slightly.

INTRODUCTION

This report presents current information on drug use in Honolulu and the State of Hawaii, based on the Honolulu Community Epidemiology Work Group (CEWG), which is described later in this section. The Honolulu CEWG has been operational for 22 years and was established at the suggestion of the National Institute on Drug Abuse as a response to the many reports of a “new” drug arriving on Hawaii’s shores, methamphetamine. Methamphetamine—“Batu,” “Shabu,” “crystal,” or “ice” as it was known at the time—has had a profound influence on the health and social status of residents of the Hawaiian islands. Methamphetamine (methamphetamine hydrochloride [HCl]) in its purest and crystalline form has now impacted the entire Nation in one form or another. This report continues to track the indicators for that drug as well as the other drugs that are prevalent in Hawaii.

Area Description

Hawaii has a population of approximately 1.3 million residents and receives approximately 6 million visitors per year from virtually every corner of the earth. Having experienced much of the seriousness of the recession for the past several years, the economy of Hawaii is weak and only in 2010 did it start to return to its former strength. That change was led by a restoration of Japanese tourism, enhanced by increases in high-end Chinese tourism. In addition, and in spite of many efforts on Capitol Hill to reduce or restrict “ear-marked” programs, Hawaii has been the recipient of many millions of Federal capital improvement, research and development, and military dollars. However, the economy remains weakened and unable to restore many of the jobs lost over the past several years.

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State government's response to the downturn had been harsh and immediate, with massive cuts in the "discretionary funds" allocated to safety net services for marginalized populations. Social service agencies, already stressed by the increasing load of newly unemployed, have had their subsidy grants from the State terminated or cut by double-digit percentages. In addition, "reduction in force" orders were issued by the Governor, with double-digit terminations occurring in most State agencies and departments. Schools have been placed on a furlough system, with 21 days of instruction terminated because of budget cuts. (Hawaii already had the shortest school year in the Nation and now offers 120 days of instruction per year.)

The 1.3 million population of Hawaii normally contains roughly 10 percent (140,000) military residents and their dependents. High levels of troop deployments (Active Duty, National Guard, and Reserves) to Iraq and Afghanistan in 2008–2009, continuing into 2010, have also had a negative impact on the State's economy. There are fewer civilian jobs on the bases, families of deployed active duty have departed for their family homes on the mainland, and there has been a general decline in purchasing power of families whose primary earner has lost their regular wage or is forced to live within the military wage structures. Unemployment in Hawaii in 2010 averaged about 6.5 percent, having peaked in late 2008 at nearly 10 percent. Foreclosure rates in Hawaii in 2010 were the highest since statehood (1959). Despite the continued downturn in the general economy in Hawaii, however, the drug economy was stable or increasing slightly.

Data Sources

The Honolulu CEWG was unable to hold a face-to-face meeting prior to this report; this was the second biannual meeting to be cancelled since the group began in 1989. Data were therefore collected directly from the member agencies for inclusion in this report. The Hawaii High Intensity Drug Trafficking (HIDTA) program office facilitated acquisition of data from the Drug Enforcement Administration (DEA) and the Honolulu Police Department (HPD). The Honolulu County Medical Examiner's (ME's) Office provided data on toxicology screens from decedents for 2010 and participated in a consultation to clarify their data. This report is focused only on drug activities for the calendar year 2010.

Specific data sources are listed below:

- **Treatment admissions and demographic data** were provided by the Hawaii State Department of Health, Alcohol and Drug Abuse Division (ADAD). Previous data from ADAD are updated for this report whenever ADAD reviews its records. These data represent all State-supported treatment facilities (90 percent of all facilities). Approximately 5–10 percent of these programs and two large private treatment facilities do not provide data. During this reporting period, approximately 45 percent of the treatment admissions were paid for by ADAD; the remainder of admissions were covered by State health insurance agencies or by private insurance. The rate of uninsured for the State remained at about 10 percent.
- **Drug-related death data** were provided by the Honolulu City and County ME Office for 1991 through 2010. These data are based on toxicology screens performed by the ME Office on decedents brought to them for examination. The types of circumstances that would lead to a body being examined by the ME include unattended deaths, deaths by suspicious cause, and clear drug-related deaths. While the ME data are consistent, they are not comprehensive and account

for only about one-third of all deaths on Oahu. To allow a direct comparison between ME data and treatment data, the ME data were multiplied by a factor of 10 on report exhibits.

- **Law enforcement case data** for 2010 were received from the HPD for Honolulu only. In previous reports, attempts have been made to include whatever data were available from neighbor island police departments. The frequency and consistency of reporting made it impossible to continue including data from neighbor island police departments; only HPD data are now reported.
- **Drug price data** were also provided by the Hawaii HIDTA and HPD for 2010. During 2010, drug prices remained stable from 2009 in all categories.
- **Uniform Crime Reports (UCR) data** were accessed from the State's Attorney General's Web site for 1975–2009.
- **Acquired immune deficiency syndrome (AIDS) data** came from the Hawaii State Department of Health.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Powder cocaine and crack treatment admissions in Hawaii are shown on exhibit 1. From 2005 through 2010, there was an initial increase in admissions in 2005–2006, followed by a relatively consistent decrease over the following 4 years, ending in 2010 at 139 admissions. This suggests that cocaine use has declined in Honolulu over the past 5 years (exhibit 1). The reasons for the decline are uncertain and could range from market restrictions, shifts in patterns of demand, or simply choice of another drug by users. Powder cocaine/crack ranked sixth (with 1.7 percent of admissions) among primary drugs reported for treatment admissions, after methamphetamine, alcohol, marijuana, other opiates/synthetics, and other drugs. The number of admissions with cocaine as a secondary or tertiary drug of abuse was not reported by ADAD.

The Honolulu ME reported 24 deaths with a cocaine-positive toxicology screen in 2010, compared with 19 deaths in 2009 (exhibit 1). ME data have been adjusted by multiplying all death data by a constant of 10 to allow for their presentation along with treatment data. From 2005 through 2010, the number of deaths in which decedent toxicology was positive for cocaine ranged from 15 in 2005 to 27 in 2006 and to 29 in 2007; there were 24 deaths in 2010.

According to the HPD, the price of street cocaine has been stable, in spite of slight price increases at the wholesale level over the past several years. One-quarter gram of crack sold for \$20–\$40 in 2009; the same amount of powder cocaine was listed at the same price by the HPD in 2010. Police cases for cocaine/crack were at a decade high in 2006, with 305 cases (a 111-percent increase from 2005) (exhibit 2). However, they declined to 79 cases by 2010 (a 286-percent decline). Cocaine seizures (both powder and rock) by the HPD were variable, with a range from about 4,000 grams (2010) to 15,000 grams (2006) (exhibit 3).

Heroin and Other Opiates

Heroin in Honolulu is almost certainly black tar heroin. However, 2009 data indicated that the presence of heroin in the community was declining rapidly in Honolulu, even though black tar heroin was readily available in all other areas of the State. China white heroin has been uncommon in Hawaii for many years, but it was occasionally available for a premium price. Drug items seized and identified as heroin in Honolulu ($n=1,470$ grams of black tar and no white powder heroin) increased slightly in 2010, compared with 2009 ($n=1,410$ grams black tar and no powder) (exhibit 3). These 2 years showed lower numbers of heroin seizures than in 2008 ($n=3,143$ grams of black tar and 1 gram of powder). Exhibit 3 shows the fluctuations in seizures. In total, the amount of drug items seized and identified as heroin over the past 5 years was small compared with other drugs. According to the HPD, black tar heroin prices in 2010 have remained stable since 2007 in Honolulu.

Data from 2010 showed a slight increase in numbers of heroin primary treatment admissions, from 165 in 2009 to 238 in 2010 (exhibit 4). In 1998, record levels of treatment admissions were recorded ($n=501$ admissions). In 2010, however, heroin ranked seventh if considered alone (1.9 percent), or fifth if considered along with other opiate admissions (4.4 percent), among total treatment admissions.

The Honolulu ME reported that deaths in which heroin were detected fell to 29 in 2008; however, in 2010, the number of heroin-related deaths numbered 47. The ongoing difficulty in specifying the residuals of heroin versus morphine and other opiates continued, leaving the ME unable to accurately determine which cases were heroin and which were not. Because of this, all opiate deaths, along with heroin deaths, are also shown in exhibit 4. Decedents with a positive toxicological result for other opiates were primarily composed of those in whom hydrocodone, oxycodone, morphine, or methadone were detected; they numbered 66 decedents in 2010. The exact medication (e.g., OxyContin®) was not specified.

The HPD reported 27 heroin cases in 2010, an increase from the 7 heroin cases in 2009. However, given that there were 53 heroin cases in 2008, 19 cases in 2007, 15 cases in 2006, and 31 cases in 2005, the increase was more of a return to the norm (exhibit 5). Despite the very high number of cases reported in 1998 ($n=87$), the decade-long trend in heroin cases has been a downward one from the 54 cases reported in 1995.

Methamphetamine

While “speed” has been present in the islands for decades, it was generally of low potency and had great variability in its availability and quality. In 1985, there were early reports of a new drug called “Shabu” or “Batu”². The island’s methamphetamine problem has existed for more than 25 years, and methamphetamine has remained the drug of choice with the 18–34 age group based on treatment admissions data. The concerns of treatment providers and law enforcement officers have been well documented in these reports over the years. Hawaii’s methamphetamine has always been of extremely high purity³. As mentioned in previous reports, anecdotal evidence emerged in the latter part of 2005 that suggested that even though the price of the drug was constant, the purity

²Crystal methamphetamine is known as *Shabu* in Japan and Korea and as *Batu* in the Philippines.

³Cunningham, James K., Lon-Mu Liu, and Russell Callaghan (2009). *Impact of US and Canadian precursor regulation on methamphetamine purity in the United States*. *Addiction*, (104: 441-453).

had declined. According to HIDTA, the purity of several samples submitted during late 2005 was in the mid-50s rather than in the high 90s. The high purity is necessary for smoking the drug, Hawaii's chosen route of administration.

Statewide, the spike in methamphetamine treatment admissions reported in 2009 was short-lived, and the previously reported 4-year decline continued. The 2009 admissions data ($n=3,693$ or 33.8 percent of all admissions) were preceded in 2008 by 2,726 admissions (32.1 percent of total treatment admissions) (exhibit 6). This represented a decline from 2005 ($n=3,353$), 2006 ($n=3,253$), and 2007 ($n=3,209$). The demand for treatment space for methamphetamine abusers has increased by nearly 2,000 percent since 1991, a situation that continues to outstrip the treatment system's capacity. There were 2,764 primary treatment admissions for methamphetamine in 2010.

Police data for methamphetamine were more varied and at a much lower level than treatment data. HPD methamphetamine case data for Honolulu continued to vary considerably from year to year. The highest recorded number of cases in the past decade was in 2003 ($n=984$), the lowest number ($n=502$) was in 1996 (exhibit 7). For 2005, 962 cases were registered by the HPD, which was the second highest number of cases since data collection began in 1991. The 2006 number of cases was 722, and the number in 2007 declined again to 567 cases. The number of cases continued to decline in 2008 and 2009, with 400 cases and 337 cases, respectively, while in 2010, there were 404 cases (exhibit 8).

Between 1994 and 2000, the Oahu ME mentioned crystal methamphetamine in 24–38 cases per year (exhibit 7). In 2001, that number increased to 54, and methamphetamine-positive decedents increased again to 62 in 2003. They numbered 56 in 2004 and 88 in 2005. This represented 97.3 deaths per 1,000,000 population for the island of Oahu in 2005. The 2010 number of decedents with methamphetamine-positive toxicology reports was 76, according to the ME (exhibits 6 and 7).

Crystal methamphetamine prices remained constant for street purchases and for wholesale size purchases in 2009 and 2010. The drug is sold in the islands as “clear” (a clear, white form) or “wash” (a brownish, less processed form). Ice prices were approximately \$100 for 0.25 grams, and wash was priced at approximately \$50 per 0.25 gram in 2008. Wash sold for \$425 for 3.5 grams, and clear sold for \$700 for the same quantity.

Drug items seized and identified as methamphetamine decreased in 2010 to 43,748 (exhibit 3). The total of 101,261 grams of ice seized and identified in 2008 was the highest in many years. In 2007, a total of 43,790 grams of ice was seized, compared with 32,277 grams of ice seized in 2006, 74,767 grams in 2005, and 63,000 grams in 2004. The continual increases in the amount of methamphetamine seized and identified and the total absence of powder methamphetamine seem to suggest a change in methamphetamine use. This sort of pattern, although not as extreme, has occurred previously and without the indicators of drug shortage (high seizures as well as a general price increase). This trend should be followed in future data collection periods.

Marijuana

Statewide marijuana treatment admissions reached their highest level since data collection began in 1991, with 2,408 primary marijuana admissions in 2010 (exhibit 9). This represented a continuation of the increases in admissions that have occurred since 2005. As shown in exhibit 10, the

2010 admissions were nearly 10 times the number of admissions in 1992 and represented a nearly 33-percent increase from 2005. Clients admitted for treatment in 2010 continued to be younger and referred by the courts and schools. While marijuana was listed as the primary drug of use at admission, many users of other drugs use marijuana as a secondary or tertiary drug of choice (no data shown).

Between 1994 and 1999, the Oahu ME reported 12–21 deaths per year in which marijuana was found in the specimens submitted for toxicology screening. Those numbers increased to 25–45 between 2000 and 2005. In 2009, the number of decedents with a positive tetrahydrocannabinol (THC) toxicological screen was 54, the highest proportion of screened decedents since data collection began in 1991 (exhibit 9). Marijuana was used with other drugs if there was a drug-related death.

The HPD continued to monitor, but to not specifically report, all case data for marijuana. Instead, marijuana cases are lumped together with other drugs under the category “Detrimental Drugs,” an artifact of the UCR system. As mentioned in previous CEWG reports, possession cases remained steady at about 650 per year, although distribution cases have continued to increase. Law enforcement sources speculated that much of the Big Island’s marijuana is brought to Oahu for sale. However, in addition to neighbor island marijuana, marijuana is imported from Mexico (low grade) and from Canada (BC Bud, high grade). Exhibit 11 shows that 211 cases of detrimental drugs were reported by the HPD in 2010. This compares with 178 cases in 2009, 186 cases in 2008, 125 cases in 2007, 120 cases in 2006, and 116 cases reported in 2005. In 2010, 5,768 marijuana plants and 105,276 grams of processed (dried) marijuana were seized (exhibit 3). In 2009, the HPD reported seizures of 6,814 plants and 81,966 grams of processed marijuana on Oahu. In 2008, 4,737 marijuana plants were seized, along with a total of 95,188 grams of dried marijuana. This compares with the 4,431 marijuana plants seized in 2007 and the 73,208 grams of dried marijuana seized the same year. The comparable numbers were 3,119 plants and 153,299 grams of dried marijuana in 2006 and 2,099 plants and 148,522 grams of dried marijuana seized in 2005. Marijuana cost \$20–\$40 per joint and \$275–\$500 per ounce during 2010.

Other Drugs

MDMA

MDMA (3,4-methylenedioxymethamphetamine), or ecstasy, is present in Hawaii, although most indicators did not detect its presence. Individuals were not entering treatment with MDMA as their primary drug of use; they were not being arrested by the HPD; and they were present in ME data. However, HPD seizure data shows MDMA seizures. In 2010, 33,225 ecstasy tablets were seized, as well as 143 grams of ecstasy powder (exhibit 3). In addition, National Forensic Laboratory Information System (NFLIS) data did not show MDMA as one of the top five drugs seized and identified in Honolulu until 2003. Between 2003 and 2008, the MDMA in analyzed forensic laboratory drug samples increased to the point where MDMA moved past heroin into fourth place, where it remains.

Depressants

Barbiturates, sedatives, and sedatives/hypnotics are combined into this category. Few data were provided about these drugs in the islands. ADAD maintains three categories under this heading:

benzodiazepines, other tranquilizers, and barbiturates. Treatment admissions for these drugs were minimal in terms of impact on the State system. The number of ME mentions for depressants in Honolulu has remained stable for several years, numbering five or less. The HPD has not reported depressant case data since 1991.

Hallucinogens

Statewide, hallucinogen treatment admissions have totaled less than five per year during recent periods. No hallucinogen ME mentions have been reported since the beginning of data collection.

TREATMENT ADMISSIONS SUMMARY: 1991–2010

As has been the case for the past 22 years of reports from Hawaii, Hawaiians⁴ and Caucasians remained the majority (64 percent of all admissions) among the 29 identified ethnic groups (plus the “other” and “unknown/blank” categories) accessing Alcohol and Drug Abuse Division (ADAD) services for treatment. During 2010, 43.9 and 20.1 percent of the admissions to treatment services were for those self-identifying as Hawaiian or Caucasian, respectively. All other groups represented significantly lower proportions of admissions. A 1.85:1 ratio of males to females characterized treatment admissions (64.9 percent male); clients younger than 18 (32.0 percent) and clients in the 25–34 (20.7 percent) and 35–44 (16.2 percent) age groups dominated admissions. One-third (32.2 percent) of admissions were from the criminal justice system and court referrals, 10.1 percent came from State schools, 2.7 percent came from Child Protective Services, and 2.5 percent were from other health care providers. Thirty percent (33.4) of all admissions were students.

Methamphetamine continued to be the leading primary substance of abuse for clients admitted to treatment, accounting for 33.8 percent of all admissions in 2010. Marijuana remained the second most frequently reported primary substance for treatment admissions (29.7 percent), with alcohol (27.1 percent) the third primary substance self-reported on admission to treatment. As in other jurisdictions, almost all admissions were polydrug treatment admissions, and most listed alcohol as a substance of abuse in addition to the primary drug at admission. While marijuana abuse accounted for the majority of treatment admissions among clients younger than 18 (the most frequently admitted age group), the abuse of ice or crystal methamphetamine remained the major treatment category for all admissions.

Exhibit 10 shows the impact that methamphetamine and marijuana have on the demand for treatment services in the State. At the beginning of this 20-year dataset, as with most alcohol and drug treatment programs operated at the State level, the biggest contributor of clients for treatment came from those experiencing difficulties with alcohol (not shown on the exhibit). This situation changed in the mid-1990s, with methamphetamine taking the lead position in terms of frequency of reports of the drug most responsible for the admission. It has not lost that lead position over the past 15 years. Marijuana also has a position of importance for substance abuse treatment services in the State in that it usually is the second most commonly mentioned drug responsible for the admission. The growth of these two sets of clients has eclipsed all others and has created a serious problem in terms of provision of adequate services to other drug users.

⁴Hawaiians are defined as those who state on admission that they are of Hawaiian ancestry and may or may not be pure Hawaiian.

All other drugs represent small numbers on this chart. This is not reflective of the severity of the addiction to these other drugs or of the gravity of the impact of these drugs on the individual and their family. Rather it is simply an issue of proportions. Relative to all drug treatment admissions, drugs other than marijuana and methamphetamine, including alcohol abuse, do not impact the drug treatment system of the State. The reasons for so many marijuana admissions occurring is a mystery, since the sorts of treatment most of the State's treatment facilities provide do not seem appropriate for adolescents or for drugs such as marijuana.

HPD DRUG CASE SUMMARY: 1991–2010

Exhibit 12 shows the numbers of HPD cases for selected drugs by drug and by year. While there are some parallel increases and decreases in the number of drug cases over time, for the most part the drugs appear to increase and decrease quite independently of one another. Exceptions are the concomitant increases in cocaine cases and methamphetamine cases from 1991 to 1994, the decrease in marijuana cases and cocaine cases between 1995 and 2002, and the inverse relationship demonstrated between the decline in methamphetamine cases in 2005 and the increase in cocaine cases during the same time period.

DRUG SEIZURE SUMMARY: 2005–2010

Exhibit 3 shows HPD report seizure data for the major drugs found in Honolulu from 2005 to 2010. Cocaine data are separated and categorized by the form of the drug at seizure. While powder cocaine is not nearly as common on the streets of Hawaii as rock or crack cocaine, the seizure data suggest the reverse, with many more grams of powder cocaine seized than grams of rock cocaine. However, information from both street informants and the police confirm the original statement. In addition, seizure data show a different pattern of powder seizures compared with rock cocaine seizures. Powder seizures peaked in 2006, whereas the rock cocaine seizures reached their highest numbers in 2009 and 2010.

Heroin in Honolulu is almost totally black tar heroin from Mexico. The seizure data confirm this statement over the 5-year period, with many times more black tar heroin seized than white powder. However, the relative amounts of heroin, regardless of type, are quite small, compared with the amount of other drugs seized. No discernable pattern of seizures based on year of seizure can be seen.

Seizure of marijuana plants has undergone considerable change in the past decade in Hawaii. The former "operation green harvest," which was a collaborative effort of the National Guard and the local police departments, was stopped during this period, resulting in a large reduction in the number of plants seized on all islands. The number of plants seized each year has more than tripled during this time period.

Methamphetamine seizure data do not differentiate between ice and wash, or between solid versus liquid forms of the drug. Discussions with HPD sources revealed that there was little wash or liquid methamphetamine in Hawaii during this reporting period, suggesting that the imported drug was already in high purity ice form. It is therefore expected that most, if not all, of the methamphetamine seized was ice.

MDMA/ecstasy is rarely reported in Honolulu indicators. NFLIS is the primary source of data with respect to the presence of ecstasy in Hawaii. The lack of HPD seizure data for MDMA corresponds with the low number of MDMA items seized and identified by NFLIS laboratories (exhibit 13).

NFLIS DATA: 2005–2010

Exhibit 13 shows NFLIS data for Honolulu for 2005 through 2010. The data originate in the HPD forensic laboratory and relate to drugs seized and otherwise collected in the performance of the department's investigation and enforcement duties.

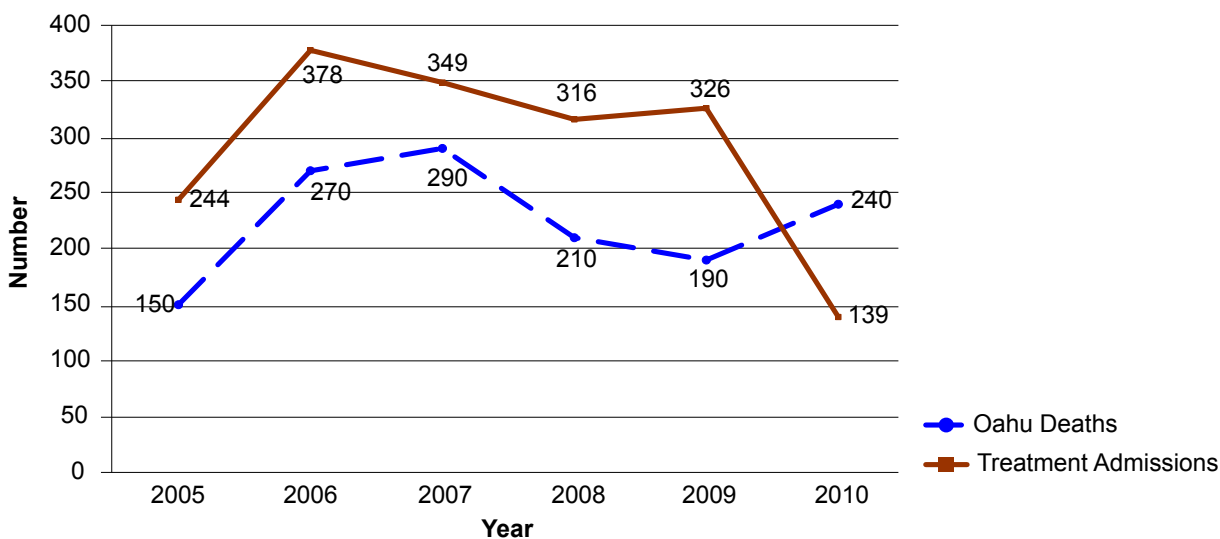
Within the data presented in this exhibit are several findings that relate to the dominance of methamphetamine within the drug community of Hawaii. First, the proportion of all samples collected that were methamphetamine ranged between approximately 40 and 52 percent across the 6 years of data. However, it is important to note that for 2010, after a notable decline in methamphetamine samples for 2008, a 4-percent increase in such samples was reported. The second most commonly occurring drug in the samples was marijuana/cannabis, with constant proportions between 25 and 28 percent. Third on the list of drugs consistently appearing across the 6 years was cocaine. Cocaine identifications ranged between 14 and 18 percent. Heroin was usually the fourth drug in terms of proportion of all drugs sampled across the 3 years and was consistently between 1 and 2 percent. These four drugs—methamphetamine, marijuana/cannabis, cocaine, and heroin—represent a cumulative total of between 86.4 and 92.4 percent of drug items identified in area forensic laboratories. However, in 2004, MDMA (3,4-methylenedioxymethamphetamine) samples were notable for their numbers, exceeding heroin numbers. All other drugs represented between 6 and 11 percent of the total samples of drug items tested.

INFECTIOUS DISEASES RELATED TO DRUG USE

HIV/AIDS 1993–2010

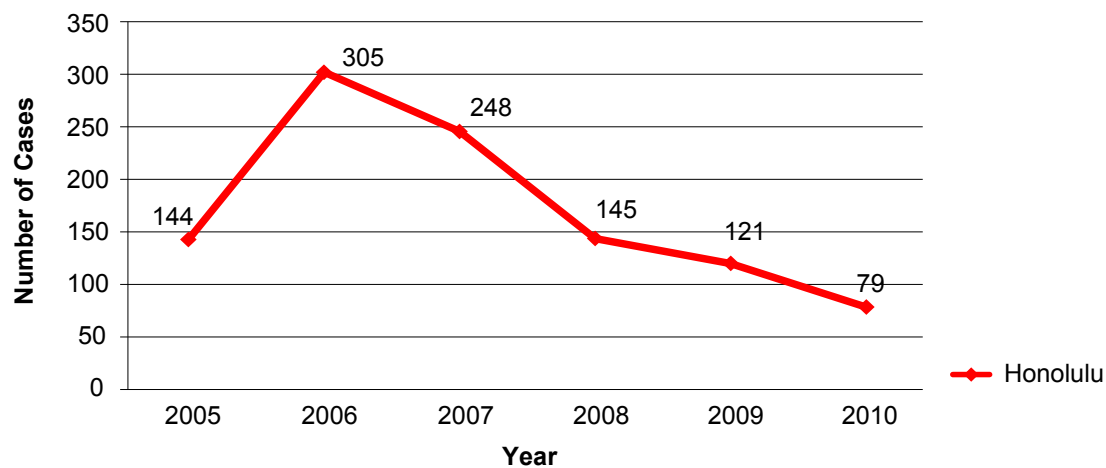
Over the years, the CEWG has had an interest in the substance use behaviors of individuals infected with the human immunodeficiency virus (HIV) and AIDS and the pathways leading to those infections. In particular, the combination of intravenous drug use and the efficacy of health education efforts to prevent the spread of HIV within that population have been of primary interest. Exhibit 14 shows 15 percent of the population labeled either as injection drug users (IDUs) or MSM (men who have sex with men)/IDU. In Hawaii, the first legal needle exchange program continues to operate, providing IDUs with clean needles and reducing the risk for cross-contaminated infections. The relative proportions of the population registered with the State of Hawaii HIV/AIDS program has remained quite stable for over a decade.

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Exhibit 1. Number of Cocaine Deaths¹ for Oahu and Treatment Admissions for Hawaii: 2005–2010

¹Oahu deaths have been multiplied by a factor of 10 to allow them to be represented on this graph.

SOURCES: Honolulu City and County Medical Examiner Office; Alcohol and Drug Abuse Division, Hawaii State Department of Health

Exhibit 2. Number of Cocaine-Related Police Cases, Honolulu: 2005–2010

SOURCE: Honolulu Police Department

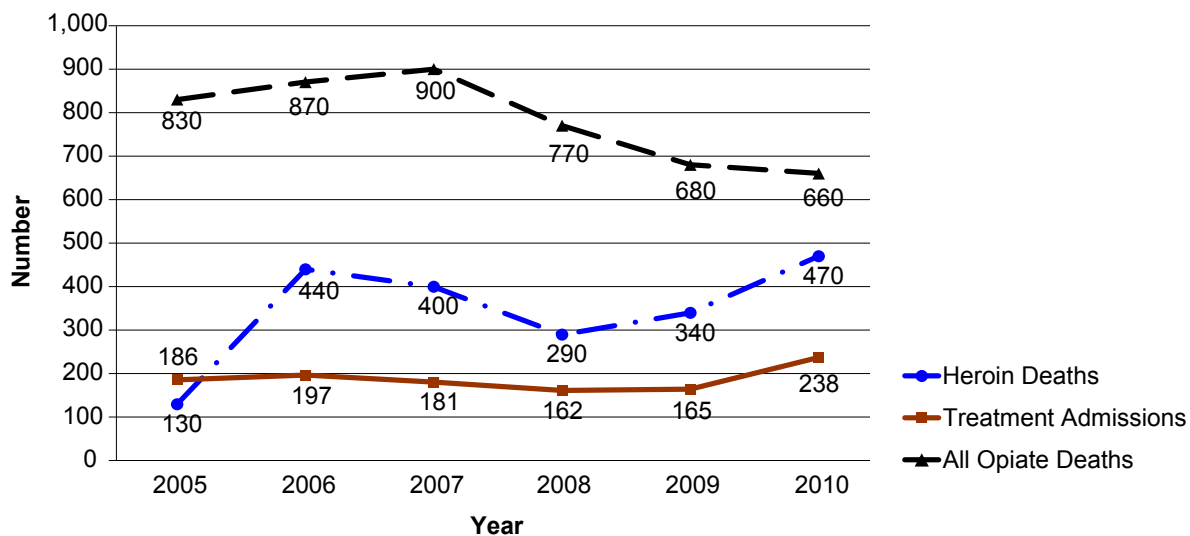
Exhibit 3. Number of Drug Seizures, Honolulu: 2005–2010

Drug	Seizure	Year
Cocaine - Powder	8,797	2005
Cocaine - Powder	14,394	2006
Cocaine - Powder	13,571	2007
Cocaine - Powder	9,343	2008
Cocaine - Powder	3,349	2009
Cocaine - Powder	2,839	2010
Cocaine - Rock	464	2005
Cocaine - Rock	482	2006
Cocaine - Rock	732	2007
Cocaine - Rock	68	2008
Cocaine - Rock	900	2009
Cocaine - Rock	1,435	2010
Ecstasy - Powder	126	2005
Ecstasy - Powder	0	2006
Ecstasy - Powder	6	2007
Ecstasy - Powder	116	2008
Ecstasy - Powder	0	2009
Ecstasy - Powder	143	2010
Ecstasy - Tablets	23	2005
Ecstasy - Tablets	6,138	2006
Ecstasy - Tablets	5,073	2007
Ecstasy - Tablets	12,765	2008
Ecstasy - Tablets	4,110	2009
Ecstasy - Tablets	33,225	2010

Drug	Seizure	Year
Heroin - Powder	19	2005
Heroin - Powder	2	2006
Heroin - Powder	0	2007
Heroin - Powder	1	2008
Heroin - Powder	0	2009
Heroin - Powder	0	2010
Heroin - Tar	3,603	2005
Heroin - Tar	2	2006
Heroin - Tar	33	2007
Heroin - Tar	3,143	2008
Heroin - Tar	1,410	2009
Heroin - Tar	1,470	2010
Marijuana - Plants	2,099	2005
Marijuana - Plants	3,119	2006
Marijuana - Plants	4,431	2007
Marijuana - Plants	4,737	2008
Marijuana - Plants	6,814	2009
Marijuana - Plants	5,768	2010
Marijuana-Processed	148,522	2005
Marijuana-Processed	153,299	2006
Marijuana-Processed	73,208	2007
Marijuana-Processed	95,188	2008
Marijuana-Processed	81,966	2009
Marijuana-Processed	105,276	2010
Methamphetamine	74,768	2005
Methamphetamine	32,277	2006
Methamphetamine	43,790	2007
Methamphetamine	101,261	2008
Methamphetamine	55,124	2009
Methamphetamine	43,748	2010

SOURCE: Honolulu Police Department

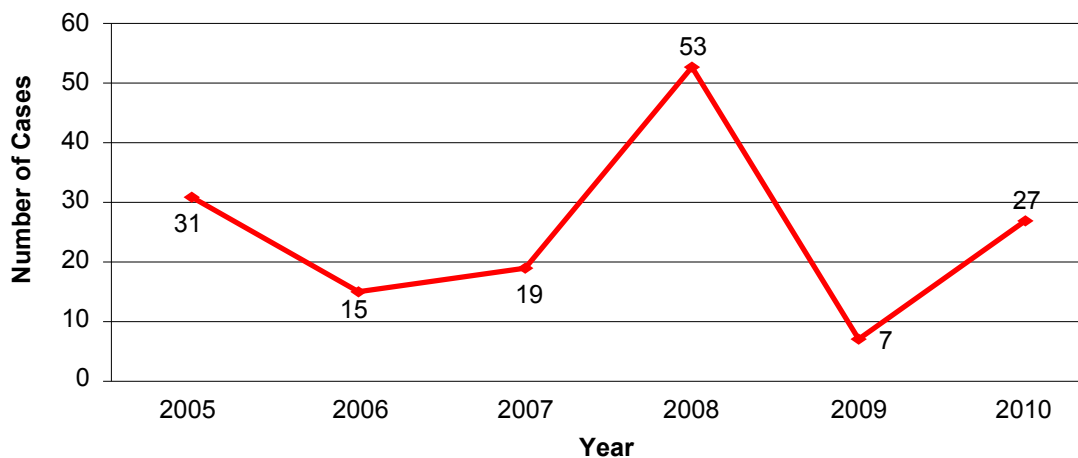
Exhibit 4. Number of Heroin and All Opiate Deaths¹ for Oahu and Treatment Admissions for Hawaii: 2005–2010



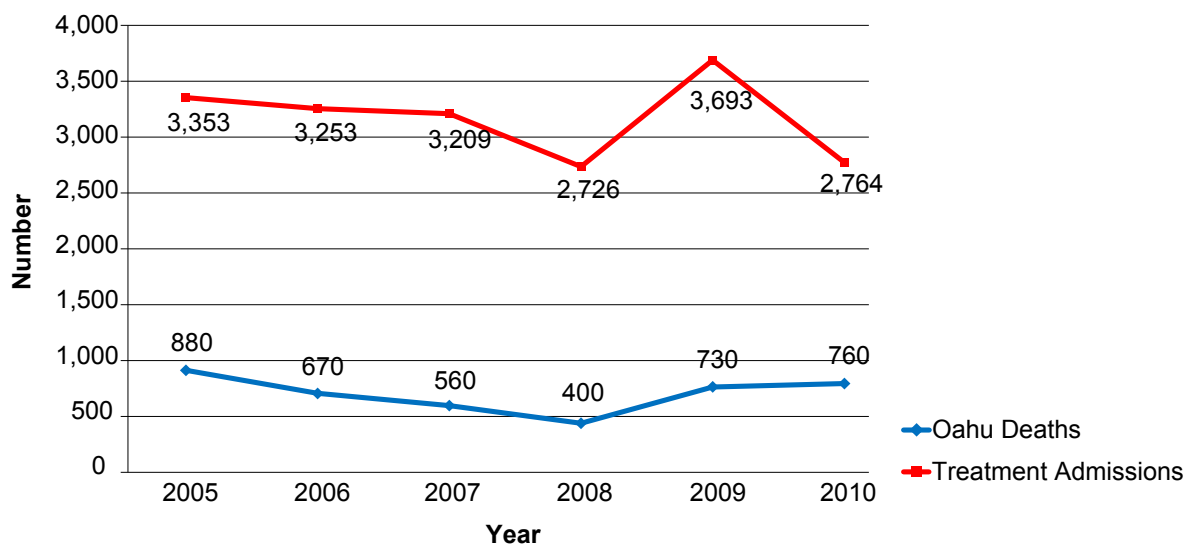
¹Oahu deaths have been multiplied by a factor of 10 to allow them to be represented on this graph.

SOURCES: Honolulu City and County Medical Examiner Office; Alcohol and Drug Abuse Division, Hawaii State Department of Health

Exhibit 5. Number of Heroin-Related Police Cases, Honolulu: 2005–2010

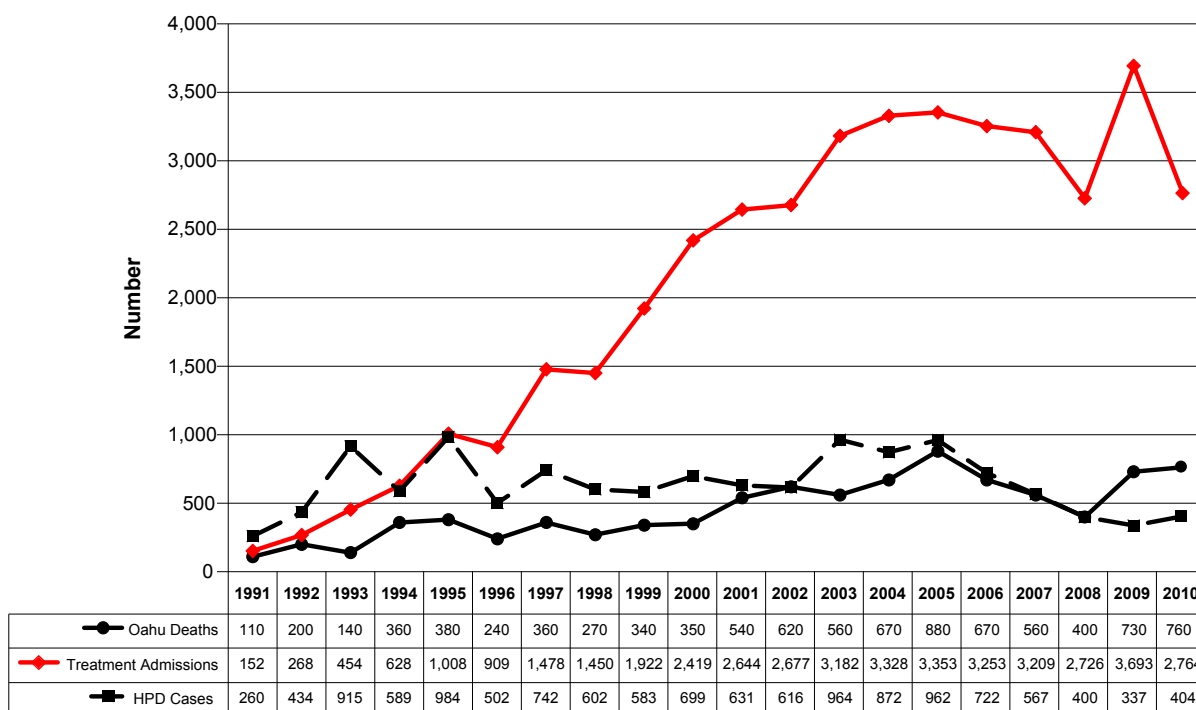


SOURCE: Honolulu Police Department

Exhibit 6. Number of Methamphetamine-Related Deaths¹ for Oahu and Treatment Admissions for Hawaii: 2005–2010

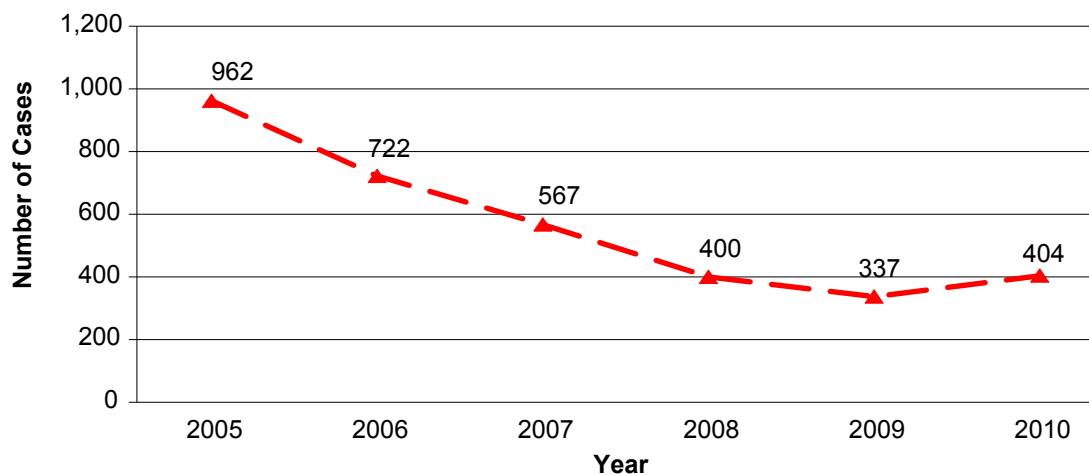
¹Oahu deaths have been multiplied by a factor of 10 to allow them to be represented on this graph.

SOURCES: Honolulu City and County Medical Examiner Office; Alcohol and Drug Abuse Division, Hawaii State Department of Health

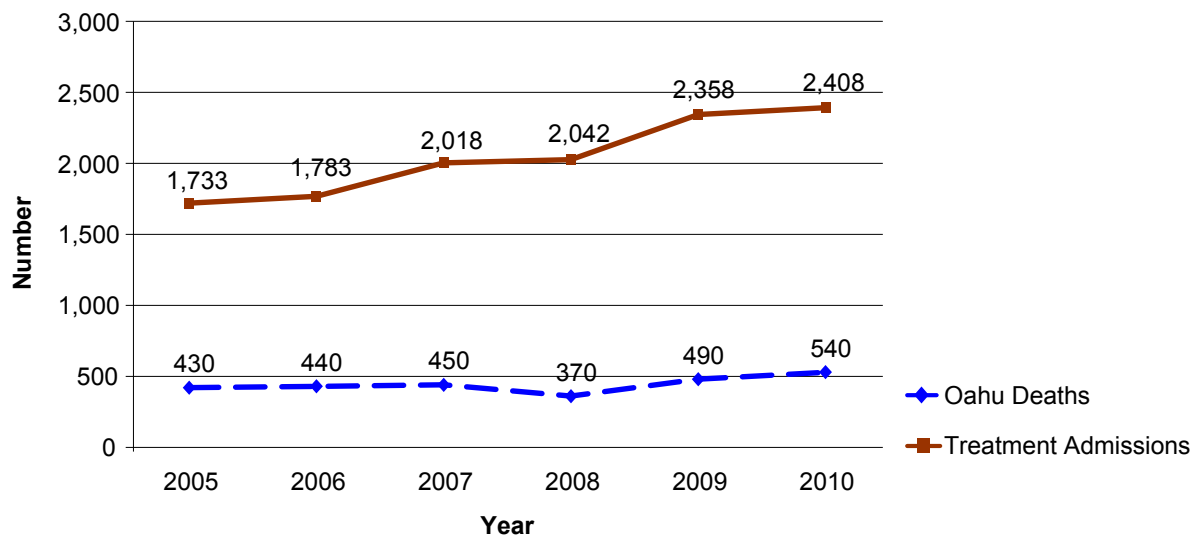
Exhibit 7. Number of Oahu Deaths¹, Hawaii Treatment Admissions, and Honolulu Police Cases, for Methamphetamine: 1991–2010

¹Oahu deaths have been multiplied by a factor of 10 to allow them to be represented on this graph.

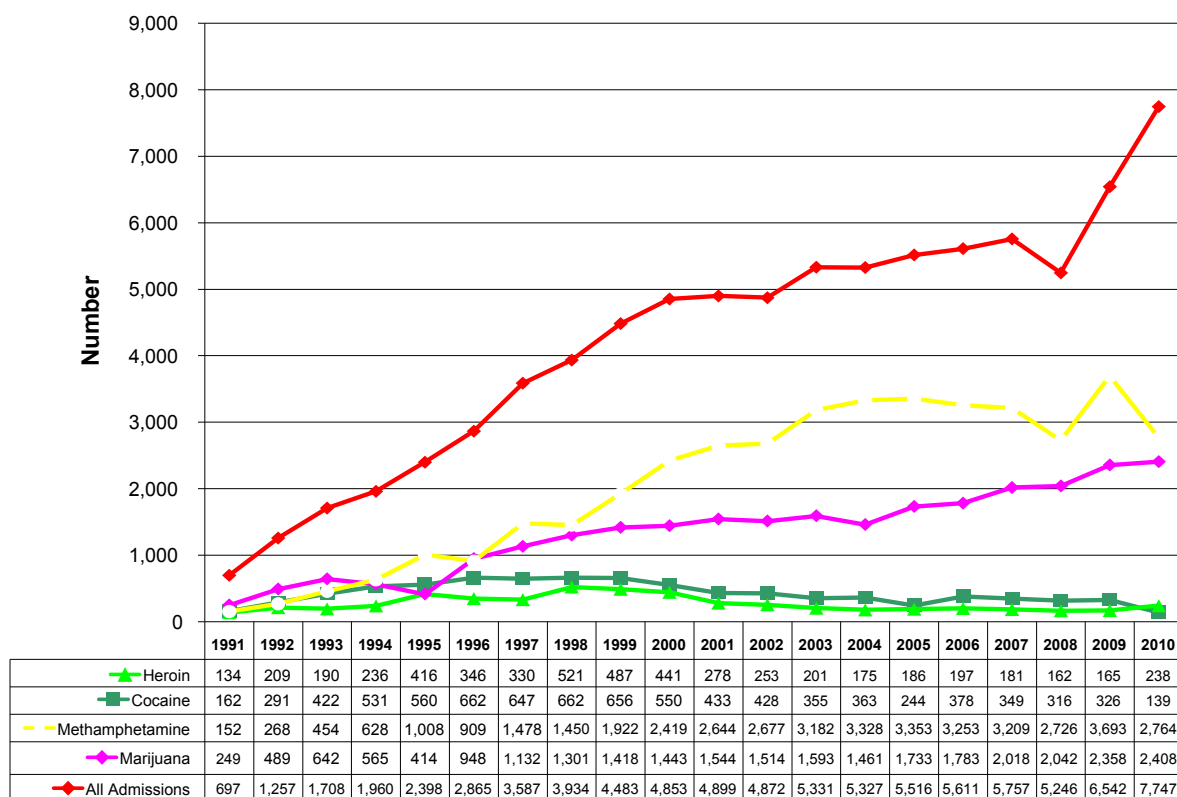
SOURCES: Honolulu City and County Medical Examiner Office; Alcohol and Drug Abuse Division, Hawaii State Department of Health; Honolulu Police Department

Exhibit 8. Number of Methamphetamine-Related Police Cases, Honolulu: 2005–2010

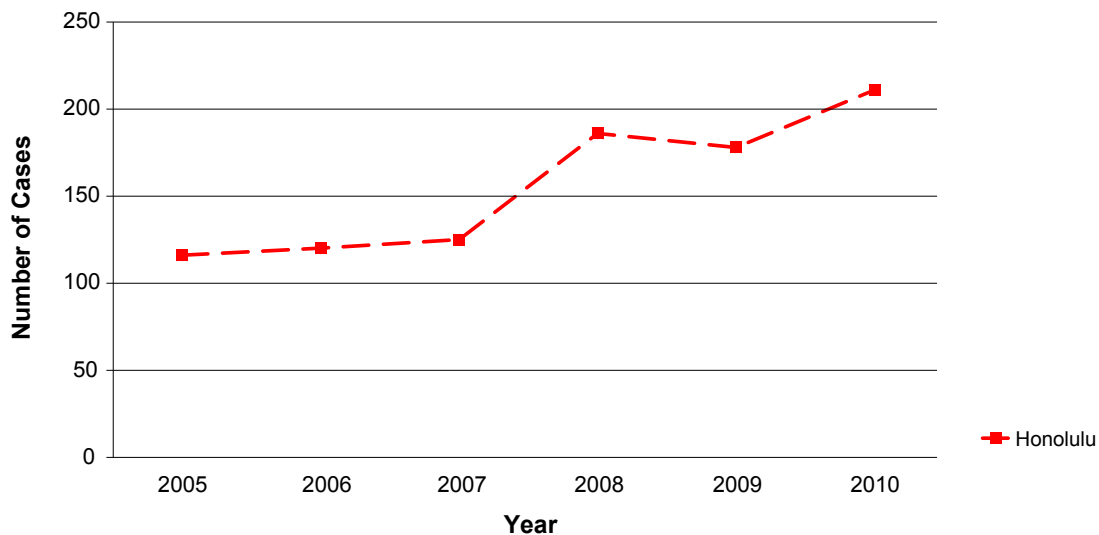
SOURCE: Honolulu Police Department

Exhibit 9. Number of Marijuana Deaths¹ for Oahu and Treatment Admissions for Hawaii: 2005–2010¹Oahu deaths have been multiplied by a factor of 10 to allow them to be represented on this graph.

SOURCES: Honolulu City and County Medical Examiner Office, Alcohol and Drug Abuse Division, and Hawaii State Department of Health

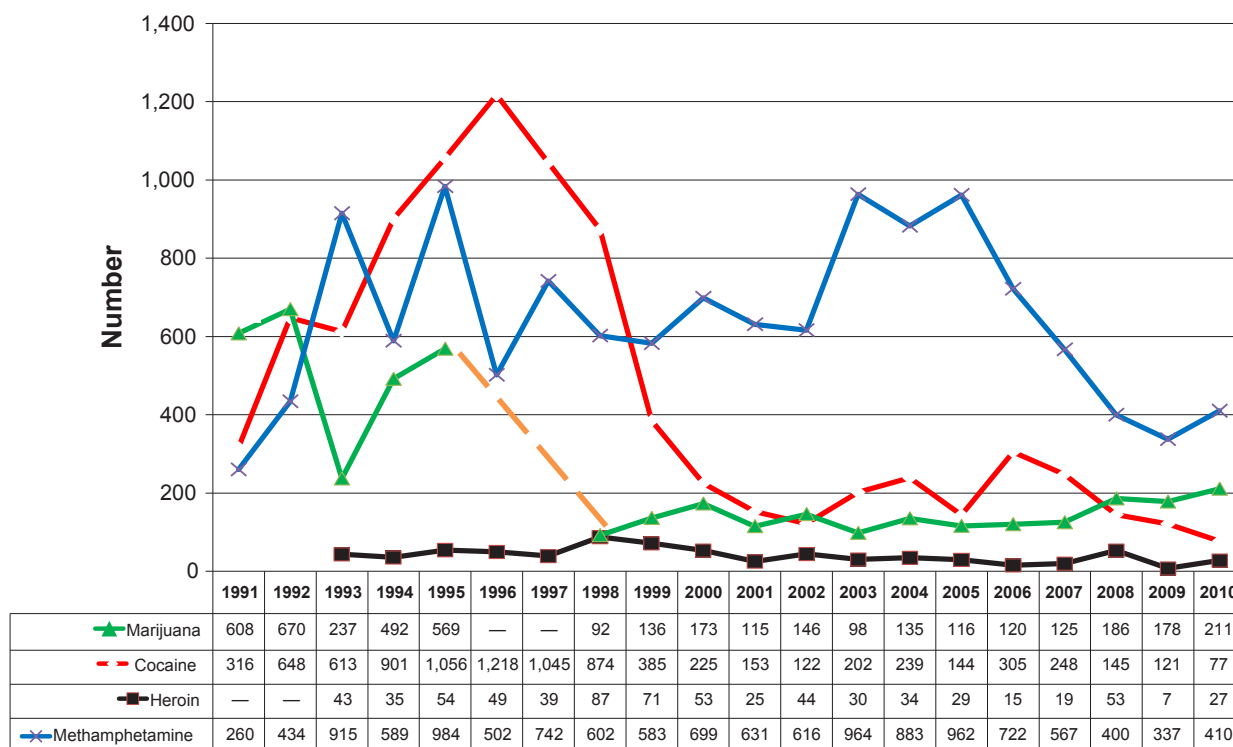
Exhibit 10. Number of Treatment Admissions for Selected Drugs, Hawaii: 1991–2010

SOURCE: Alcohol and Drug Abuse Division, Hawaii State Department of Health

Exhibit 11. Number of Marijuana Police Cases, Honolulu: 2005–2010

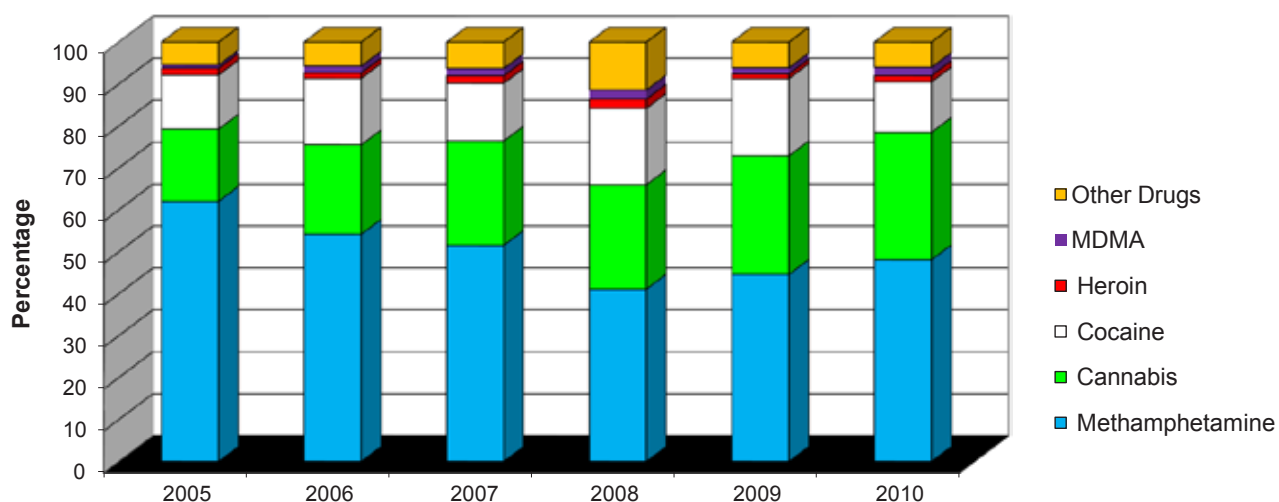
SOURCE: Honolulu Police Department

Exhibit 12. Number of Arrests by Drug and Year, Honolulu: 1991–2010



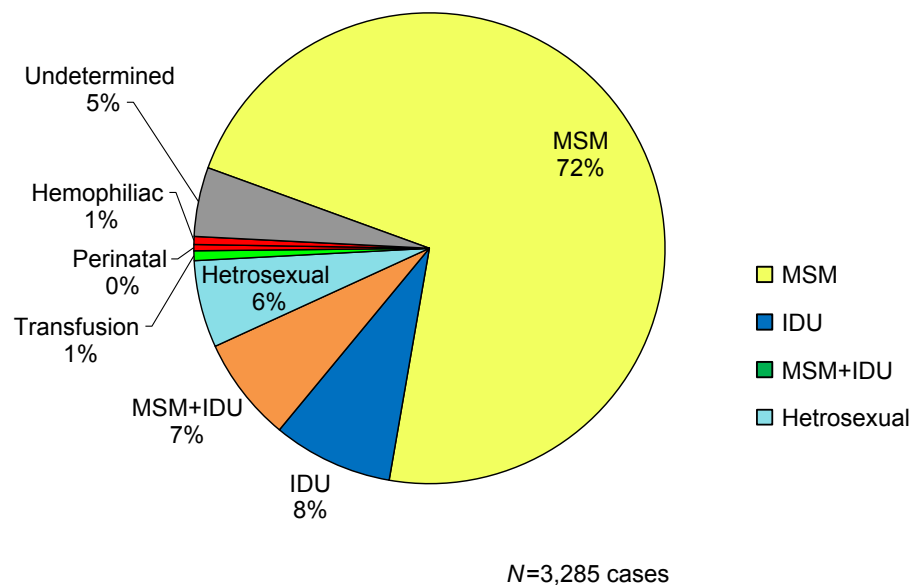
Notes: Marijuana arrest data were not available for 1996–1998. Heroin data were not available for 1991–1992.
SOURCE: Honolulu Police Department

Exhibit 13. Percentage of Drugs Analyzed, Honolulu: 2005–2010



SOURCE: NFLIS, DEA

Exhibit 14: Percentage of AIDS Cases, by Mode of Exposure, Hawaii: 1993–2010



NOTES: MSM=men who have sex with men; IDU= injection drug users.

SOURCE: Hawaii State Department of Health

Patterns and Trends in Drug Abuse in Los Angeles County, California: 2010

Mary-Lynn Brecht, Ph.D.¹

ABSTRACT

Marijuana as a primary drug of abuse accounted for nearly one-fourth of Los Angeles County alcohol and drug treatment admissions in 2010, continuing a decade's upward trend. Increases were reported in 2010 in proportions of drug items seized and identified in Los Angeles County as marijuana/cannabis by the National Forensic Laboratory Information System (NFLIS); 41.0 percent of the drug items were identified as containing marijuana/cannabis, compared with 37.9 percent of the total in 2009. Increases were shown as well in cases involving marijuana from the California Poison Control System. Heroin accounted for nearly one-fifth of treatment admissions in Los Angeles County in 2010, and methamphetamine accounted for approximately one-sixth (16 percent); levels increased in the second half of 2010 for both drugs over the previous 6-month period. Other indicators were mixed for heroin. Indicator trends for methamphetamine showed increases in the proportion of items seized and identified by NFLIS laboratories containing methamphetamine, the proportion found in coroner toxicology cases, and the proportion of calls to the California Poison Control System. Cocaine accounted for 10 percent of Los Angeles County treatment admissions in 2010, with levels continuing a downward trend of several years. Marijuana/cannabis, cocaine, and methamphetamine together accounted for 82 percent of all drug items seized and identified in Los Angeles area NFLIS laboratories. Reports of narcotics (other than heroin/morphine) showed mixed trends, with slight declines in treatment admissions (although continuing at relatively low levels). Hydrocodone was the most prevalent pharmaceutical, noncontrolled drug item identified in the NFLIS system in 2010. MDMA (3,4-methylenedioxy-methamphetamine) showed increases across the four primary data indicators—treatment admissions, coroner toxicology cases, calls to the California Poison Control System, and number and proportion of drugs seized and identified by NFLIS laboratories. All retail drug prices have remained relatively stable since 2007.

INTRODUCTION

Area Description

Los Angeles County is the most populous county in the Nation (2010 census population of 9,818,605, a 3.1-percent increase from the 2000 census figure). Approximately 26 percent of California's residents live in Los Angeles County. Approximately one-half of all Los Angeles County residents are female (50.4 percent); one-quarter (25.4 percent) are younger than 18; and 10.6 percent are 65 or older. The racial and ethnic composition of Los Angeles County residents is diverse and in 2010 included the following non-Hispanic categories: 27.8 percent White, 13.5 percent Asian, 8.3 percent

¹The author is affiliated with the University of California at Los Angeles.

Black/African-American, and 1.8 percent other race/ethnicity or multiethnic. Hispanics constituted 47.7 percent of the 2010 population.

Los Angeles County encompasses approximately 4,752 square miles, including land and ocean/island areas. It is bordered by the Pacific Ocean, and Ventura, Kern, San Bernardino, and Orange Counties. Los Angeles County is a mix of heavily urbanized areas and lesser-populated desert and mountain inland areas in the northern and eastern portions of the county. There are 88 cities in Los Angeles County and 140 unincorporated areas.

According to the Drug Enforcement Administration (DEA), Los Angeles County is on the trafficking distribution route for illicit drugs, including heroin, cocaine, marijuana, and methamphetamine, primarily from Mexico. In addition, marijuana is cultivated in substantial quantities, and methamphetamine is produced within the State. Mexican drug trafficking organizations and criminal groups, aligned with the major drug cartels in western Mexico, are cited as a major concern of law enforcement groups in the Los Angeles area.

Data Sources

This report describes drug abuse-related indicators in Los Angeles County for 2010 (or most recent data available), as well as trends in selected indicators for several available years prior to and including 2010. Information was collected from the following sources:

- **Drug treatment data** were derived from the California Outcomes Monitoring System (CalOMS) and its predecessor, the California Alcohol and Drug Data System (CADDs). The statistics correspond to Los Angeles County alcohol and other drug treatment program admissions for January 2001 to December 2010. In January 2006, there was a change in the statewide substance abuse treatment program admission/discharge data system, from CADDs to CalOMS. Because of this system change, data collected prior to 2006 may not be exactly comparable to the more recent data. While trends for major substances appear to retain reasonable validity, the reader is nevertheless cautioned when interpreting these statistics. Treatment providers receiving public funding report all their admissions (whether public or private) to CalOMS. Because all programs providing narcotic replacement therapy must report admissions to CalOMS (whether or not the program receives public funding), admissions for heroin treatment may be disproportionately represented in the CalOMS system.
- **Drug analysis results** from local forensic laboratories were derived from the DEA's National Forensic Laboratory Information System (NFLIS). The statistics correspond to items analyzed in 2010.
- **Drug availability, price, and distribution data** were derived from the Los Angeles High Intensity Drug Trafficking Area (HIDTA), the Los Angeles County Regional Criminal Information Clearinghouse (LA CLEAR), the National Drug Intelligence Center (NDIC), and the DEA. The prices included in this report reflect the best estimates of the analysts in the Research and Analysis Unit at LA CLEAR and reported in NDIC publications. The price estimates are based primarily on field reports, interviews with law enforcement agencies throughout the Los Angeles HIDTA, and post-seizure analysis.

- **Drugs detected in Los Angeles County coroner toxicology cases** were extracted from data provided by the Los Angeles County Coroner's office for 2007 through 2010. Percentages reflect fractions of the total cases in which toxicology tests were requested (i.e., not just drug-related deaths). Each case may have more than one drug detected; therefore, percentages should not be summed.
- **Poison control center call data** for Los Angeles County (through December 2010) were obtained from the California Poison Control System. Drug mentions were tallied by category; more than one drug could be counted per case (phone call).
- **Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data** (through December 2010) were obtained from the Los Angeles County Department of Health Services, HIV Epidemiology Program, "2010 Annual Surveillance Report," January 2011.
- **Demographic and geographic data** were accessed from the California Department of Finance, Demographic Research Unit, and the U.S. Census Bureau (*State and County Quick-Facts*), from the 2010 census figures.
- **Adolescent substance use statistics** were not available for 2010 for Los Angeles County at the time of this report. Because 2009 data were presented in the previous report, they are not repeated in this report (see *Highlights and Executive Summary* report from January 2011 CEWG meeting).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Approximately 10 percent ($n=4,717$) of Los Angeles County treatment admissions in calendar year (CY) 2010 reported crack or powder cocaine as the primary drug of abuse, a decrease from 13 percent in 2009 (exhibit 1). As a percentage share of the total admissions, cocaine admissions in 2010 were the lowest in the 10-year period shown in exhibit 1 (during which cocaine declined from a high of 19 percent of admissions in 2001–2002).

A majority (63.4 percent) of primary cocaine admissions in 2010 were male, slightly higher than 2009 levels (62.5 percent) but lower than previous years (67.3 percent in 2006, 64.5 percent in 2007, and 64.1 percent in 2008) (exhibit 2). Non-Hispanic Blacks continued to represent a majority of cocaine admissions (at 63.4 percent of the total in 2010, a slight increase from 61.9 percent in 2009 and 58.2 percent in 2008), followed by Hispanics (at 19.5 percent). Other racial/ethnic groups combined constituted 4.6 percent of cocaine admissions in 2010. Cocaine admissions were predominantly age 35 and older (78.5 percent). Primary cocaine admissions were more likely than admissions for other drugs to report being homeless at admission (29.5 percent). More than one-half (58.0 percent) had earned a high school diploma/GED or reported post-high school educational levels. At the time of admission, 7.3 percent were employed full- or part-time, a decrease from 2009 (9.9 percent). This decrease reflects the national picture of higher rates of unemployment, which can also be seen for users of other types of illicit drugs.

Primary cocaine treatment admissions were more likely than treatment admissions for any other major illicit substances to report a secondary substance (60.8 percent). The most common secondary substance reported was alcohol (for 33.4 percent of cocaine admissions), followed by marijuana (18.6 percent). Smoking was the predominant reported route of administration (86.7 percent); another 11.2 percent reported inhalation. Only 2.7 percent reported any intravenous drug use (of any drug) in the year prior to admission (exhibit 2). Almost one-half (45.0 percent) of the primary cocaine admissions had not been previously admitted to treatment in the California public treatment system, a decrease from 48.3 percent in 2009 (exhibit 2).

Cocaine was detected in 13.7 percent of Los Angeles County coroner toxicology cases in 2010, a decrease in proportion from 2009 (19.3 percent) (data not shown in exhibits). This was a lower percentage of cases than for narcotic analgesics or heroin/morphine. Cocaine percentages were similar to methamphetamine and greater than the percentages for antidepressants and benzodiazepines. Relatively few calls to the California Poison Control Center in 2010 involved cocaine (1.5 percent), similar to 2009 levels.

Data from NFLIS for 2010 showed that of the 44,443 drug items seized and identified by participating laboratories within Los Angeles County, 21.2 percent were found to contain cocaine/crack. This represents a decrease from the 26.9 percent of the total items in 2009 (exhibit 3). Cocaine/crack retained its ranking as the second most likely illicit drug to be found among drug items tested in the county, with a percentage lower than marijuana and only slightly higher than methamphetamine. Rankings for these drugs in Los Angeles County were similar to those for the United States as a whole.

Wholesale prices for powder cocaine were at levels of \$20,000–\$22,000 per kilogram by the third quarter of 2010, representing little change from the fourth quarter of 2009 (\$19,500–\$21,000). They continued to be lower than 2008 levels (\$22,000–\$26,000). However, retail prices have remained stable, at approximately \$80 per gram.

Heroin

In 2010, 9,940 Los Angeles County treatment admissions reported heroin as the primary drug. These heroin admissions represented 20.4 percent of Los Angeles County admissions (exhibit 1). This percentage represents an increase over 2009 levels (18.8 percent), suggesting a reversal in the downward trend from 2001 to 2008.

In 2010, heroin admissions were predominantly male (71.3 percent) and were most likely to be non-Hispanic White (51.0 percent). Hispanics accounted for 37.4 percent of heroin admissions, and non-Hispanic Blacks accounted for 7.5 percent; this was similar to 2009 percentages (exhibit 2). Heroin clients remained predominantly age 35 and older (62.8 percent), continuing a decreasing trend for this age group (from 74.5 percent in 2007, to 69.2 percent in 2008, and to 64.9 percent in 2009). Commensurately, an increase was observed in the 18–25 age group (17.9 percent in 2010, up from 15.4, 13.2, and 9.0 percent in 2009, 2008, and 2007, respectively). Approximately 16 percent of primary heroin admissions were homeless at time of admission. As with admissions for other illicit drugs, employment rates for heroin admissions continued to decrease (11.4 percent in 2010 were employed full- or part-time, compared with 13.4 percent in 2009 and 18.0 percent in 2008). High school graduation/GED or higher education levels were reported by 57.2 percent of 2010 heroin clients.

Almost two-thirds (61.2 percent) of heroin clients reported no secondary substance of abuse. Cocaine/crack remained the most commonly reported secondary substance problem (10.6 percent), followed by alcohol (7.9 percent). Injection use was reported as the primary route of administration by 82.7 percent of heroin admissions in 2010; smoking was reported by 12.3 percent, and inhalation (snorting) was reported by 3.0 percent. A very slight overall increase in injection use was noted for heroin admissions in 2010; 82.1 percent reported any injection drug use (of any drug) in the year prior to admission, compared with 79.8 percent in 2009 (exhibit 2). Approximately one-fourth (23.2 percent) indicated that they had not previously participated in drug treatment (exhibit 2).

Heroin/morphine was detected in 16.2 percent of Los Angeles County coroner toxicology cases in 2010, a decrease in proportion from 19.8 percent in 2009. A small percentage of calls to the Poison Control Center in 2010 involved heroin (0.8 percent), similar to 2009 levels.

Of 44,443 drug items seized and identified by participating NFLIS laboratories in Los Angeles County in 2010, 5.4 percent ($n=2,380$) of these items were found to contain heroin, similar to the 2009 percentage (exhibit 3). Heroin ranked fourth for both Los Angeles County and the Nation as a whole among drugs found in NFLIS items in 2010.

According to LA CLEAR, as reported through the NDIC, the wholesale price per kilogram of the most prevalent type of heroin in Los Angeles, Mexican black tar, ranged from \$22,000 to \$24,000 in the third quarter of 2010; this was similar to 2008–2009 prices. Retail prices were stable, at approximately \$80 per gram.

Other Opioids/Narcotics

Other opioids/synthetics continued to constitute a small percentage ($n=1,373$, or 2.8 percent) of Los Angeles County treatment admissions (exhibit 1). Although constituting a relatively small share of admissions for other opioids/synthetics, compared with other major substances of abuse there has been a continuing upward trend since 2005.

Narcotic analgesics were detected in 29.5 percent of Los Angeles County coroner toxicology cases in 2010, a slight decrease from 2009 levels (32.3 percent). They accounted for a larger proportion of toxicology cases than other specific types of drugs, including cocaine, heroin/morphine, methamphetamine, antidepressants, THC (tetrahydrocannabinol, an active ingredient in marijuana), or benzodiazepines.

Twenty percent of calls in Los Angeles County to the California Poison Control Center in 2010 involved narcotic analgesics; this was similar to 2009 levels. Hydrocodone constituted the largest percentage (45.2 percent) of this nonillicit narcotics category, while oxycodone represented 7.5 percent of this category; these percentages were nearly identical to 2009 for both drugs.

In 2010, hydrocodone was identified as the most prevalent drug among pharmaceuticals, prescription drugs, or noncontrolled nonnarcotic medications (as opposed to illicit substances) to be seized and identified by NFLIS laboratories. It constituted 1.3 percent ($n=588$) of NFLIS identified items and ranked sixth among all drug items seized and identified in Los Angeles County (exhibit 3). Oxycodone was identified in 0.4 percent of the total drug items seized and identified by NFLIS laboratories in 2010, and codeine was identified in 0.3 percent of the total items. These two drugs ranked 10th

and 12th, respectively, in Los Angeles County among all drug items identified in that year. Small percentages of items (less than 0.1 percent each) were identified as containing methadone, hydro-morphone, buprenorphine, and oxymorphone.

Benzodiazepines, Barbiturates, and Sedative/Hypnotics

In 2010, treatment admissions associated with primary barbiturate, benzodiazepine, or other sedative/hypnotic abuse continued to account for less than 1 percent of all admissions in Los Angeles County (0.5 percent, data not shown in exhibits).

In 2010, benzodiazepines and/or barbiturates were detected in 12.4 percent of Los Angeles County coroner toxicology cases; this was a decrease from 16.1 percent of all drug items in 2009. Benzodiazepines and/or barbiturates were involved in 27.3 percent of calls to the California Poison Control Center, a proportion similar to 2009 levels (26.4 percent). One percent of the 44,443 Los Angeles County items analyzed and reported to the NFLIS system in 2010 were identified as benzodiazepines. The most frequently identified benzodiazepine by Los Angeles County laboratories was alprazolam ($n=232$, or 0.5 percent) (exhibit 3).

Methamphetamine/Other Amphetamines

Methamphetamine accounted for 16.4 percent ($n=7,994$) of admissions to Los Angeles County substance abuse treatment programs in 2010. This suggested a possible leveling of the earlier decreases from the 26.1 percent high in 2005 (exhibit 1). While this represented a slight decrease from 17.7 percent in 2009, the percentage of methamphetamine admissions increased in the second half of 2010 over the first half of 2010. Other amphetamines were reported as the primary substance in 0.2 percent of the total treatment admissions.

Compared with admissions for other major illicit drugs, primary methamphetamine admissions had the largest proportion of females (46.4 percent) (exhibit 2); this percentage was an increase over 45.2 percent in 2009 and 41.2 percent in 2008. Methamphetamine admissions were most likely to be Hispanic (56.4 percent), followed by non-Hispanic Whites (32.1 percent). There was broad age diversity across methamphetamine admissions: age 18–25 (23.7 percent); age 26–34 (35.8 percent); and clients 35 or older (37.0 percent). Over one-half (54.3 percent) reported education levels of high school graduate/GED or higher, and over one-fourth (27.0 percent) were homeless at admission. Employment rates continued to decline for methamphetamine admissions; they were at 10.7 percent in 2010, compared with 11.9 percent in 2009 and 17.8 percent in 2008.

While 39.8 percent of methamphetamine admissions reported no secondary substance problem, 26.1 percent reported marijuana and 23.9 percent reported alcohol as a secondary substance problem (exhibit 2). Smoking continued as the most frequently mentioned route of administration reported by primary methamphetamine admissions (78.1 percent). Proportions of injectors and inhalers declined between 1999 and 2010, from 15.2 and 29.9 percent, respectively, in 1999, to 7.2 and 11.7 percent, respectively, in 2010. Past-year injection drug use (of any drug) was reported by 11.3 percent of primary methamphetamine admissions. Forty-four percent were entering treatment for the first time (exhibit 2).

Methamphetamine was detected in 14.0 percent of Los Angeles County coroner toxicology cases in 2010. While 2009 data for methamphetamine was not available, the 2010 proportion was similar to the proportion of cases in 2008. In 2010, methamphetamine was involved with 2.2 percent of Poison Control Center calls in Los Angeles County; this was slightly higher than 1.4 percent of calls involving methamphetamine in 2009.

According to NFLIS data based on 44,443 analyzed items seized and identified by participating laboratories within Los Angeles County in 2010, 19.3 percent ($n=8,590$) were found to contain methamphetamine/amphetamine; this is an increase over the 16.7 percent identified in 2009 (exhibit 3). Methamphetamine accounted for the third largest proportion of samples positively identified by NFLIS laboratories in 2010, a ranking similar to that for methamphetamine for the United States as a whole.

The wholesale price of methamphetamine in the third quarter of 2010 ranged from \$9,000 to \$13,000 per pound. This was lower than the 2009 range of \$13,800–\$14,000 and the 2008 range of \$17,500–\$19,500 per pound. Street prices remained stable at approximately \$240 for one-eighth ounce. According to NDIC reports, methamphetamine availability was increasing after previous decreases in availability. These previous declines resulted from major control efforts on both sides of the California–Mexico border, along with strict precursor chemical regulations. Investigations related to Mexican methamphetamine operations continued in the Los Angeles HIDTA area, along with reports of increased trafficking and “smurfing” and increased methamphetamine production in large-scale “superlaboratories” throughout California.

Marijuana

Marijuana’s percentage share of all treatment admissions steadily increased from 2001 to 2010 in Los Angeles County, from 9.3 to 24.0 percent ($n=11,696$), respectively (exhibit 1). Approximately two-thirds of the primary marijuana admissions were male (67.7 percent) (exhibit 2). Marijuana admissions had the largest proportion of clients younger than 18 (57.5 percent), compared with 0.7 percent for heroin and 3.5 percent for methamphetamine. Consistent with the generally younger age for marijuana admissions than for those for other primary drugs, marijuana admissions had the lowest percentage of high school or higher education (20.8 percent); this represented a decrease from 24.2 percent in 2009. Marijuana admissions also had relatively low rates of employment (4.8 percent full- or part-time). Approximately 6.5 percent of marijuana admissions were homeless. A majority of marijuana admissions were Hispanics (54.6 percent), followed by non-Hispanic Blacks (31.1 percent). Of the major illicit substances, the smallest percentage of non-Hispanic Whites (9.9 percent) was reported for marijuana.

While 47.3 percent of primary marijuana admissions reported no secondary drug problem, alcohol was identified as a secondary drug problem for 38.1 percent, methamphetamine was a secondary problem for 5.5 percent, and cocaine/crack was a secondary problem for 3.6 percent. Smoking was the predominant route of administration reported by marijuana treatment admissions (97.6 percent). Few (0.8 percent) marijuana clients reported any past-year injection drug use (exhibit 2). More than three-fourths (78.6 percent) were entering treatment for the first time (exhibit 2).

THC was detected in 12.4 percent of Los Angeles County coroner toxicology cases in 2010, a decrease from 2009 and 2008 levels (19.3 and 19.7 percent, respectively). Marijuana was involved in 2.1 percent of the calls to the California Poison Control Center; this was similar to 2009 levels.

According to NFLIS data from 44,443 analyzed drug items reported by participating laboratories within Los Angeles County in 2010, 41.1 percent were found to be marijuana/cannabis (exhibit 3), an increase over the 37.9 percent for marijuana/cannabis in 2009. Marijuana/cannabis was the most frequently identified substance in Los Angeles County NFLIS items, as it was for the United States as a whole.

The price of Mexican low-grade marijuana increased slightly in 2010, with wholesale prices ranging from \$380 to \$550 per pound, up from \$300 to \$340 in 2009, while retail prices remained stable at \$5–\$10 per gram. Prices of high-grade sinsemilla remained stable, with wholesale prices at \$2,500–\$6,000 per pound and retail prices at \$60–\$80 for one-eighth ounce.

Club Drugs

Very few admissions to treatment for substance abuse in Los Angeles County in 2010 reported club drugs, including MDMA or ecstasy (3,4-methylenedioxymethamphetamine), GHB (gamma hydroxybutyrate), ketamine, or Rohypnol®, as the primary drug of abuse (0.6 percent, data not shown in exhibits); however, the proportion reporting primary club drugs was an increase over the 0.3 percent of all admissions in 2009.

According to NFLIS, 4.3 percent ($n=1,931$) of the items seized in Los Angeles County were identified as containing MDMA, an increase over 2.9 percent in 2009 (exhibit 3). MDMA was more likely to be found in Los Angeles County NFLIS items (ranking fifth) than in the Nation as a whole (ranking eighth). Small percentages (less than or equal to 0.1 percent) of analyzed NFLIS items contained other club drugs, including GHB, ketamine, BZP (1-benzylpiperazine), ketamine, or TFMPP (1-(3-(trifluoromethylphenyl)piperazine). While cathinone was identified in a very few items, methcathinone (mephedrone) had not yet appeared in seized items in Los Angeles as of 2010.

At the wholesale level in 2010, MDMA prices were approximately \$2,500–\$3,000 per “boat” (1,000 pills); this was similar to 2007–2009 prices. At the retail level, ecstasy sold for \$10–\$12 per tablet, which was also consistent with 2007–2009 prices.

PCP and Hallucinogens

PCP (phencyclidine) and other hallucinogens accounted for 0.6 percent of the reported primary drugs among Los Angeles treatment admissions in 2010 (data not shown in exhibits), a proportion similar to 2009 levels. According to NFLIS data, 1.0 percent ($n=447$) of the 44,443 items seized and identified by forensic laboratories in Los Angeles County in 2010 contained PCP (exhibit 3); this was stable from 2008 and 2009. In 2010, PCP ranked 7th of all drugs identified by NFLIS in Los Angeles, compared with 17th in the Nation as a whole.

Wholesale prices for a gallon of PCP in 2010 ranged from \$12,000 to \$15,000; this was similar to 2009 prices but lower than the 2008 prices of \$15,000–\$18,000. Retail prices have remained stable, with 2007–2010 levels at \$300–\$350 an ounce or \$10–\$20 for a “sherm” cigarette dipped in liquid PCP.

Other Drugs

Other stimulants (including prescription stimulants, such as methylphenidate) accounted for 1.0 percent of 2010 treatment admissions (an increase from 0.2 percent in 2009, data not shown in exhibits). Other stimulants were involved in 3.4 percent of California Poison Control Center calls in 2010, and antidepressants were involved in 5.5 percent of calls, compared with 2.9 percent and 6.8 percent, respectively, in 2009. Antidepressants were detected in 15.0 percent of Los Angeles County coroner toxicology cases in 2010, a proportion similar to the approximately 14 percent in 2009.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

The cumulative total of AIDS diagnoses reported in Los Angeles County through December 31, 2010, reached 58,064, representing approximately 36 percent of the cumulative diagnoses in California and 5 percent of those in the United States (data not shown in exhibits). As of 2010, approximately 42,364 Los Angeles County residents were living with HIV infection, and 25,876 were living with AIDS. Of the cumulative diagnoses reported in Los Angeles County, 42 percent were non-Hispanic Whites, 34 percent were Hispanics, and 21 percent were non-Hispanic Blacks (data not shown in exhibits). In terms of age, 27 percent were younger than 30, 40 percent were age 30–39, and 34 percent were 40 or older when diagnosed with HIV/AIDS. Most (90 percent) were male. Approximately 7 percent of cumulative adult/adolescent HIV/AIDS diagnoses reported by the end of 2010 involved injection drug use as the primary vector of exposure, and another 7 percent involved men who have sex with men (MSM) and injection drug use. Specifically for adult/adolescent females, exposure through contact with an injection drug user (IDU) has been 28 percent, while for males injection drug use exposure has totaled 13 percent (combined across categories of injection drug use alone or MSM/IDU).

The number of AIDS diagnoses in Los Angeles County has been gradually declining since 2002 (exhibit 4). Because of reporting delays, figures for 2010 were a substantial underestimate of what completed reporting is likely to show. There appeared to be a slight declining trend in injection drug use as an exposure vector for males, at 9 percent in 2010, which was a decrease from 14 percent in 2002 and 2004 for injection drug use (by itself or combined with the MSM risk category). For females, injection drug use was the major exposure vector for 27 percent in 2010, which was within the 19–31 percent range from 2002 to 2010.

ACKNOWLEDGMENTS

The author wishes to thank individuals and agencies that have provided data, statistics, and information, including (but not limited to) C. Chaffee (California Department of Alcohol and Drug Programs); J. Viernes and D. Hoang (County of Los Angeles Department of Public Health, Alcohol and Drug Program Administration); R. Lovio (Los Angeles Criminal Information Clearinghouse); O. Brown (LA Co. Coroner's office); S. Heard and T. Carlson (California Poison Control System); and B. Rutkowski and D. Crevecoeur (UCLA Integrated Substance Abuse Programs).

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Exhibit 1. Frequency and Percentage of Annual Treatment Admissions, by Primary Drug of Abuse, in Los Angeles County: 2001–2010

Primary Drug	2001 Freq (%)	2002 Freq (%)	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 Freq (%)	2007 Freq (%)	2008 Freq (%)	2009 Freq (%)	2010 Freq (%)
Cocaine	8,703 (18.9)	9,009 (19.3)	10,057 (18.8)	9,261 (18.0)	8,418 (17.1)	9,421 (17.2)	8,354 (16.2)	8,662 (15.6)	6,690 (12.6)	4,717 (9.7)
Heroin	17,560 (38.1)	14,863 (31.9)	13,595 (25.4)	12,283 (23.9)	9,997 (20.3)	10,969 (20.0)	10,150 (19.6)	10,250 (18.5)	9,978 (18.8)	9,940 (20.4)
Marijuana	4,286 (9.3)	5,502 (11.8)	7,121 (13.3)	7,130 (13.9)	7,681 (15.6)	9,121 (16.6)	9,469 (18.3)	11,031 (19.9)	12,222 (23.0)	11,696 (24.0)
Methamphetamine	5,418 (11.7)	7,145 (15.3)	10,056 (18.8)	11,235 (21.8)	12,875 (26.1)	13,414 (24.5)	11,853 (22.9)	10,564 (19.0)	9,399 (17.7)	7,994 (16.4)
PCP	405 (0.9)	415 (0.9)	576 (1.1)	365 (0.7)	278 (0.6)	279 (0.5)	281 (0.5)	289 (0.5)	314 (0.6)	270 (0.6)
Other Opiates/ Synthetics	834 (1.8)	839 (1.8)	1,227 (2.3)	956 (1.9)	510 (1.0)	1,013 (1.8)	1,161 (2.2)	1,253 (2.3)	1,315 (2.5)	1,373 (2.8)
Other (Includes Alcohol)	8,921 (19.3)	8,856 (19.0)	10,871 (20.3)	10,200 (19.8)	9,516 (19.3)	10,362 (18.9)	10,161 (19.7)	13,481 (24.3)	13,118 (24.7)	12,772 (26.2)
Total Admissions	46,127 (100.0)	46,629 (100.0)	53,503 (100.0)	51,430 (100.0)	49,275 (100.0)	54,784 (100.0)	51,662 (100.0)	55,530 (100.0)	53,036 (100.0)	48,762 (100.0)

SOURCE: Los Angeles County Alcohol and Drug Program Administration, California Outcomes Monitoring System (CalOMS)

Exhibit 2. Demographic Characteristics of Primary Treatment Admissions for Selected Illicit Drugs of Abuse, as a Percentage, in Los Angeles County: CY 2010¹

Demographics	Cocaine/ Crack	Heroin	Marijuana	Metham- phetamine	All Admissions ²
Gender³					
Male	63.4	71.3	67.7	53.6	62.8
Female	36.5	28.7	32.2	46.4	37.2
Race/Ethnicity					
White, non-Hispanic	13.1	51.0	9.9	32.1	29.0
Black, non-Hispanic	63.4	7.5	31.1	4.6	22.9
Hispanic	19.5	37.4	54.6	56.4	42.8
American Indian	0.5	0.8	0.4	1.1	1.0
Asian/Pacific Islander	1.8	1.5	1.8	4.3	2.1
Other	2.3	2.5	2.7	2.7	2.6
Age at Admission					
17 and younger	1.3	0.7	57.5	3.5	20.6
18–25	5.3	17.9	19.4	23.7	15.7
26–34	15.0	18.5	10.7	35.8	18.2
35 and older	78.5	62.8	12.1	37.0	44.9
Route of Administration					
Oral	1.1	1.4	2.1	2.4	29.6
Smoking	86.7	12.3	97.6	78.1	47.9
Inhalation	11.2	3.0	0.2	11.7	3.9
Injection	0.6	82.7	0.0	7.2	18.2
Unknown/other	0.5	0.6	0.1	0.6	0.4
Secondary Substance⁴					
None	39.2	61.2	47.3	39.8	50.9
Alcohol	33.4	7.9	38.1	23.9	18.6
Cocaine/crack	--	10.6	3.6	4.5	6.0
Heroin	1.8	--	0.3	2.3	1.1
Marijuana	18.6	5.2	--	26.1	12.9
Methamphetamine	4.5	6.6	5.5	--	4.8
Past-Year Injection Drug Use	2.7	82.1	0.8	11.3	19.9
Homeless	29.5	15.9	6.5	27.0	16.2
Employed Full- or Part-Time	7.3	11.4	4.8	10.7	8.6
Graduated from High School	58.0	57.2	20.8	54.3	47.7
First Treatment Episode	45.0	23.2	78.6	44.0	54.6
Total Admissions (N)	(4,717)	(9,940)	(11,696)	(7,994)	(48,762)

¹Data are for January–December 2010.²Total also includes alcohol and other drugs.³0.05 percent reported “other” gender and were not included in this table.⁴Other secondary drugs not listed in table; percentages may not add to 100.

SOURCE: Los Angeles County Alcohol and Drug Program Administration, California Outcomes Monitoring System (CalOMS)

Exhibit 3. Most Common Drugs in Items Analyzed by NFLIS, by Number and Percentage, for Los Angeles County, and Rankings for Los Angeles County and the United States: CY 2010¹

Drug (LA Ranking)	Number	Percent	LA Rank	U.S. Rank²
Marijuana/Cannabis	18,252	41.1	1	1
Cocaine	9,411	21.2	2	2
Methamphetamine	8,590	19.3	3	3
Heroin	2,380	5.4	4	4
MDMA (3,4-methylene-dioxymethamphetamine)	1,931	4.3	5	8
Hydrocodone	588	1.3	6	6
PCP (phencyclidine)	447	1.0	7	17
Alprazolam	232	0.5	8	7
Psilocin	173	0.4	9	--
Oxycodone	161	0.4	10	5
Carisoprodol	142	0.3	11	19
Codeine	141	0.3	12	9
Other	1,995	4.5	---	---
Total	44,443	100.0	---	---

¹Data are for January–December 2010.

²Rank not shown if greater than 20 (ranks exclude “no controlled drug identified” and “negative results”).

SOURCE: NFLIS, DEA

Exhibit 4. Frequency and Percentage of AIDS Diagnoses by Gender, Exposure Category, and Year of Diagnosis, Los Angeles County: 2002–2010

Exposure Category	2002 Freq (%)	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 Freq (%)	2007 Freq (%)	2008 Freq (%)	2009 Freq (%)¹	2010 Freq (%)¹
Males									
Male-to-Male Sexual Contact (MSM)	1,317 (80)	1,280 (82)	1,098 (82)	1,062 (83)	1,021 (84)	887 (84)	1,024 (87)	990 (86)	617 (88)
Injection Drug Use	98 (6)	78 (5)	83 (6)	69 (5)	50 (4)	40 (4)	39 (3)	48 (4)	22 (3)
MSM/Injection Drug User (IDU) Contact	137 (8)	122 (8)	109 (8)	96 (7)	98 (8)	95 (9)	84 (7)	68 (6)	43 (6)
Heterosexual Contact ²	78 (54)	74 (5)	53 (4)	44 (3)	42 (3)	35 (3)	27 (2)	34 (3)	17 (2)
Other/Undetermined	18 (1)	5 (-)	3 (-)	3 (-)	6 (-)	4 (-)	3 (-)	6 (1)	4 (1)
Male Subtotal	1,638	1,521	1,346	1,274	1,217	1,061	1,177	1,146	703
Females									
Injection Drug Use	73 (31)	48 (22)	53 (28)	48 (26)	42 (23)	30 (19)	42 (24)	37 (22)	24 (27)
Heterosexual Contact ²	153 (65)	166 (76)	130 (70)	132 (72)	132 (74)	119 (78)	129 (75)	122 (73)	66 (72)
Other/Undetermined	8 (3)	3 (1)	4 (2)	4 (2)	5 (3)	3 (2)	2 (1)	7 (4)	1 (1)
Female Subtotal	234	217	187	186	174	152	173	166	91
Total	1,872	1,776	1,533	1,458	1,396	1,213	1,350	1,312	794

¹Data are provisional due to reporting delay. Cases include those reported by December 31, 2010.

²Heterosexual contact indicates contact with a person who is HIV-infected or at increased risk for HIV.

SOURCE: HIV Epidemiology Program, Los Angeles County Department of Health Services

Patterns and Trends of Drug Abuse in Maine: 2010 and Early 2011

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ABSTRACT

This report updates most drug abuse indicators in Maine through calendar year 2010 and some for early 2011. Heroin levels were low, and indicators were mixed, with arrests and impaired driver urinalyses increasing slightly after several years of decline. Cocaine/crack use continued to be relatively high, despite a 3-year decline. Cocaine arrests increased from 22 percent of all arrests in 2010 to 28 percent in early 2011. A majority of early 2011 drug items seized by law enforcement and tested in State forensic laboratories were identified as containing levamisole. Marijuana indicators were down, likely affected by the new State law licensing medical marijuana distributors. Marijuana levels were still high, but marijuana arrests dropped from 23 percent of all arrests in 2010 to 7 percent in early 2011. Impaired driver urinalyses with cannabinoids increased in the first 5 months of 2011. Pharmaceutical narcotic misuse remained very high in 2010 and early 2011, contributing to 74 percent of 2010 drug-induced deaths, 44 percent of early 2011 arrests, and 57 percent of 2010 primary treatment admissions, excluding alcohol. Methadone and oxycodone were involved in more deaths than other opioids, and they were found more often in impaired driver urine samples. Benzodiazepines, often related to opioid use, were involved in 33 percent of all 2010 drug-induced deaths and were found in 28 percent of impaired drivers tested in the first 5 months of 2011. Methamphetamine and MDMA (3,4-methylenedioxymethamphetamine)/MDA (3,4-methylenedioxyamphetamine) levels continued to be very low. Of seven law enforcement seizures in early 2011 identified as containing MDMA, four contained BZP (1-benzylpiperazine). Synthetic cathinones, known as “bath salts,” were a newly emerging problem in Maine in 2010, with a rapidly increasing presence in several regions of the State. Synthetic cathinone use was reported by law enforcement in early 2011 in several mid-State and coastal areas. A new State law making them illegal was pending at the time of this report.

INTRODUCTION

Area Description

Maine is the third most rural State in the United States, with only 1.3 million inhabitants thinly distributed across a large geographic area. Maine averages 43 persons per square mile and ranks 40th among States in population density. The majority of its population lives in rural communities. Most (95 percent) of its citizens are White. Nearly one-fifth (18 percent) are on Medicaid. The majority of Maine's borders are shared with Canada, contributing to an important pattern of cross-border drug trafficking. Maine's long coast and many harbors have also contributed to drug distribution, as has the north-south I-95 corridor, which connects Maine to more southerly urban centers.

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Since the late 1990s, Maine has experienced a substantial increase in drug abuse, including accidental drug-induced deaths, which peaked in the early 2000s and again in 2009. Pharmaceuticals have fueled the increase both times; these were largely opiates and opioids in mixed drug combinations, including benzodiazepines, antidepressants, muscle relaxants, and alcohol.

Data Sources

The data sources used in this report are listed below:

- **Treatment admissions data** were provided by the Maine State Office of Substance Abuse and include all admissions to programs receiving State funding. This report includes 2010 treatment admissions and makes comparisons with prior calendar years (exhibit 1).
- **Mortality data** were generated by analysis of State of Maine Office of Chief Medical Examiner case files for all drug-induced cases through 2010. That office investigates all drug-related cases statewide (exhibit 2).
- **Arrest data** were provided by the Maine State Drug Enforcement Agency (MDEA), which directs eight multijurisdictional task forces covering the entire State, generating approximately 60 percent of all Uniform Crime Report (UCR) drug offenses statewide. Data totals include only arrests for possession or trafficking, extending through April 2011. Note that previous CEWG report totals included arrests in which MDEA assisted local police, as well as arrests for other (nondrug) UCR offenses that involved drugs; in this report those have been removed from all totals (exhibit 3).
- **Forensic laboratory data on drug seizures** were provided by the Maine State Health and Environmental Testing Laboratory, which tests all samples seized by the MDEA, as well as by other police and sheriff departments. Data were provided through calendar year (CY) 2010 and for the first 5 months of 2011 (exhibit 4).
- **Forensic laboratory data on urine tests of impaired drivers** were provided by the Maine State Health and Environmental Testing Laboratory, which tests all urine samples of drivers suspected of driving under the influence of drugs. Data were provided for 2010 and the first 5 months of 2011.
- **Prescription drug data** were provided through June 2010 by the Prescription Monitoring Program, administered by the Maine State Office of Substance Abuse. These data included records for each controlled substance prescription dispensed statewide.
- **Epidemiological data** were provided by the Maine State Center for Disease Control on acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data available through 2010, with the number of new diagnoses reported through June 2011; viral hepatitis B surveillance data were available through 2009, and hepatitis C data were available through 2007.
- **Street prices for drugs** in Bangor, Lewiston, and Portland came from *National Illicit Drug Prices—End 2009 and Midyear 2010*, distributed by the U.S. Department of Justice using data from the National Drug Information Center (NDIC).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine/crack use continued to be relatively high in Maine. Although indicators were decreasing in 2007–2009, they showed an increase during 2010 and early 2011. Proportions of primary cocaine treatment admissions have been declining slowly since 2006, when they constituted approximately 14 percent of admissions (excluding alcohol); they declined to approximately 7 percent in 2009 and to 6 percent in 2010 (2 percent were crack and 4 percent powder cocaine admissions). The number of cocaine treatment admissions was highest in 2007. It decreased by 25 percent in 2009 and by another 21 percent in 2010. Approximately 47 percent of cocaine primary treatment admissions were 35 or older, and approximately 57 percent were male.

Cocaine-induced deaths rose from a low of 4 percent of all drug-related deaths in 2002 to peak at approximately 19 percent in 2006 and 2007. These deaths then decreased sharply to 5 percent in 2009 and 6 percent in 2010. Most of these deaths had cointoxicants; most frequently these were diverted opioids. The same pattern of cocaine-narcotic combinations was seen in the cointoxicant pattern in impaired driver toxicology. Overall, the percent of impaired drivers testing positive for cocaine increased, from approximately 7 percent in 2009 to 8 percent in 2010, and then to 10 percent during the first 5 months of 2011.

For several years through 2010, cocaine/crack arrests constituted a substantial but declining proportion of MDEA activity. Approximately 45 percent of all drug arrests in 2007 were for cocaine; they then decreased in 2009 to 26 percent of all drug arrests and to 22 percent in 2010 (with both powder and crack proportions declining throughout). During the first 4 months of 2011, however, there was a modest increase in cocaine arrests, to approximately 29 percent.

The percentage of drug items seized by law enforcement testing positive for cocaine continued to decline, from approximately 43 percent of all items seized and identified in 2009, to 40 percent in 2010, and to 36 percent in the first 5 months of 2011. A majority (54 percent) of these items identified as containing cocaine also contained levamisole in early 2011, compared with 32 percent of such items in 2010. Despite persistent declines, cocaine/crack continued to represent the largest single category of drug samples seized and identified in Maine's State laboratory.

According to the NDIC's *National Illicit Drug Prices—Ending 2009 and Midyear 2010*, cocaine prices have begun to fluctuate. Mid-level and retail crack and powder cocaine prices were lower across the State in midyear 2010 than in the previous year.

Heroin

Most heroin indicators have been generally declining or stable during the past 5 years. However, in early 2011, there were slight increases in heroin arrests and positive urinalyses among impaired drivers.

Both the number and percentage of primary heroin treatment admissions declined, from 2009 to 2010 (from approximately 16 to 12 percent of all admissions, excluding those for primary alcohol, respectively). Between 2003 and 2008, there was a decline in the proportion of admissions among

clients ages 18–25, from a peak of approximately 50 percent of all heroin treatment admissions in 2003 to 28 percent in 2008. After a rise in 2009 to 34 percent, the 2010 figure was a new low of 27 percent of nonalcohol admissions for heroin. (Note that heroin and pharmaceutical morphine are combined in the treatment admissions data.)

Heroin/morphine deaths continued a multiyear decline during 2010, from approximately 24 percent in 2005 to 4 percent in 2010. It is important to note that, beginning in 2008, a number of heroin/morphine deaths were found to involve pharmaceutical morphine rather than heroin. These have been removed from the heroin/morphine death totals.

Heroin arrests by the MDEA were stable, at 40–45 per year, from 2007 to 2010. However, during the first 4 months of 2011, there were 23 heroin arrests, representing a substantial increase when extrapolated for a full year. Drug samples seized by law enforcement and identified as heroin fluctuated from approximately 9 percent of all drug items identified in 2008 to 15 percent in 2009, to 9 percent in 2010. During the first 5 months of 2011, this percentage dropped to approximately 6 percent. Impaired drivers with urines positive for heroin/morphine constituted 5 percent of early 2011 drivers tested.

Maine's heroin supplies are South American. The NDIC reported no significant changes in mid-level or retail prices for heroin in Maine between the second half of 2009 and midyear 2010. Both the mid-level and retail prices were lower in the southern part of the State (Portland), where they were reported at \$1,500–\$2,000 for 10 bags mid-level, than in Bangor, where they cost \$2,000–\$4,000.

Pharmaceutical Opiates/Opioids

Pharmaceutical opiate/opioid misuse in Maine remained relatively very high in 2010 and early 2011 indicators, contributing to approximately 74 percent of 2010 drug-induced deaths; 57 percent of primary treatment admissions, excluding alcohol; and 45 percent of MDEA arrests in this reporting period.

Proportions of treatment admissions for opiates/opioids other than heroin/morphine have nearly doubled between the early 2000s, when they constituted about one-third of nonalcohol primary admissions, and 2010, when they represented approximately 57 percent. According to 2010 data, the most common route of administration is inhalation (47 percent), with 21 percent injecting heroin. Primary oxycodone treatment admissions constituted the majority (approximately 78 percent) of the nonheroin opiate/opioid admissions in 2010.

Approximately three-quarters (74 percent) of Maine's 2010 drug-induced deaths involved at least one pharmaceutical opioid, either alone or in combination with other drugs. Methadone and oxycodone were the most frequently implicated opioids. Methadone deaths peaked at approximately 46 percent in 2004, then gradually decreased to a low of 26 percent in 2009. In 2010, these deaths constituted 30 percent of the total. The percentage of oxycodone deaths has been somewhat unstable, spiking from approximately 14 percent in 2006 to 25 percent in 2007, then returning to 16 percent in 2008, but rising again to 28 percent in 2009 and 29 percent in 2010.

The proportion of deaths involving heroin/morphine toxicity rose between 2008 and 2010. Of the 23 deaths caused by heroin/morphine toxicity in 2010, most were documented in the case investigation

to be due to morphine pharmaceuticals. An analysis of Maine's Prescription Monitoring Program data from fiscal year (FY) 2006 through FY 2008 reveals that the number of prescriptions for long-acting morphine (Morphine CR® or ER) products increased steadily over the time span, from 12,516 in 2006 to 33,340 in 2010 (exhibit 5). During the same time, low-dose methadone product prescriptions peaked in FY 2008 (coincident with Federal restrictions for 40-milligram methadone), then declined in number. The number of prescriptions for other morphine products also declined.

Arrests for pharmaceutical narcotics rose from approximately 22 percent of all drug arrests in 2007 to 38 percent in 2009; during the first 4 months of 2011, the percentage increased again to approximately 45 percent. Among drug items seized by law enforcement and identified as narcotics by the State laboratory, opiate analgesics constituted 13 percent in 2009, and rose to 19 percent in 2010, and 28 percent in the first 5 months of 2011. Among impaired drivers tested, 48 percent tested positive for at least one opioid, excluding heroin/morphine.

Buprenorphine has emerged as a substantial component in opioid indicators. Approximately 13 percent of impaired driver urinalyses contained buprenorphine during the first 5 months of 2011, up from 7 percent in 2010. Buprenorphine was involved in five deaths during 2010, and it ranked fifth among all substances confirmed in law enforcement seizures in both 2010 and early 2011. The amount of buprenorphine use and diversion paralleled an increase in prescribing. Among prescriptions documented in the Maine Prescription Monitoring Program, 22,698 prescriptions (3 percent) in FY 2006 were for Suboxone® and Subutex®; this number rose steadily to 64,102 prescriptions (7 percent) by FY 2009 and to 84,662 by FY 2010.

Benzodiazepines

Benzodiazepines continued to play a substantial role in Maine drug abuse indicators, particularly drug treatment admissions and deaths. Benzodiazepines were often mentioned as secondary or tertiary problems in treatment admissions. According to an analysis of 2010 data, for every primary benzodiazepine admission, there were eight secondary or tertiary admissions. In 2010, approximately 1 percent of primary admissions were for benzodiazepines.

The proportion of deaths involving benzodiazepines has risen steadily since 2000. Benzodiazepine use was often related to opioid use. Benzodiazepines were involved in approximately 34 percent of all drug-induced deaths, almost always as a cointoxicant. Opiate/opioid pharmaceuticals were also listed as a cause of death in approximately 81 percent of the 2010 benzodiazepine-caused deaths. Approximately 40 percent of methadone deaths and 48 percent of oxycodone deaths also involved at least one benzodiazepine in 2010.

Methamphetamine

Methamphetamine indicators were mixed in Maine in 2010 and early 2011. The numbers were very small in this reporting period, but a slight increase was observed in treatment admissions from previous reporting periods. In 2010, methamphetamine accounted for 0.5 percent of primary treatment admissions (excluding alcohol); it was present in none of the deaths; and approximately 2 percent of MDEA drug arrests were for methamphetamine. In 2010, close to two-thirds of drug items seized and identified by the Maine State laboratory as containing methamphetamine were in tablet form.

Marijuana

Marijuana indicators in Maine in 2010 and early 2011 were affected by the new State medical marijuana law licensing distributors. Levels were high, and trends were mixed, with a substantial drop in the percentage of marijuana drug arrests during early 2011. Proportions of primary treatment admissions for marijuana, as a percentage of nonalcohol admissions, decreased steadily over the prior 7 years, from approximately 34 to 17 percent in 2003 and 2010, respectively. The age and gender distribution of the treatment population has remained fairly stable over time. In 2010 data, approximately 72 percent of marijuana treatment admissions were male. Approximately 26 percent of these admissions were younger than 18; 34 percent were 18–25; 19 percent were 26–34; and 19 percent were 35 and older.

Marijuana drug arrests increased, from 17 percent in 2008 to 23 percent in 2010. During the first 4 months of 2011, this percentage dropped to about 7 percent. Almost 10 percent of drug items seized by law enforcement were identified as containing marijuana in 2010, and 11 percent were identified as marijuana in the first 5 months of 2011. Cannabinoids were identified in 29 percent of impaired driver urine samples during the first 5 months of 2011, an increase from 21 percent in 2010.

MDMA

Indicators for MDMA (3,4-methylenedioxymethamphetamine) were very small. There were only seven MDMA primary treatment admissions during 2010 and one death (due to MDA [3,4-methylenedioxymethamphetamine]) in 2010. Approximately 3 percent of MDEA drug arrests were for MDMA, up slightly from 1 percent in 2009. Early 2011 data showed that MDMA-related arrests totaled approximately 5 percent of all arrests.

The number of law enforcement drug seizures tested in the Maine State laboratory and identified as containing MDMA rose every year between 2007 ($n=2$ items) and 2010 ($n=30$ items); extrapolated numbers for 2011 appeared to show a decrease to about 15 such MDMA items. Among the 30 MDMA items tested in 2010, 40 percent were tablets. Two-thirds (67 percent) of items seized and tested contained MDMA only. The others contained one or more other substances, usually caffeine and/or procaine. One contained a combination of MDMA, methamphetamine, BZP (1-benzylpiperazine), and TFMPP (1-3-(trifluoromethylphenyl)-piperazine). Seven law enforcement seizures in the first 5 months of 2011 were identified as containing MDMA; four of these items contained BZP.

Other Categories

Synthetic cathinones (“bath salts”) were reported by law enforcement in 2011 in several mid-State and coastal areas. They were suspected but not confirmed in three drug-induced deaths. Other drug levels were sufficient to rule on cause of death in two of the cases; one case was still pending at the time of this report. Mephedrone (4-methylmethcathinone) was identified in one law enforcement seizure item in 2009 and one in 2010. In 2009, one item tested was identified as 2C-E (2,5-dimethoxy-4-ethylphenethylamine), and one was identified as 2C-P (2,5-dimethoxy-4-propylphenethylamine). The substances involved in the deaths were not confirmed. Maine’s routine screen does not include these substances without additional expense. The piperazines have appeared more often in Maine’s law enforcement seizures in the last 3 years. During 2010, 12 items seized by law enforcement were identified in the Maine State laboratory as containing BZP, and all were in combination with TFMPP. In the first 5 months of 2011, five items were seized and identified as BZP.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV/AIDS, Hepatitis B, and Hepatitis C

HIV/AIDS data revealed 56 new HIV diagnoses in 2009, 49 in 2010, and 29 during the first half of 2011. Recent HIV mode of transmission data showed that most new cases were due to men having sex with men (MSM)—approximately 59 percent in 2010, up slightly from 50 percent in 2009. In 2010, 5 percent of these were due to an injection drug use source, and 5 percent were combined injection drug use and MSM. Approximately 17 percent of new diagnoses were female in 2010, and 69 percent were White. The number of reported acute hepatitis B cases stayed level, at 19 in 2008 and 19 in 2009. The number of chronic hepatitis C cases increased slightly, from 1,192 in 2006 to 1,453 in 2007, the last year for which data were available.

ACKNOWLEDGMENTS

The author acknowledges the contribution of the following individuals and organizations providing data and information for this report: staff at the Rural Drug and Alcohol Research Program, Margaret Chase Smith Policy Center (William Parker, Ann Acheson, Jamie Wren and Tamara Labanowski); Guy Cousins, Deb Brucker, and Daniel Eccher of the Maine Office of Substance Abuse; Margaret Greenwald, Maine Chief Medical Examiner; Christopher Montagna and Steve Pierce, Maine Health and Environmental Testing Laboratory; Roy McKinney, MDEA; and Karen Simone and Dan Sizemore, Northern New England Poison Center. Funding from the U.S. Attorney's Office for the District of Maine provided support for the analysis of drug death data.

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Exhibit 1. Frequency and Percentage of Annual Treatment Admissions, by Primary Drug, Separating Alcohol, for the State of Maine: 2003–2010

Primary Drug	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 Freq (%)	2007 Freq (%)	2008 Freq (%)	2009 Freq (%)	2010 Freq (%)
Cocaine	559 (10.9)	658 (11.5)	681 (12.7)	764 (14.2)	902 (13.7)	768 (10.5)	575 (7.2)	454 (5.9)
Heroin/Morphine	1,060 (20.7)	1,232 (21.6)	1,096 (20.5)	1,007 (18.7)	991 (15.0)	1,092 (14.9)	1,250 (15.6)	928 (12.1)
Other Opiates and Opioids	1,557 (30.4)	1,904 (33.3)	2,025 (37.8)	2,282 (42.3)	3,142 (47.6)	3,951 (54.0)	4,185 (52.2)	4,372 (57.0)
Marijuana	1,714 (33.5)	1,764 (30.9)	1,370 (25.6)	1,169 (21.7)	1,349 (20.5)	1,304 (17.8)	1,303 (16.3)	1,275 (16.6)
Methamphetamine	24 (0.5)	34 (0.6)	51 (1.0)	49 (0.9)	34 (0.5)	31 (0.4)	33 (0.4)	41 (0.5)
Other	705 (13.8)	184 (3.2)	134 (2.5)	122 (2.3)	602 (9.1)	172 (2.4)	671 (8.4)	602 (7.9)
Total Admissions Without Alcohol	5,114 (100.0)	5,716 (100.0)	5,357 (100.0)	5,393 (100.0)	6,595 (100.0)	7,318 (100.0)	8,017 (100.0)	7,672 (100.0)
Total Admissions With Alcohol	12,264	12,685	11,558	10,912	12,395	12,849	14,498	13,576

SOURCE: Maine Office of Substance Abuse Treatment Data System

Exhibit 2. Frequency and Percentage of Key Drugs and/or Categories Mentioned on the Death Certificate as a Cause of Death for the State of Maine: 2003–2010¹

Key Drug	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 Freq (%)	2007 Freq (%)	2008 Freq (%)	2009 Freq (%)	2010 Freq (%)
Cocaine	15 (9.8)	27 (16.7)	22 (12.5)	32 (19.2)	30 (19.5)	12 (7.3)	9 (5.0)	10 (6.0)
Heroin/Morphine ²	36 (23.5)	24 (14.8)	43 (24.4)	32 (19.2)	25 (16.2)	18 (11.0)	13 (7.3)	7 (4.2)
Pharmaceutical Morphine						2 (1.2)	18 (10.1)	16 (9.6)
Oxycodone	29 (19.0)	15 (9.3)	17 (9.7)	24 (14.4)	38 (24.7)	27 (16.5)	50 (27.9)	48 (28.7)
Methadone	54 (35.3)	75 (46.3)	71 (40.3)	68 (40.7)	59 (38.3)	56 (34.1)	47 (26.3)	50 (29.9)
Benzodiazepines	27 (17.6)	35 (21.6)	35 (19.9)	36 (21.6)	36 (23.4)	39 (23.8)	56 (31.3)	57 (34.1)
Antidepressants	26 (17.0)	28 (17.3)	19 (10.8)	19 (11.4)	27 (17.5)	44 (26.8)	61 (34.1)	58 (34.7)
Illicit Drugs	47 (30.7)	50 (30.9)	61 (34.7)	59 (35.3)	49 (31.8)	30 (18.3)	22 (12.3)	17 (10.2)
Pharmaceuticals	129 (84.3)	141 (87.0)	139 (79.0)	134 (80.2)	136 (88.3)	155 (94.5)	164 (91.6)	160 (95.8)
Total Drug Deaths	153 (100.0)	162 (100.0)	176 (100.0)	167 (100.0)	154 (100.0)	164 (100.0)	179 (100.0)	167 (100.0)

¹Note that drug categories are not mutually exclusive and do not add to 100 percent. Drugs may be implicated as a cause of death either alone or in combination with other drugs or alcohol.

²Beginning in 2008, pharmaceutical morphine is reported separately, if known, and subtracted from the heroin/morphine total. However, in some deaths it is not possible to differentiate pharmaceutical morphine from heroin.

SOURCE: Maine Office of Chief Medical Examiner

Exhibit 3. Frequency and Percentage of Key Drug Arrest Categories in Maine: 2006–April 2011¹

Key Drug	2006 Freq (%)	2007 Freq (%)	2008 Freq (%)	2009 Freq (%)	2010 Freq (%)	2011 est ² Freq (%)
Cocaine/Crack	235 (45.1)	252 (46.5)	230 (36.3)	203 (26.2)	189 (22.0)	231 (28.5)
Heroin	18 (3.5)	43 (7.9)	40 (6.3)	45 (5.8)	40 (4.7)	69 (8.5)
Methamphetamine	30 (5.8)	17 (3.1)	8 (1.3)	25 (3.2)	30 (3.5)	18 (2.2)
Marijuana	103 (19.8)	94 (17.3)	108 (17.1)	160 (20.6)	197 (22.9)	60 (7.4)
Pharmaceutical Narcotics	123 (23.6)	118 (21.8)	218 (34.4)	308 (39.7)	331 (38.5)	363 (44.8)
Benzodiazepines	3 (0.4)	14 (2.6)	9 (1.4)	17 (2.2)	16 (1.9)	21 (2.6%)
Total Arrests	521 (100.0)	542 (100.0)	633 (100.0)	776 (100.0)	859 (100.0)	810 (100.0)

¹Categories do not sum to 100 percent because all categories are not included in the table.

²Estimated 2011 totals were obtained by multiplying the first 4-month totals by three.

SOURCE: Maine Drug Enforcement Agency

Exhibit 4. Percentage of Items Seized by Law Enforcement in Key Drug Categories Identified by the Maine State Health and Environmental Laboratory: 2003–May 2011

Key Drug Category	2003 Percent	2006 Percent	2007 Percent	2008 Percent	2009 Percent	2010 Percent	Jan–May 2011 Percent
Cocaine	36.2	43.3	50.1	44.1	43.4	39.7	35.6
Opiate Analgesic	12.2	18.3	14.8	12.2	13.3	18.8	28.3
Heroin	18.2	10.2	7.2	8.5	14.7	9.1	6.0
Marijuana	15.3	11.3	11.1	7.6	7.1	9.8	10.7
Benzodiazepine	2.8	4.9	3.0	3.7	1.6	2.8	3.4

SOURCE: Maine State Health and Environmental Testing Laboratory

Exhibit 5. Number of Prescriptions Written in Maine for Long-Acting Narcotic Products: State Fiscal Years¹ 2006–2010

Prescribed Drug Categories	SFY 2006	SFY 2007	SFY 2008	SFY 2009	SFY 2010
Morphine CR® or ER products	12,516	16,581	21,348	25,798	33,340
MS Contin CR® products	413	278	211	184	362
Kadian CR® products	15,868	11,699	9,614	7,876	6,205
Avinza/Avinza CR® products	11,660	9,447	9,710	9,068	6,582
Methadone/Methadose® 40 mg ²	5,174	5,539	599	98	16
Methadone/Methadose® 5, 10 mg	29,975	31,887	43,799	37,243	35,939

¹State Fiscal Year is July through June.

²mg=milligram.

SOURCE: Maine State Prescription Monitoring Program, Office of Substance Abuse

Drug Abuse Trends in Miami-Dade and Broward Counties, South Florida: 2009–2010

James N. Hall¹

ABSTRACT

Indicators of cocaine consequences viewed as a proportion of all drug problems continued to be higher in South Florida than in most of the Nation. Yet, Miami-Dade County has been leading a decline in cocaine-related problems since 2007, which is now observed nationwide. Heroin indicators remained at low and stable levels across Florida, with wide-scale availability of diverted prescription opioids. Numbers of primary treatment admissions for heroin increased in South Florida between 2009 and 2010. In more than one-half of the heroin deaths in recent years heroin was found in combination with one or more prescription opioids at the time of death. Oxycodone remained the major opioid linked to nonmedical use, yet 93 percent of deaths attributed to it were found in combination with other drugs, including benzodiazepines, other opioids, and muscle relaxants. Deaths related to nonmedical use of opioids appeared to have peaked in the second half of 2009, while other opioid indicators were increasing. Oxymorphone was the fastest rising opioid in nonmedical use indicators. Injecting was increasingly reported among opioid treatment clients. Benzodiazepine consequences were found in high numbers equal to those for opioids and most often in combination with them. Benzodiazepine deaths stabilized, while estimated emergency department (ED) visits involving benzodiazepines increased. Muscle relaxant (such as carisoprodol) nonmedical use indicators were stable at low levels in Miami-Dade County but increasing in Broward County in combination with opioids. Methamphetamine indicators were low in Florida, yet seizures of small clandestine laboratories (mostly 2-liter soda bottles) were increasing. Such activity was associated with low-level production for use by those involved in its production and a small number of other users who often help acquire or “smurf” for the precursor, pseudoephedrine. Marijuana use was increasing among adolescents; marijuana ranked number one in addiction treatment admissions statewide and number two behind cocaine in South Florida estimated drug-related ED visits and crime laboratory cases. Ecstasy indicators were stable, with many counterfeit pills detected often containing BZP (1-benzylpiperazine). Anecdotal reports of the GHB (gamma hydroxybutyrate)-related drug, 1,4-BD (1,4-butanediol), being used in rape cases signaled the return of drug-facilitated sexual assaults.

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INTRODUCTION

This report reviews data from 2009 and 2010 for drug-related deaths, medical emergencies, addiction treatment admissions, and crime laboratory analysis. Information is presented by primary substance of abuse, with topics including cocaine, heroin, nonmedical use of prescription opioids, benzodiazepines, methamphetamine/amphetamines, marijuana, GHB (gamma hydroxybutyrate), MDMA (3,4-methylenedioxymethamphetamine) or ecstasy, 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.

Area Description

Located in the extreme southern portion of the Florida peninsula, Miami-Dade County has the State's largest population, with 2,500,625 residents, according to 2009 U.S. Census estimates. Hispanics account for 62.5 percent of the population; 17.6 percent are White non-Hispanic; 16.6 percent are Black non-Hispanic; and 1.6 percent are Asian. Miami is the county's largest city, with 404,048 residents. One-half of the county's population is foreign born. 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, plus 28 other municipalities and an unincorporated area. The county covers 1,197 square miles, including 25 miles of coastline. According to 2009 U.S. Census estimates, the Broward County population was 1,766,476. The population is 46.2 percent White non-Hispanic, 23.7 percent Black non-Hispanic, 24.6 percent Hispanic, and 3.3 percent Asian. One-fourth of the county's population is foreign born. Broward County is the second most populated county in Florida and accounts for 9.5 percent of Florida's population.

Palm Beach County (population 1,279,950) is located due north of Broward County and is the third most populated county in the State. The county population is 62.1 percent White non-Hispanic, 18.5 percent Hispanic, 15 percent Black non-Hispanic, and 2.4 percent Asian. Seventeen percent of the county's population is foreign born. Together, the 5.5 million people of these three counties constitute 30 percent of the State's 18.5 million population.

Since 2003, these three counties have constituted the federally designated Metropolitan Statistical Area (MSA) for South Florida, making it the sixth largest MSA in the Nation. Previously, the MSA included only Miami-Dade County. This means that the three counties are included in more national data sets tracking health-related conditions and criminal justice information.

South Florida is a hub of international transportation and the gateway to commerce between the Americas, accounting for sizable proportions of the Nation's trade. 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 gateway for illicit drugs.

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

- The area's 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 has also been 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, and particularly Broward County, 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 October 2011.
- More than 100 “cash only” medical clinics known as “pill mills” or “rogue pain clinics” divert millions of dose units of prescription opioids and benzodiazepines annually. Most are located in Broward County.

Data Sources

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

- **Drug-related mortality data** were provided by the Florida Department of Law Enforcement (FDLE) Medical Examiners Commission’s *2010 Interim Report of Drugs Identified in Deceased Persons between January and June 2010*. The report for all of 2010 was expected to be released by July 2011.
- **Weighted emergency department (ED) data** were derived for Miami-Dade and Broward Counties from the Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration’s (SAMHSA) Center for Behavioral Health Statistics and Quality (CBHSQ). The data represent drug-related visits for illicit drugs (derived from the category of “major substances of abuse,” excluding alcohol) and for 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). Weighted DAWN data for calendar years 2004–2009 are included in this report and provide estimates of the total number of drug-related ED visits for selected substances for all of Miami-Dade County in those 5 years and the DAWN Ft. Lauderdale Division (Broward and Palm Beach Counties) for 2008 and 2009, the first years for which DAWN weighted estimates were provided in that division. A full description of the system can be found on the DAWN Web site at <http://dawninfo.samhsa.gov>.
- **Drug treatment data** on primary admissions to all publicly funded addiction treatment programs in Miami-Dade and Broward Counties during calendar year 2010 were provided by the Florida Department of Children and Families.
- **Crime laboratory drug analyses data** were derived from the Drug Enforcement Administration’s (DEA’s) National Forensic Laboratory Information System (NFLIS) Report for Miami-Dade, Broward, and Palm Beach Counties from January through December 2010. However, the NFLIS data combine some, but not all, pharmaceutical items into the category of “controlled substance.” This factor makes it difficult to track the role of illegally diverted medications, particularly in Broward County, where other indicators of nonmedical prescription drug misuse are elevated.
- **Data on injection drug use** among acquired immune deficiency syndrome (AIDS) cases came from Miami-Dade and Broward Counties Departments of Health.

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's Commission on Substance Abuse's Emerging Issues Task Force.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Indicators of cocaine problems in South Florida continued to dominate consequences of drug abuse, yet they have been declining in recent years. The numbers of cocaine occurrences among deceased persons have been declining since 2007 in Miami-Dade and Broward Counties, as well as for the State of Florida. The majority of cocaine deaths and addiction treatment admissions were among those older than 35, while medical emergencies related to cocaine were highest among those age 25–29. Many of the indicators reflected cocaine use in combination with other drugs.

Throughout Florida, the number of cocaine-related deaths decreased by 16 percent in the first half of 2010, compared with the last half of 2009, continuing declines since 2007 and reversing what had been an upward trend since 2000. A cocaine-related death is defined as a death in which cocaine is detected in the decedent but not necessarily considered the cause of death. There were 603 cocaine-related deaths across Florida in the first half of 2010, compared with 716 deaths in the previous 6 months. In 2009, there were 1,462 cocaine-related deaths, compared with 1,791 deaths in 2008. The 2007 total of 2,179 reports was the highest number since the drug has been tracked beginning in the late 1980s. The number of cocaine deaths increased by 97 percent between 2001 and 2007. The key factor for that rise appeared to be a corresponding 105-percent increase in deaths with cocaine in combination with other drugs, particularly prescription medications. Eighty-one percent of the 603 cocaine-related deaths in Florida during the first half of 2010 involved cocaine in combination with at least 1 other drug.

In Florida, a drug is considered to be a cause of death if it is detected in an amount considered a lethal dose by the local medical examiner (ME). Among the cocaine-related deaths statewide in the first half of 2010, the drug was considered to be a cause of death in 259 (or 41 percent) of the cases.

There were 41 deaths related to cocaine use in Miami-Dade County during the first half of 2010, for an annualized rate of 82 occurrences, compared with 155 in 2009 (exhibit 1). Cocaine was detected at a lethal level in 34 percent of the cases in the first half of 2010. Cocaine was found in combination with another drug in 76 percent of the cases. None of the 2010 cocaine-related fatalities was younger than 18; 19 percent were age 18–25; 15 percent were 26–34; 32 percent were 35–50; and 34 percent were older than 50. Miami-Dade County's number of cocaine deaths in 2009 ranked sixth among the 24 ME districts in the State.

There were 69 deaths related to cocaine abuse in Broward County in the first half of 2010, for an annualized rate of 138 occurrences, level with the 135 in 2009 (exhibit 1). Cocaine was detected at a lethal level in 46 percent of the Broward County cases in the first half of 2010. Cocaine was found in combination with another drug in 78 percent of the related death cases. None of the 2010 cocaine-related fatalities was younger than 18; 9 percent were age 18–25; 19 percent were 26–34; 48 percent were 35–50; and 24 percent were older than 50. Broward County's number of cocaine-related

deaths ranked first among the 24 ME districts in the State in the first half of 2010. Broward County's high rate of prescription drug-related deaths contributed to the high number of cocaine deaths in combination with other drugs.

The St. Petersburg ME district reported the second highest number of cocaine-related deaths in the State during the first half of 2010, with 64 cases, followed by Palm Beach County with 60, the Jacksonville region with 49, and the Orlando district with 41.

The DAWN weighted estimate of 6,459 cocaine-involved ED visits for Miami-Dade County during 2009 (exhibit 2) accounted for 52 percent of all ED visits involving 6 substances (4 illicit drugs—cocaine, marijuana, MDMA ([3,4-methylenedioxymethamphetamine]), and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). Between 2008 and 2009, the number of cocaine-involved ED visits declined by 14 percent in Miami-Dade County, from 7,498 to 6,459. In 2009, the per population rate of 258.3 cocaine ED visits per 100,000 compared with the national rate of 137.7 per 100,000.

The DAWN weighted estimate of 4,479 cocaine-involved ED visits for the Ft. Lauderdale Division, which includes Broward and Palm Beach Counties, during 2009 (exhibit 3) accounted for 32 percent of all estimated ED visits for 7 substances (5 illicit drugs—cocaine, marijuana, heroin, MDMA, and methamphetamine—and nonmedical use of prescription opioids and benzodiazepines). Between 2008 and 2009, the number of cocaine-involved ED visits declined by 19 percent in the Ft. Lauderdale Division, from 5,560 to 4,479. The 2009 rate of cocaine ED visits per 100,000 population in Broward and Palm Beach Counties was 147.6; this compares with the national rate of 137.7 per 100,000 and the Miami-Dade rate of 258.3 per 100,000. Those age 25–29 had the highest rate of all age groups in the Ft. Lauderdale Division, at 337.8 per 100,000 population.

There were 549 primary treatment admissions for cocaine smoking (crack), and an additional 369 for powder cocaine in Miami-Dade County during 2010 (exhibit 4). These cases accounted for a total of 918 (or 20 percent) of the 4,548 publicly funded primary treatment admissions (including 1,242 for alcohol) in Miami-Dade County in 2010, as reported by the Florida Department of Children and Families. These totals represent a 41-percent decline in the number of cocaine primary admissions, compared with 2009, when cocaine accounted for 28 percent of all admissions. Males accounted for 60 percent of the 2010 clients, and 59 percent ($n=545$) were age 35 or older; only 10 were 17 or younger.

In Broward County, there were 424 primary admissions for cocaine smoking (crack), and an additional 57 for powder cocaine, accounting for a total of 481 (or 9 percent) of the 5,069 publicly funded primary treatment admissions (including 1,142 for alcohol) in 2010 (exhibit 5). These totals represent a 37-percent decline in the number of cocaine primary admissions, compared with 2009, when cocaine accounted for 15 percent of all admissions. Seventy percent ($n=335$) of the 2010 cocaine clients were age 35 or older; only 4 were 17 or younger.

Cocaine continued to be the most commonly analyzed substance by local crime laboratories. It accounted for 12,601 items, or 54.2 percent, of the 25,091 total samples tested in the three-county South Florida MSA in 2010 (exhibit 6), as reported by the NFLIS. In 2009, cocaine accounted for 62 percent of all crime laboratory items.

Heroin

Heroin consequences remained at low and stable levels across Florida in 2010. Primary treatment admissions for heroin increased in South Florida between 2009 and 2010. More than one-half of the heroin deaths in recent years were found in combination with one or more prescription opioids at the time of death. South American heroin has been entering the South Florida area over the past two decades. However, reports and seizures of Mexican heroin in South Florida have been made since 2008. Deaths caused by heroin declined in Florida from 2001 to 2006, then increased between 2006 and 2008, before declining again in 2009 and 2010. Substantial increases in abuse and consequences of narcotic analgesic use have occurred as heroin problems were waning. Most heroin ED patients and addiction treatment admissions continued to be among older, White males.

Throughout Florida, the number of heroin-related deaths decreased by 40 percent during the first half of 2010, compared with the previous 6 months. There were 30 heroin-related deaths across Florida during the first half of 2010, down from 50 in the second half of 2009. Heroin continued to be the most lethal drug, with 83 percent ($n=25$) of heroin-related deaths in 2010 caused by the drug. Polysubstance abuse was noted in 93 percent of the 2010 heroin-related deaths statewide.

Among the 111 heroin-related deaths in Florida during 2009, 59 percent ($n=65$) had 1–4 prescription opioids present at the time of death. A total of 89 opioids were detected among the 65 decedents.

There were 7 heroin deaths in Miami-Dade County during the first half of 2010, for an annualized rate of 14 occurrences, compared with 30 in 2009. Heroin deaths peaked in Miami-Dade County in 2000 with 61 fatalities. In the first half of 2010, heroin was found at a lethal dose level in five of the seven deaths in which the drug was detected in the county. Other drugs were found in combination with heroin in all of the cases. None of the heroin-related fatalities was younger than 25, while four of the heroin-related decedents (57 percent) were age 26–34. One (14 percent) was age 35–50, and two (28 percent) were older than 50.

There were 5 heroin deaths in Broward County during the first half of 2010, for an annualized rate of 10 occurrences, compared with 8 in 2009 and 17 in 2008. Heroin deaths peaked in Broward County in 2001 with 51 fatalities. In the first half of 2010, heroin was found at a lethal dose level in four of the five deaths in which the drug was detected in the county. Other drugs were found in combination with heroin in all of the cases. None of the heroin-related fatalities was younger than 18; one (20 percent) was age 18–25; none of the heroin-related decedents was age 26–34; two (40 percent) were age 35–50; and two (40 percent) were older than 50.

Weighted DAWN visit estimates for heroin were not available for Miami-Dade County in 2008 and again in 2009 because the sample numbers were not adequate.

The DAWN weighted estimate of 459 heroin-involved ED visits for Broward and Palm Beach Counties during 2009 (exhibit 3) accounted for 3 percent of all ED visits among 7 substances (5 illicit drugs—cocaine, marijuana, heroin, MDMA and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). The 2009 rate of heroin ED visits per 100,000 population in Broward and Palm Beach Counties was 15.1 compared with the national rate of 69.4 per 100,000. Those age 25–29 had the highest rate of all age groups in the Ft. Lauderdale Division, at 70.5 per 100,000, compared with the national rate of 145.1 per 100,000.

There were 183 primary admissions for heroin, or 4 percent of the 4,548 publicly funded primary treatment admissions in Miami-Dade County, as reported by the Florida Department of Children and Families in 2010 (exhibit 4). These totals represent a 22-percent increase in the number of primary heroin treatment admissions over 2009, when heroin accounted for 3 percent of all admissions. Males accounted for 75 percent ($n=137$) of the 2010 heroin clients, and 56 percent ($n=102$) were 35 or older; none was younger than 18.

There were 156 primary admissions for heroin in Broward County, accounting for 3 percent of the 5,069 publicly funded primary treatment admissions in 2010 (exhibit 5). These totals represent a 48-percent increase in the number of primary heroin admissions over 2009, when heroin accounted for 2 percent of all admissions. Males accounted for 73 percent ($n=114$) of the 2010 heroin clients; 32 percent ($n=50$) were age 26–34; 31 percent ($n=56$) were age 26–34; 52 percent ($n=81$) were 35 or older; and none was younger than 18.

Heroin accounted for 634 cases, or 2.5 percent of all drug items analyzed and identified by crime laboratories in 2010 for the 3-county South Florida MSA, as reported by NFLIS. Heroin ranked fifth among all substances analyzed in the MSA (exhibit 6). In 2009, heroin ranked third, with 3.1 percent of all crime laboratory items.

Nonmedical Use of Prescription Opioids

During the first half of 2010, 2,578 individuals died in Florida with 1 or more prescription drugs in their system, of which 49 percent ($n=1,268$) had at least 1 prescription medication that was considered a cause of death. In total, 6,172 prescription drugs were detected (including 2,994 opioids); 2,392 (or 39 percent of the total medication occurrences) were considered at a lethal dose and a cause of death, including 50 percent ($n=1,504$) of the opioids. The number of drug occurrences exceeded the number of deaths because many decedents had more than one substance detected, including another prescription medication, illicit drug, or alcohol.

Between the second half of 2009 and the first 6 months of 2010, statewide reports in Florida related to the category of prescription opioids detected among deceased persons increased by 2 percent, from 2,931 to 3,004. This followed a 10-percent increase between 2008 ($n=5,457$) and 2009 ($n=6,006$). Reports of hydrocodone (Vicodin®, Lortab®); oxycodone (OxyContin®, Roxicodone®, and Percocet®); and methadone (Dolophine®) identified among decedents have been tracked in Florida since 2000. Beginning in 2003, morphine (MS Contin® and Roxanol®); propoxyphene (Darvon®); fentanyl (Fentora®); hydromorphone (Dilaudid® and Palladone®); meperidine (Demerol HCl®); tramadol (Ultram®); buprenorphine (Buprenex® and Suboxone®); oxymorphone (Opana® and Numophan®); and other opioids were included in the Florida Medical Examiners Commission's surveillance monitoring program. Occurrences of 5 prescription opioids detected among deceased persons during the first half of 2010 totaled 175 in Broward County, 65 in Miami-Dade County, and 148 in Palm Beach County.

Across Florida, the 233 oxymorphone reports detected among deceased persons in the first half of 2010 represented a 74-percent increase over the 128 reports in the previous 6 months. This continued a rise in oxymorphone-related deaths, following a 242-percent increase between 2008 ($n=69$) and 2009 ($n=236$). The 1,117 ME reports for oxycodone in the first half of 2010 represented an 11-percent increase over the previous semi-annual period, while the number of occurrences for hydrocodone were up by 4 percent, with a total of 431 occurrences in the first 6 months of 2010.

The most lethal prescription opioids statewide in 2010 were methadone, which was considered a cause of death for 75 percent of the decedents in which it was detected; oxycodone, which was a cause of death for 64 percent of the deaths related to it; and fentanyl, which was a cause of death for 52 percent of its occurrences. Most of the statewide ME prescription opioid cases were polydrug episodes, including 91 percent of the oxycodone reports, 90 percent of the methadone cases, 86 percent of the hydrocodone reports, 85 percent of propoxyphene-related deaths, and 83 percent of morphine cases.

A special study of the 1,185 deaths considered to be caused by oxycodone in Florida during 2009 revealed that 93 percent of the cases were detected in combination with another drug. One or more benzodiazepines were detected in 72 percent of the lethal oxycodone deaths. One or more other opioids in addition to oxycodone were detected in 42 percent of the cases. Carisoprodol was found in 12 percent, and alcohol or another drug was detected in 9 percent of the reports. The most frequent combination found in the 1,185 lethal oxycodone deaths was with 1 or more benzodiazepines in 416 cases, followed by a benzodiazepine and another opioid in 322 cases, and 1 or more other opioids in 119 cases.

Miami-Dade County recorded 33 oxycodone occurrences among deceased persons in the first half of 2010, along with 14 morphine reports, 11 hydrocodone reports, 5 for propoxyphene, and 2 for methadone. These 65 opioid occurrences during the first 6 months of 2010 compared with 158 combined reports in 2009 and 124 in 2008. Among the total opioid reports in the first half of 2010, 28 percent were considered lethal doses, and 77 percent were found in combination with at least one other substance. Most of the deaths occurred among those age 35 and older; 21 percent of Miami/Dade oxycodone deaths in the first half of 2010 were age 35–50; and 55 percent were older than 50.

Broward County recorded 103 oxycodone occurrences among deceased persons in the first half of 2010, followed by 24 reports for morphine, 22 for hydrocodone, 20 for methadone, and 6 for propoxyphene. These 175 combined opioid occurrences during the first 6 months of 2010 compared with 415 and 342 reports in 2009 and 2008, respectively. Among the total opioid reports in the first half of 2010, 67 percent were considered lethal doses, and 89 percent were found in combination with at least one other substance. Most of the deaths occurred among those age 35 and older; 45 percent of Broward County oxycodone deaths in the first half of 2010 were age 35–50; and 25 percent were older than 50.

Palm Beach County recorded 91 oxycodone occurrences among deceased persons in the first half of 2010, along with 19 reports for methadone, 17 for hydrocodone, 15 for morphine, and 6 for propoxyphene. These 148 combined opioid occurrences during the first 6 months of 2010 compared with 342 reports in 2009 and 361 in 2008. Among the total opioid reports in the first half of 2010, 72 percent were considered lethal doses, and 89 percent were found in combination with at least one other substance. Most of the deaths occurred among those older than 35; 35 percent of Palm Beach County oxycodone deaths in the first half of 2010 were age 35–50; and 31 percent were older than 50.

The DAWN weighted estimate of 820 ED visits for nonmedical use of prescription opioids in Miami-Dade County during 2009 (exhibit 2) accounted for 7 percent of all ED visits among 6 substances (4 illicit drugs—cocaine, marijuana, MDMA, and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). Between 2004 and 2009, the estimated number of prescription opioid-involved ED visits increased by 77 percent in Miami-Dade County. The rate of

32.8 nonmedical opioid ED visits per 100,000 population in Miami-Dade County compared with the national rate of 135.7 per 100,000 in 2009. Oxycodone was the most frequently involved opioid in nonmedical ED visits, totaling 351 ED visits in 2009 and representing a 176-percent increase in such cases since 2004. The Miami-Dade rate of 14.0 nonmedical oxycodone ED visits per 100,000 population compared with the national rate of 48.4 per 100,000 in 2009.

The DAWN weighted estimate of 2,899 ED visits for nonmedical use of prescription opioids in the Ft. Lauderdale Division of DAWN including Broward and Palm Beach Counties during 2009 (exhibit 3) accounted for 21 percent of all ED visits among 7 substances (5 illicit drugs—cocaine, heroin, marijuana, MDMA, and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). Between 2008 and 2009, the number of prescription opioid-involved ED visits increased by 24 percent in the Ft. Lauderdale Division. The Broward and Palm Beach Counties rate of 95.2 nonmedical opioid ED visits was 95.2 per 100,000 population, compared with the national rate of 135.7 per 100,000 in 2009. Oxycodone was the most frequently cited opioid involved in non-medical cases, totaling 1,608 ED visits in 2009, representing a 41-percent increase in such cases since 2008. While the national rate was 48.4 per 100,000, the Broward and Palm Beach Counties' rate nonmedical oxycodone ED visits was 52.8 per 100,000 in 2009.

There were 246 primary admissions for opiates other than heroin, or 5 percent of the 4,548 publicly funded primary treatment admissions in Miami-Dade County, as reported by the Florida Department of Children and Families in 2010 (exhibit 4). These totals represent a 118-percent increase in the number of opioid primary admissions compared with 2009, when opioids accounted for 2 percent of all admissions. Males accounted for 55 percent of the other opiate clients. Twenty-eight percent ($n=69$) of the admissions were age 18–25 ; 37 percent ($n=91$) were 26–34; 34 percent ($n=84$) were 35 or older; and none was younger than 18.

In Broward County, 1,118 primary admissions were reported for prescription opioids in 2010, accounting for 22 percent of the 5,069 publicly funded primary treatment admissions in that year. Males accounted for 55 percent of the prescription opioid clients. These totals represent a 257-percent increase in the number of prescription opioid primary admissions, compared with 2009, when prescription opioids accounted for 6 percent of all admissions ($n=336$) (exhibit 5). Four of the 2010 prescription opioid clients were 17 or younger; 28 percent ($n=314$) were age 18–25; 27 percent ($n=304$) were age 26–34; and 28 percent ($n=314$) were 35 or older. The ages of 182 of the primary prescription opioid treatment clients were unknown. Among the 51 percent of the other prescription opioid clients ($n=573$) for whom the primary route of administration was recorded, 36 percent ($n=208$) reported injecting prescription opioids.

Area NFLIS laboratories analyzed 1,256 oxycodone items and 145 hydrocodone items in 2010; they ranked third and eighth, respectively, among all substances analyzed during 2010 in the three-county South Florida MSA (exhibit 6). The NFLIS system also identified 52 methadone items, 16 morphine items, 6 propoxyphene items, 13 hydromorphone items, 12 codeine items, 6 tramadol items, and 1 oxymorphone item. Taken together, there were 1,515 prescription opioid crime laboratory cases, accounting for 6 percent of all substances in 2010, compared with 424 such reports, representing 1.7 percent of all drug items analyzed and identified in 2009. There were also 910 “unspecified controlled substance” cases in the 2010 NFLIS report; these may have included additional prescription opioids items. Nonmedical prescription opioid users constituted more than one-half of clients in the Broward County Drug Court.

Nonmedical Use of Prescription Benzodiazepines

Benzodiazepines in general, and alprazolam (Xanax®) in particular, were a substantial problem in South Florida during this reporting period. There were 2,787 reports of a benzodiazepine present in deceased persons across Florida in the first half of 2010, representing a 17-percent increase over the 2,382 cases in the previous 6 months. Of the benzodiazepine occurrences in the first half of 2010, a benzodiazepine was identified as causing 597 deaths, with a total of 811 lethal benzodiazepine occurrences. Among the benzodiazepine ME reports statewide, 986 were attributed to alprazolam, and 430 were attributed to diazepam (Valium®); 45 percent of the alprazolam occurrences and 32 percent of the diazepam reports were considered to be a cause of death.

In Miami-Dade County, in 36 reports, alprazolam was detected in deceased persons during the first half of 2010, of which 36 percent were considered lethal. At least one other drug was involved in 94 percent of the reports. There were also 19 reports of diazepam detected in deceased persons in Miami-Dade County; 10 percent were considered to be the cause of death, and 95 percent of these deaths involved at least 1 other drug. These 55 benzodiazepine ME occurrences in the first 6 months of 2010 compared with 124 such reports for alprazolam and diazepam in 2009 and 145 in 2008. None of the benzodiazepine reports in the first half of 2010 involved a person younger than 18; 7 percent of the decedents were age 18–25; 5 percent were age 26–34; 29 percent were age 35–50; and 58 percent were older than 50.

In Broward County, there were 100 reports of alprazolam detected in deceased persons during the first half of 2010, of which 61 percent were considered a cause of death. At least one other drug was involved in 92 percent of the reports. There were also 36 reports of diazepam detected in deceased persons in Broward County; 53 percent were considered to be the cause of death, and 97 percent of these deaths involved at least 1 other drug. These 136 benzodiazepine ME occurrences in the first 6 months of 2010 compared with 376 such reports for alprazolam and diazepam in 2009 and 339 in 2008. None of the benzodiazepine reports in the first half of 2010 involved a person younger than 18; 12 percent of the decedents were age 18–25; 20 percent were age 26–34; 37 percent were age 35–50; and 31 percent were older than 50.

In Palm Beach County, there were 55 reports of alprazolam detected in deceased persons during the first half of 2010, of which 56 percent were considered lethal. At least one other drug was involved in 96 percent of the reports. There were also 52 reports of diazepam detected in deceased persons in Palm Beach County; 44 percent were considered to be the cause of death, and 94 percent of these deaths involved at least one other drug. These 87 benzodiazepine ME occurrences in the first 6 months of 2010 compare with 229 such reports for alprazolam and diazepam in 2009 and 246 in 2008. None of the benzodiazepine reports in the first half of 2010 involved a person younger than 18; 13 percent of the decedents were age 18–25; 24 percent were age 26–34; 32 percent were age 35–50; and 31 percent were older than 50.

The DAWN weighted estimate of 1,587 ED visits for nonmedical use of prescription benzodiazepines in Miami-Dade County during 2009 (exhibit 2) accounted for 13 percent of all ED visits among 6 substances (4 illicit drugs—cocaine, marijuana, MDMA, and methamphetamine—as well as non-medical use of prescription opioids and benzodiazepines). The number of pharmaceutical benzodiazepine-involved ED visits in 2010 ($n=1,587$) was stable with the 1,524 such visits in 2008. The Miami-Dade rate of 63.4 nonmedical benzodiazepine ED visits per 100,000 population compared

with the national rate of 101.9 per 100,000 in 2009. Alprazolam was the most frequently cited benzodiazepine in nonmedical cases, totaling 741 ED visits in 2009 and representing a 26-percent increase in such cases since 2007. The Miami-Dade rate of nonmedical alprazolam ED visits per 100,000 population was 29.6, compared with the 2009 national rate of 36.7 per 100,000.

The DAWN weighted estimate of 2,900 ED visits for nonmedical use of pharmaceutical benzodiazepines in the Ft. Lauderdale Division of DAWN including Broward and Palm Beach Counties during 2009 (exhibit 3) accounted for 21 percent of all ED visits among 7 substances (5 illicit drugs—cocaine, heroin, marijuana, MDMA, and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). Between 2008 and 2009, the number of pharmaceutical nonmedical benzodiazepine-involved ED visits increased by 28 percent in the Ft. Lauderdale Division. The Broward and Palm Beach Counties rate of 95.2 nonmedical benzodiazepine ED visits per 100,000 population was less than the national rate of 101.9 per 100,000 in 2009. Alprazolam was the most frequently cited benzodiazepine in nonmedical cases, totaling an estimated 1,480 ED visits in 2009 and representing a 35-percent increase in such cases since 2008. The Broward and Palm Beach Counties' rate of nonmedical alprazolam ED visits per 100,000 population was 48.6, compared with the national rate of 36.7 per 100,000 in 2009. The highest ED visit rates in the two Counties for nonmedical alprazolam were among those age 25–29 (at 151.6 per 100,000) and those age 21–24, at 105.9.0 per 100,000. These rates compare with the national rates of 91.7 and 71.2 per 100,000 for those age 25–29 and 21–24, respectively.

There were 71 admissions for benzodiazepines reported as primary treatment admissions in Miami-Dade County during 2010, or 1.5 percent of the 4,548 total treatment admissions in Miami-Dade County (exhibit 4). This total increased from only one admission in 2009.

In Broward County, there were 101 primary admissions for benzodiazepines during 2010, or 2 percent of 5,258 primary admissions (including alcohol). This total represented a 115-percent increase over the 47 benzodiazepine admissions in 2009 (exhibit 5).

NFLIS laboratories analyzed and identified 916 alprazolam items, 57 diazepam items, and 46 clonazepam items during 2010 in the three-county South Florida MSA. There were also 21 lorazepam items, 9 temazepam items, and 1 bromazepam item. Combined, these 1,050 benzodiazepine reports represented 4 percent of all drug items analyzed (exhibit 6). There were also 910 “unspecified controlled substance” items analyzed by NFLIS laboratories in 2010, which may have included additional prescription benzodiazepine items. In 2009, there were 638 benzodiazepine items analyzed.

Methamphetamine/Amphetamines

The number of methamphetamine clandestine laboratory seizures in Florida doubled between 2008 and 2009 and continued to increase in 2010. Most of these clandestine laboratories were 2-liter soda bottles used in the so called “shake and bake” production method that yields a relatively small amount of methamphetamine and are more for personal use and sharing with those who may have helped supply the precursor, pseudoephedrine. Of the 445 such laboratory seizures statewide in 2010, 1 each was in Miami-Dade and Broward Counties. Indicators of methamphetamine abuse remained at relatively low levels. While methamphetamine was cited as the primary drug for addiction treatment among less than 1 percent of addiction treatment clients in South Florida during 2010, 86 percent of methamphetamine clients were older than 25.

Methamphetamine was detected among 49 deceased persons during the first half of 2010 state-wide in Florida, compared with 39 in the previous 6 months. There were 81 methamphetamine ME occurrences in 2009 and 114 in 2008. Methamphetamine was considered a cause of death in 20 (41 percent) of the 49 cases during the first half of 2010. There were also 66 reports of amphetamine detected among decedents across Florida in the first 6 months of 2010, the same number as in the previous semiannual period. Amphetamine was considered the cause of death in 18 percent of the 66 cases reported in the first half of 2010.

The DAWN weighted estimate of 86 methamphetamine-involved ED visits for Miami-Dade County during 2009 accounted for less than 1 percent of all estimated ED visits among 6 substances (4 illicit drugs—cocaine, marijuana, MDMA, and methamphetamine—as well as nonmedical use of prescription opioids and benzodiazepines). Between 2004 and 2009, the number of methamphetamine-involved ED visits increased by 43 percent in Miami-Dade County, from 60 to 86. In 2009, the rate of 3.4 methamphetamine ED visits per 100,000 population was well below the national rate of 20.9 per 100,000. There was no estimate for the number of illicit amphetamine ED visits in Miami-Dade County for 2009 due to a low number from the DAWN sample.

The DAWN weighted estimate of 108 methamphetamine-involved ED visits for the Ft. Lauderdale Division that includes Broward and Palm Beach Counties during 2009 accounted for less than 1 percent of all estimated ED visits among 7 substances (5 illicit drugs—cocaine, marijuana, heroin, MDMA, and methamphetamine—and nonmedical use of prescription opioids and benzodiazepines). The 2009 rate of 3.5 methamphetamine ED visits per 100,000 population in Broward and Palm Beach Counties was less than the national rate of 20.9 per 100,000. There were also 104 ED visits involving the nonmedical use of amphetamine in the Ft. Lauderdale Division of DAWN in 2009, with a rate of 3.4 visits per 100,000 population compared with the national rate of 12.2 per 100,000.

There were 22 primary admissions for methamphetamine, accounting for 0.5 percent of the 4,548 primary treatment admission drug reports (including alcohol) in Miami-Dade County during 2010 (exhibit 4). This total represented a 60-percent decrease over the 55 methamphetamine admissions in 2009. Females accounted for 64 percent of the methamphetamine clients. No methamphetamine client was younger than 18; 3 were age 18–25; 10 were 26–34; and 9 were 35 or older. There were also five primary admissions for other amphetamines.

In Broward County, there were 34 primary admissions for methamphetamine, accounting for 0.7 percent of the 5,069 publicly funded primary treatment admissions (including alcohol) in 2010 (exhibit 5). This total represented a 70-percent increase over the 20 methamphetamine admissions in 2009. Males accounted for 71 percent of the methamphetamine clients. One methamphetamine client was younger than 18; 4 were age 18–25; 8 were 26–34; and 21 were 35 or older. There were also two primary admissions for other amphetamines.

Methamphetamine accounted for 102 cases, or 0.4 percent, of all items analyzed by NFLIS laboratories in 2010 for the three-county South Florida MSA. It ranked 10th among all substances (exhibit 6). In 2009, there were 110 NFLIS laboratory reports for methamphetamine.

Marijuana/Cannabis

Consequences of marijuana use and addiction continued at high but stable levels. Marijuana was cited as the number one primary substance for addiction treatment in the State and both South Florida counties. Marijuana/cannabis was detected in 389 deaths statewide in Florida during the first half of 2010, stable from the 392 occurrences during the previous 6 months.

The DAWN weighted estimate of 3,375 cocaine-involved ED visits for Miami-Dade County during 2009 (exhibit 2) accounted for 27 percent of all ED visits among 6 substances (4 illicit drugs—cocaine, marijuana, MDMA, and methamphetamine—as well as nonmedical use of pharmaceutical opioids and benzodiazepines). The number of marijuana-involved ED visits in 2009 was stable, with 3,378 such reports in 2008. The rate of marijuana ED visits per 100,000 population was 135.0, compared with the national rate of 122.6 per 100,000. Among those younger than 21, there were 697 marijuana-involved ED visits (or 21 percent) in 2009, representing a rate of 103.2 visits per 100,000. The national rate was 125.3 per 100,000. Among those age 21 and older, there were 2,676 marijuana ED visits (or 79 percent) in 2009, at a rate of 146.6 per 100,000; the national rate was 121.5 per 100,000.

The DAWN weighted estimate of 2,870 marijuana-involved ED visits for the Ft. Lauderdale Division that includes Broward and Palm Beach Counties during 2009 (exhibit 3) accounted for 21 percent of all ED visits among 7 substances (5 illicit drugs—cocaine, marijuana, heroin, MDMA, and methamphetamine—and nonmedical use of prescription opioids and benzodiazepines). The estimated number of marijuana-involved ED visits in 2009 was stable, compared with the 2,928 marijuana-involved visits in 2008. The rate of marijuana ED visits per 100,000 population was 94.2, compared with national rate of 122.6 per 100,000 population. Among those younger than 21, there were 858 marijuana ED visits (or 30 percent) in 2009 and a rate of 109.5 visits per 100,000; the national rate 125.3 per 100,000. Among those age 21 and older, there were 2,012 marijuana ED visits (or 70 percent) in 2009 and a rate of 88.9 per 100,000, compared with the national rate of 121.5 per 100,000.

There were 1,741 primary admissions for marijuana, accounting for 38 percent of the 4,548 primary treatment admission drug reports (including alcohol) in Miami-Dade County during 2010, more than for any other substance (exhibit 4). This total represented an 18-percent decrease over the 2,118 marijuana admissions in 2009. Males accounted for 75 percent of the marijuana clients. Sixty percent ($n=1,045$) of these clients were younger than 18; 22 percent ($n=377$) were 18–25; 12 percent ($n=204$) were 26–34; and 6 percent ($n=115$) were 35 or older.

In Broward County, there were 1,689 primary admissions for marijuana, accounting for 33 percent of the 5,069 publicly funded primary treatment admissions (including alcohol) in 2010, more than for any other substance (exhibit 5). This total represented a 17-percent decrease from the 2,030 marijuana admissions in 2009. Males accounted for 77 percent of the marijuana clients. Forty-seven percent ($n=792$) of these clients were younger than 18; 30 percent ($n=508$) were 18–25; 13 percent ($n=219$) were 26–34; and 10 percent ($n=170$) were 35 or older.

Marijuana/cannabis accounted for 5,342 cases, or 21.3 percent of all items analyzed and identified by NFLIS laboratories in 2010 for the three-county South Florida MSA. Marijuana/cannabis ranked second among all substances after cocaine in the South Florida MSA (exhibit 6). In 2009, marijuana/cannabis accounted for 4,699 cases, or 19 percent of all items analyzed by NFLIS laboratories.

The 2010 Florida Youth Substance Abuse Survey reported increases in prevalence of past-30-day marijuana use among middle and high school students statewide, as well as in Miami-Dade and Broward Counties. At the same time, fewer students reported perceived harm and wrongfulness in using marijuana while measures of its social acceptance increased.

Marijuana continued to be described as widely available throughout Florida, with local commercial, sinsemilla, and hydroponic grades available. The ounce price for commercial grade marijuana continued to be \$100–\$150. Sinsemilla sold for \$400–\$500 per ounce. Depending on its potency, marijuana sold for \$5–\$20 per gram.

MDMA or Ecstasy

Measures of MDMA abuse have stabilized in the South Florida area at relatively low numbers in recent years. Ecstasy pills generally contain 75–125 milligrams of MDMA, although pills are often adulterated and may contain other drugs. The stimulant BZP (1-benzylpiperazine) was increasingly reported in ecstasy pills, usually without MDMA.

There were 22 MDMA-related deaths statewide in Florida in the first half of 2010, with the drug being cited as the cause of death in 8 of these cases. There were also 13 reports of MDA (3,4-methylenedioxyamphetamine)-related deaths statewide in Florida during the semiannual period. During the previous 6 months, there were 19 MDMA-related deaths and 8 MDA-related deaths. MDMA deaths decreased by 27 percent between 2008 ($n=44$) and 2009 ($n=32$).

The DAWN weighted estimate of 192 MDMA-involved ED visits for Miami-Dade County during 2009 accounted for 1.5 percent of all ED visits among 6 substances (4 illicit drugs—cocaine, marijuana, MDMA, and methamphetamine—as well as nonmedical use of pharmaceutical opioids and benzodiazepines). The 192 MDMA-involved ED visits in 2009 represented a 35-percent decrease from the 294 visits in 2008. The rate of 7.7 MDMA ED visits per 100,000 population was similar to the national rate of 7.4. There was no weighted estimate of MDMA ED visits for those younger than 21 in 2009. Among those age 21 and older, there were 140 MDMA ED visits in 2009 and a rate of 7.7; the national rate was 5.4.

The DAWN weighted estimate of 252 MDMA-involved ED visits for the Ft. Lauderdale Division that includes Broward and Palm Beach Counties during 2009 (exhibit 3) accounted for 1.8 percent of all ED visits among seven substances (5 illicit drugs—cocaine, marijuana, heroin, MDMA, and methamphetamine—and nonmedical use of prescription opioids and benzodiazepines). The 252 MDMA ED visits in 2009 compared with the 220 such cases in 2008. The rate of 8.3 MDMA ED visits per 100,000 population was just above the national rate of 7.4. Among those younger than 21, there were 72 MDMA ED visits in 2009, representing a rate of 9.2 visits per 100,000; the national rate was 12.6. Among those age 21 and older, there were 180 MDMA ED visits in 2009 with a rate of 7.9; the national rate was 5.4.

There were six primary treatment admissions for MDMA in Miami-Dade County in 2010 and five in Broward County (exhibits 4 and 5). In 2009, there were three primary treatment admissions for MDMA in Miami-Dade County and none in Broward County.

MDMA accounted for 555 cases, or 2.2 percent, of all items analyzed by NFLIS laboratories in 2010 for the three-county South Florida MSA. MDMA ranked sixth among all substances in the three-county MSA (exhibit 6). There were also 114 items, or 0.5 percent of all items analyzed, identified as BZP and sold as ecstasy in 2010. Two samples of TFMPP were also analyzed. One local crime laboratory reported that 65 percent of alleged ecstasy items identified to date in 2010 were BZP. During 2010 in South Florida, ecstasy tablets sold for \$4–\$5 per tablet wholesale (in bulk), and \$9 retail for a single pill, according to the NDIC. These prices have remained stable since 2008.

GHB

Abuse of the anesthetic GHB has declined significantly in recent years in the South Florida area. There are several compounds that are converted by the body to GHB, including GBL (gamma butyrolactone) and 1,4-BD (1,4-butanediol). Over the past few years, GHB abuse has involved 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. However, there were increasing anecdotal reports of 1,4-BD being used in drug-facilitated sexual assaults among men who have sex with other men (MSM) in 2011.

There were three GHB-related deaths statewide during the first half of 2010, and the drug was considered the cause of death in two of those cases. There were six GHB related deaths statewide in 2009, three in 2008, five in 2007, four in 2006, and nine deaths in 2005.

There were no weighted estimates of GHB ED visits for either Miami-Dade County or the Ft. Lauderdale Division of DAWN in 2009 due to a low number of cases from the DAWN sample. NFLIS laboratories analyzed nine cases of 1,4-BD items in Miami-Dade, Broward, and Palm Beach Counties in 2010, the same number as in 2009. There were no GHB items in either year.

Nonmedical Use of Prescription Muscle Relaxants

Muscle relaxants may be abused in combination with MDMA and other drugs. There were 220 reports of carisoprodol or meprobamate among deceased persons in Florida during the first half of 2010, of which 48 (or 22 percent) were considered to be caused by the drug. There were 199 carisoprodol occurrences the previous 6 months and a total of 455 for the entire year of 2009, compared with 415 such deaths in 2008.

Weighted DAWN visit estimates for muscle relaxants were not available for Miami-Dade County in 2008 and again in 2009 because the sample numbers were not adequate. There were 322 DAWN weighted ED visits for nonmedical use of pharmaceutical muscle relaxants in the Ft. Lauderdale Division of DAWN comprised of Broward and Palm Beach Counties during 2009. Between 2008 and 2009, the number of pharmaceutical muscle relaxant-involved ED visits increased by 42 percent in the Ft. Lauderdale Division. The Broward and Palm Beach Counties rate of nonmedical muscle relaxant ED visits per 100,000 population was 10.6, compared with the national rate of 16.6 in 2009. Carisoprodol was the most frequently cited muscle relaxant in nonmedical cases, totaling 268 estimated ED visits in 2009. This represents a 35-percent increase in such cases since 2008. The Broward and Palm Beach Counties rate of nonmedical carisoprodol ED visits per 100,000 population was 8.8, compared with the national rate of 9.8 in 2009. NFLIS laboratories analyzed 55 carisoprodol items in the South Florida MSA in 2010, an increase from the 19 reports in 2009.

Synthetic Cannabinoids

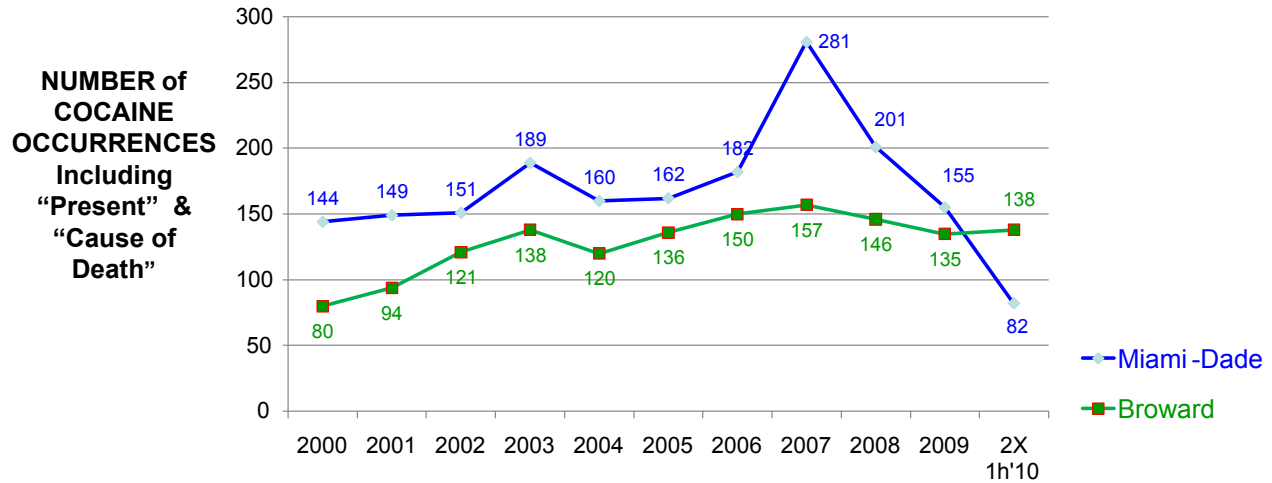
The availability of unregulated synthetic cannabinoids increased through retail sale throughout 2010 and the first half of 2011. Their use was primary among those who were subject to frequent drug-testing that did not identify these products. However, drug tests are now available for their detection, and the five synthetic cannabinoids that were federally scheduled in 2011 were also made illegal by the 2011 Florida Legislature.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

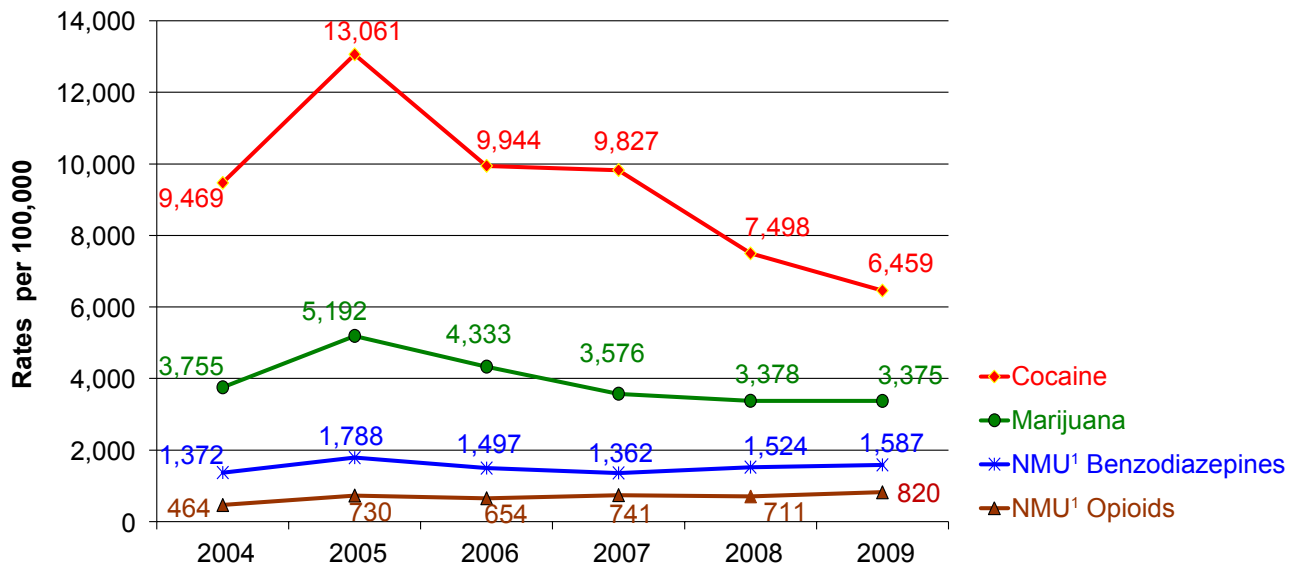
As of December 31, 2010, 32,470 adult/adolescent cumulative cases of AIDS had been reported in Miami/Dade County. Among those cases, 15.7 percent identified as injection drug users (IDUs), and an additional 3.9 percent reported the dual risk of MSM/IDU. Approximately 11 percent of the total cases had not been classified by a known risk category.

As of December 31, 2010, 19,064 adult/adolescent cumulative cases of AIDS had been reported in Broward County. Among those cases 11.4 percent identified as IDUs, and an additional 3.9 percent reported the dual risk of MSM/IDUs. Approximately 17 percent of the total cases had not been classified by a known risk category. Because of the cases not reported by a risk category, the rates of IDU cases are most likely higher for both counties.

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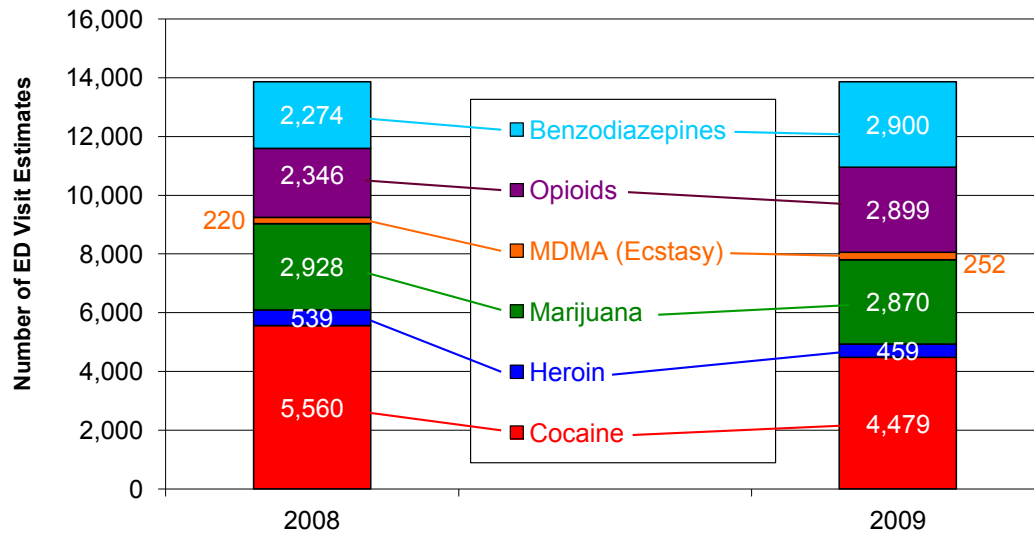
Exhibit 1. Number of Cocaine Reports Detected Among Decedents in South Florida: 2000–2010

SOURCE: Florida Medical Examiners Commission Interim Report 2010

Exhibit 2. Number of Emergency Department Visits, by Drug, in Miami-Dade County: 2004–2009¹NMU=nonmedical use.

Notes: Cocaine visits had statistically significant decreases from 2008 to 2009, although no statistical changes were noted for 2004 and 2007 compared with 2009. Prescription Opioids nonmedical use visits had a statistically significant increase from 2004 to 2009, although no statistical changes were noted for 2007 and 2008 compared with 2009. No statistically significant changes were noted for 2004, 2007, and 2008 compared with 2009 for the other drugs shown. No significant testing of data for 2005 and 2006 versus 2009 was available.

SOURCE: DAWN, CBHSQ, SAMHSA

Exhibit 3. Number of Emergency Department Visit Estimates, by Drug, in Broward and Palm Beach Counties: 2008 Versus 2009

Note: Cocaine and Heroin visits had statistically significant decreases from 2008 to 2009. Prescription Opioid and Benzodiazepine nonmedical use visits had statistically significant increases from 2008 to 2009. No statistically significant changes were noted for 2008 compared with 2009 for the other drugs shown.

SOURCE: DAWN, CBHSQ, SAMHSA

Exhibit 4. Number of Primary Treatment Admissions, by Substance, in Miami-Dade County: 2009–2010

2009	Primary Treatment Substance	2010
1,289	Alcohol	1,242
867	Crack Cocaine	549
690	Powder Cocaine	369
150	Heroin	183
113	Rx Opioids	246
2,118	Marijuana	1,741
55	Methamphetamine	22
2	Amphetamine	5
3	MDMA	6
29	PCP	0
1	Benzodiazepines	71
108	All Other Drugs	30
117	Substance Unknown	84
5,542	Total Admissions	4,548

SOURCE: Florida Department of Children and Families

Exhibit 5. Number of Primary Treatment Admissions, by Substance, in Broward County: 2009–2010

2009	Primary Treatment Substance	2010
1,254	Alcohol	1,142
610	Crack Cocaine	424
159	Powder Cocaine	57
105	Heroin	156
336	Rx Opioids	1,118
2,030	Marijuana	1,689
20	Methamphetamine	34
6	Amphetamine	2
0	MDMA	5
0	PCP	0
47	Benzodiazepines	101
689	All Other Drugs	37
422	Substance Unknown	304
5,678	Total Admissions	5,069

SOURCE: Florida Department of Children and Families

Exhibit 6. Number and Percent of Top 10 Most Frequently Identified Drugs in Crime Laboratories, in South Florida: 2010

Drug	Number	Percent (%)
Cocaine	13,601	54.2
Marijuana/Cannabis	5,342	21.3
Oxycodone	1,256	5.0
Alprazolam	916	3.7
Heroin	634	2.5
3,4-Methylenedioxy-methamphetamine (MDMA)	555	2.2
Hallucinogen	409	1.6
Hydrocodone	145	0.6
1-Benzylpiperazine (BZP)	114	0.5
Methamphetamine	102	0.4
Other ¹	2,017	8.0
Total	25,091	100.0

¹Unspecified Controlled Substance represents 910 cases and are included in "Other."

NOTES: Data are for January–December 2010 from the Miami/Ft. Lauderdale/Pompano Beach MSA and include Miami-Dade, Broward, and Palm Beach Counties. Percentages may not sum to the total due to rounding.

SOURCE: NFLIS, DEA

Drug Abuse Trends in Minneapolis/St. Paul, Minnesota: June 2011

Carol L. Falkowski¹

ABSTRACT

Minneapolis/St. Paul ("Twin Cities") area indicators regarding heroin and other opiates use continued to increase during the past decade. In 2010, however, neither treatment admissions nor deaths increased. A record high number of 1,722 clients received treatment for addiction to "other opiates" in 2009, a fourfold increase since 2002. This number fell to 1,639 in 2010, a 4.8-percent decline. In 2010, there were 92 opiate-related deaths in Ramsey and Hennepin Counties combined, compared with 113 in 2009, a 22.8-percent decrease. Still, opiate use among males who were arrested in Hennepin County increased, and 9.0 percent of adult male arrestees tested positive for opiates in 2010, compared with 4.7 percent in 2007. Numbers of cocaine-related treatment admissions continued to decline in 2010, but deaths increased slightly. Following substantial increases from 2000 through 2005, methamphetamine-related indicators remained at reduced levels in 2010, with some slight upward movement. In 2010, BZP (1-benzylpiperazine) and synthetic THC (tetrahydrocannabinol) (sold as incense) emerged as new drugs of abuse, and in early 2011, abuse of 2C-E (sold as a "research chemical") and mephedrone (sold as "bath salts" or "plant food") was also evident. The use of these synthetic substances grew rapidly, as indicated by a rising number of adverse health events related to their use reported to the Hennepin Regional Poison Center and noted by school-based counselors. Purchased online and in "head shops," the packages come with warnings against human consumption.

INTRODUCTION

This report analyzes trends and patterns in substance abuse in the Minneapolis/St. Paul, Minnesota, metropolitan area, based on the most recent data available from multiple sources.

Area Description

The Minneapolis/St. Paul metropolitan area, which forms the geographical unit for this report, includes Minnesota's largest city, Minneapolis (Hennepin County), the capital city of St. Paul (Ramsey County), and the surrounding counties of Anoka, Dakota, and Washington, unless otherwise noted. According to the 2010 census, the population of each county is as follows: Anoka, 330,844; Dakota, 398,552; Hennepin, 1,152,425; Ramsey, 508,640; and Washington, 238,136—for a total of 2,588,907 persons, or roughly one-half of the Minnesota State population.

¹The author is the Drug Abuse Strategy Officer for the Minnesota Department of Human Services.

Regarding race/ethnicity in the five-county metropolitan area, 80.1 percent of the metropolitan area population is White. African-Americans constitute the largest minority group (9.1 percent), followed by Asians (6.1 percent), American Indians (0.7 percent), and Hispanics of all races (6.0 percent).

Since the early 1990s, many Somalis have sought refuge in Minnesota due to civil unrest and government collapse in Somalia. The Minneapolis/St. Paul (Twin Cities) area is now home to a large and still expanding population of immigrants from Somalia. Estimates range from 30,000 to 60,000 people, making it one of the largest Somali communities in the United States. Since 1975, thousands of Hmong refugees have also made their way to the Twin Cities. Originally from Laos, the Hmong fought covertly on behalf of the American military forces during the Vietnam War. The Hmong community in Minnesota is now estimated at 60,000 to 70,000, resulting in one of the largest Hmong communities in the United States.

Outside of the Twin Cities metropolitan area, the State is less densely populated and more rural in character. Minnesota shares an international border with Canada, a southern border with Iowa, an eastern border with Wisconsin, and a western border with North Dakota and South Dakota, two of the country's most sparsely populated States. Illicit drugs are sold and distributed within Minnesota by Mexican drug trafficking organizations, street gangs, independent entrepreneurs, and other criminal organizations. Drugs are typically shipped or transported into the Twin Cities area for further distribution throughout the State. Interstate Highway 35 runs north–south throughout Minnesota and south to the United States–Mexican border.

Data Sources

Information and data used in this report are from the following sources:

- **Addiction treatment data** are from the Drug and Alcohol Abuse Normative Evaluation System (DAANES) of the Performance Measurement and Quality Improvement Division, Minnesota Department of Human Services (through December 2010).
- **Mortality data** on drug-related deaths are provided by the Ramsey County Medical Examiner and the Hennepin County Medical Examiner (through December 2010). Hennepin County cases include those in which drug toxicity was the immediate cause of death and those in which the recent use of a drug was listed as a significant condition contributing to the death.
- **Crime laboratory data** are from the National Forensic Laboratory Information System (NFLIS), administered by the U.S. Drug Enforcement Administration (DEA), which collects solid dosage drug analyses conducted by State and local forensic laboratories across the country on drugs seized by law enforcement (through December 2010). Data presented here are from the seven-county metropolitan area including the counties of Anoka, Dakota, Hennepin, Ramsey, Washington, Scott, and Carver.
- **Drug seizure, price, purity, and arrest data** are from the various multijurisdictional narcotics task forces that operate throughout the State, compiled by the Office of Justice Programs, Minnesota Department of Public Safety (through December 2010), and the DEA.

- **Drug use among arrestees data** are from the Arrestee Drug Abuse Monitoring II (ADAM II) Program, administered by the White House Office of National Drug Control Policy, based on the urinalysis of a sample of 899 males arrested in Hennepin County in 2010.
- **Human immunodeficiency virus (HIV) infection data and hepatitis C virus (HCV) data** are from the Minnesota Department of Health (through December 2010).
- **Additional information** came from interviews with addiction treatment providers, narcotics agents, and school-based drug and alcohol specialists (ongoing).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In recent years, increasingly fewer clients received treatment for cocaine addiction. This pattern continued in 2010. Cocaine was the primary substance problem for 5.7 percent of total treatment admissions in 2010 (exhibit 1), compared with 6.4 percent in 2009 and 14.4 percent in 2005 (exhibit 2). The actual number of cocaine treatment admissions declined by 64.7 percent from 2005 to 2010 (exhibit 3).

As in past years, most cocaine treatment admissions in 2010 (78.2 percent) were for crack cocaine (exhibit 4). Almost one-half (49.9 percent) of primary cocaine admissions were African-American; 38 percent were White; 39.6 percent were female; and 73.7 percent were age 35 and older. The average age of first cocaine use for clients receiving treatment for cocaine was 24 (exhibit 5).

In Hennepin County in 2010, there were 25 accidental cocaine-related deaths (exhibit 6), compared with 10 in 2009. Of these 2010 cases, 8 had cocaine toxicity as the cause of death, and 17 reported recent cocaine use as a significant contributing condition. Ramsey County reported 7 cocaine-related deaths in 2010, compared with 11 in 2009. Opiate-related deaths have outnumbered cocaine-related deaths since 2001 (exhibit 7).

Cocaine accounted for 22.3 percent of the drug items seized and identified by NFLIS laboratories in 2010 (exhibit 8), compared with 22.2 percent in 2009 and 28.2 percent in 2008. Street gangs in both Minneapolis and St. Paul remained involved in the street-level retail distribution of crack cocaine. The amount of cocaine seized statewide by narcotics task forces continued to decline in 2010 (exhibit 9). A rock of crack ranged in price from \$15 to \$20, a gram of cocaine powder cost \$80–\$120, and an ounce ranged from \$1,100 to \$1,400.

In 2010, 19.8 percent of the adult males arrested in Hennepin County tested positive for cocaine, compared with 27.5 percent in 2007 (exhibit 10).

Heroin/Opiates

The abuse of and addiction to heroin and other opiates continued at heightened levels in the Twin Cities in 2010, with some signs of slowing. Mexico was the primary source of heroin, including both black tar heroin and brown powder.

While treatment admissions involving heroin and other opiates have increased steadily in the Twin Cities since 2000, the actual number fell slightly from 2009 to 2010 (exhibit 11). There was a 5.8-percent decline in primary treatment admissions for heroin and other opiates combined in 2010 ($n=3,171$), compared with 2009 ($n=3,366$).

Heroin accounted for 7.8 percent of total treatment admissions in 2010 (exhibit 2), compared with 8.0 percent in 2009, 6.7 percent in 2008, and 3.3 percent in 2000. Of the clients admitted to Twin Cities area addiction treatment programs with heroin as the primary substance problem in 2010, very few (0.8 percent) were younger than 18, and injection was the most common route of administration (62.1 percent). Females accounted for 33.9 percent of clients. Whites accounted for 64.0 percent of heroin treatment admissions; African-Americans constituted 24.5 percent; and American Indians represented 5.4 percent. Roughly one-third (34.9 percent) were age 18–25; 25.1 percent were age 26–34; and 39.2 percent were age 35 and older (exhibit 4). The average age of first heroin use for clients receiving treatment for heroin was 21.5 (exhibit 5).

Opiates other than heroin (“other opiates”) include prescription narcotic analgesics (painkillers). Other opiates were reported as the primary substance problem by a record high number of 1,722 clients in the Twin Cities in 2009. In 2010, there were slightly fewer ($n=1,639$) such clients, representing a 4.8-percent decline. In 2010, primary opiate admissions accounted for 8.4 percent of total treatment admissions in 2010, compared with 8.3 percent in 2009 and 1.4 percent in 2000. The majority of clients were White (82.1 percent); almost one-half were females (46.2 percent); and 34.8 percent were 35 and older (exhibit 4). The most common route of administration was oral (69.4 percent). The average age of first use of other opiates for clients receiving treatment for other opiates was 24.5 (exhibit 5).

In early 2011, two American Indian tribes, the Red Lake Nation and the White Earth Band of Chippewa, declared public health emergencies with respect to prescription and illegal drug abuse on their reservations, both located in northern Minnesota. Addiction to prescription narcotics was at record-high levels, according to numerous sources, and the collateral consequences of widespread prescription narcotic abuse, trafficking, and addiction have continued to erode the quality of life and public safety in the communities.

Opiate-related deaths in Hennepin County and Ramsey County fell slightly (exhibit 6), from 113 in 2009 to 92 in 2010. Of the opiate-related decedents in Hennepin County in 2010, 60 percent were male; the majority were White (76.9 percent); 10 percent were African-American; 1 percent were Hispanic; 1 percent were Asian; and 3 percent were American Indian. The average age was 40.2. Of the 65 cases, 24 involved methadone (36.9 percent), followed by oxycodone ($n=13$), and fentanyl ($n=3$). Four cases involved the simultaneous use of cocaine, and four involved the simultaneous use of methamphetamines.

Of the 27 opiate-related decedents in Ramsey County in 2010, 18 were male; 22 were White; and 5 were African-American. The average age was 40.7. Seven cases involved methadone, and 12 involved oxycodone. Seven cases involved the simultaneous use of cocaine, and seven involved the simultaneous use of benzodiazepines.

Heroin accounted for 3.9 percent of the drug items seized and identified by NFLIS laboratories in 2010, compared with 2.0 percent in 2008. Oxycodone accounted for 2.3 percent (exhibit 8). In 2010,

9.0 percent of adult male arrestees in Hennepin County tested positive for opiates, compared with 4.7 percent in 2007 (exhibit 10).

All levels of law enforcement reported an increase in activity surrounding both heroin and prescription drugs. Statewide during 2010, the Minnesota Drug Task Forces made 108 arrests for heroin, compared with 50 in 2008, an increase of 53.7 percent.

According to the DEA's Heroin Domestic Monitoring Program, the purity of heroin in Minneapolis was among the highest found in the country, and the cost of heroin per milligram pure was among the lowest (exhibit 12). Prices for Mexican brown and black tar heroin ranged from \$20 to \$40 per dosage unit, or "bag," and from \$100 to \$200 per gram. An "eight-ball" (one-eighth of an ounce) cost roughly \$400.

A small portion of the Twin Cities' Hmong immigrant population continued to smoke opium that was typically shipped from Asia to the Twin Cities and concealed in various packages. Many of these packages continued to be intercepted by U.S. Customs.

Methamphetamine/Other Stimulants

Methamphetamine

In the wake of significant increases in methamphetamine manufacture, abuse, and addiction from 2000 through 2005, notable downward trends continued into 2010, with some signs of leveling and some slight increases.

Methamphetamine-related admissions to addiction treatment programs accounted for 6.4 percent of treatment admissions in 2010, compared with 5.7 percent in 2009 (exhibit 2), 6.0 percent in 2008, and 12.0 percent in 2005. The actual number of clients in 2010 rose slightly, from 2009 to 2010, at 1,169 and 1,259, respectively. (exhibit 13). Of the methamphetamine-related treatment admissions in 2010, 80.9 percent were White, and 37.0 percent were females (exhibit 4). Asians accounted for 6.4 percent, and Hispanics constituted 4.6 percent. Smoking was the most common route of administration (69.0 percent). Only 1.4 percent of the methamphetamine clients were younger than 18, compared with a high of 11.5 percent in the first half of 2005. The average age of first use of methamphetamine for clients receiving treatment for it was 21.8 (exhibit 5).

Combining Ramsey and Hennepin Counties, there were 13 methamphetamine-related deaths in both 2009 and 2010 (exhibits 6 and 7). Methamphetamines accounted for 23.7 percent of the drug items seized and identified by NFLIS laboratories, compared with 24.4 percent in 2009, 26.5 percent in 2008, and 51.0 percent in 2005. Statewide amounts of methamphetamine seized by narcotics task forces declined overall from 2006 to 2010 (exhibit 9). Statewide, methamphetamine laboratories, while fewer than in 2005, increased from 18 in 2009 to 28 in 2010. Methamphetamine dumpsites declined from 12 to 9 in the same period (exhibit 14). Methamphetamine ranged in price from \$80 to \$150 per gram and from \$19,000 to \$20,000 per pound. In 2010, 3.2 percent of adult males arrested in Hennepin County tested positive for methamphetamine, the same percentage as in 2007 (exhibit 10).

Other Stimulants

Khat, a plant indigenous to East Africa and the Arabian Peninsula and used for its stimulant effects in East Africa and the Middle East, maintained its persistent presence within the Somali immigrant community in the Twin Cities. Its active ingredients, cathinone and cathine, are controlled substances in the United States. Cathinone, a Schedule I drug, is present only in the fresh leaves of the flowering plant and converts to the considerably less potent cathine in approximately 48 hours. Users chew the leaves, smoke it, or brew it in tea. Statewide, narcotics task forces seized 54,916 grams of khat in 2004, 108,386 grams in 2009, and 484,955 grams in 2010 (more than 1,000 pounds) (exhibit 15). Few arrests have ensued, however, attributed in part to lack of significant penalties for its importation. Cathinone and cathine stemming from khat plants or dried khat leaves, known as “grabba,” accounted for 1.8 percent of NFLIS items in 2010 (exhibit 8).

Methylphenidate (Ritalin®), a widely prescribed prescription drug used in the treatment of attention deficit hyperactive disorder, is also abused nonmedically to increase alertness and suppress appetite by some adolescents and young adults. It is sometimes known as a “hyper pill” or “the study drug.” The Hennepin Regional Poison Center reported 302 exposures to methylphenidate in 2010 and 82 in 2011 (first quarter). Crushed and snorted or ingested orally, each pill sold for \$5 or was simply shared with others at no cost.

Marijuana

Marijuana treatment admissions continued to account for more addiction treatment admissions than those for any other illicit drug in the Twin Cities, with 3,578 admissions in 2010 (18.3 percent of total treatment admissions) (exhibit 16). Of these, 31.0 percent were younger than 18; 37.1 percent were age 18–25; and 13.3 percent were 35 and older. Females represented 20.3 percent (the lowest percentage of females in any drug category); 53.6 percent were White; 29.8 percent were African-American; 6.3 percent were Hispanic; and 3.8 percent were American Indian (exhibit 4). The average age of first marijuana use for clients receiving treatment for marijuana was 14.1, the youngest age of first use for any substance (exhibit 5).

Marijuana/cannabis accounted for 24.1 percent of drug samples reported to NFLIS in 2010 (exhibit 8). In 2010, 53.6 percent of adult male arrestees in Hennepin County tested positive for marijuana, compared with 42.7 percent in 2007 (exhibit 10).

Marijuana joints dipped in formaldehyde, which is often mixed with PCP (phencyclidine), are known as “wet sticks,” “water,” or “wet daddies.” Joints containing crack are known as “primos.” Marijuana joints sold for \$5 per joint. Pounds of “BC Bud” ranged from \$2,400 to \$2,800, compared with pounds of Mexican marijuana that ranged from \$550 to \$1,100 per pound. Statewide narcotics task forces seized 7,618 cultivated marijuana plants in 2010 (exhibit 17).

MDMA/Club Drugs/Hallucinogens

MDMA (3,4-methylenedioxymethamphetamine), also known as ecstasy, “X,” or “e,” sold for \$20 per pill. MDMA accounted for 4.3 percent of drug samples identified in NFLIS forensic laboratories in 2010 (exhibit 8), compared with 4.1 percent in 2008. Human ingestion cases involving MDMA

reported to the Hennepin Regional Poison Center numbered 63 in 2008, 38 in 2010, and 13 in the first quarter of 2011 (exhibit 18).

Salvia divinorum (a plant) and salvinorin A produce short-acting hallucinogenic effects when chewed, smoked, or brewed in tea. These are most often used by adolescents and young adults. Effective August 1, 2010, the sale or possession of these in Minnesota became a gross misdemeanor. The Hennepin Regional Poison Center reported six Salvia exposures in 2009, three in 2010, and none in 2011 (first quarter).

LSD (lysergic acid diethylamide), or “acid,” a strong, synthetically produced hallucinogen, was typically sold as saturated, tiny pieces of paper known as “blotter acid,” for \$5 to \$10 per dosage unit. The Hennepin Regional Poison Center reported 10 LSD exposures in 2009, 11 in 2010, and 4 in the first quarter of 2011.

Morning glory seeds crushed and mixed with vodka, called a “morning glory cocktail,” was ingested by one suburban high school student seeking hallucinogenic effects in April 2011. The student was consequently hospitalized in a psychotic state and placed in a medically induced coma while the drug effects subsided.

DXM (dextromethorphan) is the active cough suppressant ingredient in Coricidin HBP Cough and Cold® (known as “Triple Cs”) and Robitussin®. Over-the-counter cough and cold products that contain dextromethorphan continued to be abused sporadically, mostly by adolescents, for their hallucinogenic effects by ingesting doses many times in excess of the recommended amount. Excessive dosages produce long-acting hallucinations, altered time perception, slurred speech, profuse sweating, uncoordinated movements, and high blood pressure.

Synthetic Cannabinoids and Cathinones

Synthetic Cannabinoids

The use of synthetic marijuana products, such as “K2” and “Spice,” continued to elicit rising public concern throughout Minnesota in 2010. These herbal mixtures are sold as incense with a warning not to use for human consumption; however, when smoked, they are purported to produce effects similar to those of marijuana. They are sold online and in “head-shops,” under numerous other names, such as “Smoke XXXX,” “Stairway to Heaven,” or “California Dreams,” in small Ziploc® plastic bags with handmade packaging.

Using its emergency scheduling authority, the U.S. DEA acted in March 2011 to temporarily control five chemicals that are used to make “fake pot” products: JWH-018; JWH-073; JWH-200; CP-47,497; and cannabicyclohexanol. In spite of this DEA action, numerous reports continued from Twin Cities metropolitan area school-based counselors about the escalating abuse of these mixtures by students. In several cases, the use of synthetic THC produced highly combative and aggressive behavior, vomiting, and seizures. In May 2011, two high school students were taken from school to the hospital by ambulance, after experiencing vomiting and agitation after eating synthetic tetrahydrocannabinol (THC) that was baked in cookies. The Hennepin Regional Poison Center reported 89 synthetic cannabinoid exposures in 2010 and 49 in the first quarter of 2011.

Synthetic Cathinones

Chemical mixtures that are sold online and in “head shops” and labeled as “bath salts” or “plant food” in packages that state “not for human consumption” are increasingly and intentionally consumed to produce effects similar to those experienced by ingesting stimulant illegal drugs, such as cocaine or MDMA. Mephedrone (4-methylmethcathinone or 4-MMC) is a substance of the phenylethylamine class and also shares similarities with methcathinone, a Schedule I substance. These structural similarities to methcathinone open the door for possible prosecutions involving these products under the Federal Analog Act of the Controlled Substances Act. Exposures to bath salts reported to the Hennepin Regional Poison Center rapidly increased from 6 in 2010 to 26 in the first quarter of 2011 (exhibit 18). Adverse effects include chest pains, increased heart rate, elevated blood pressure, agitation, vomiting, dizziness, delusions, suicidal thoughts, psychosis, and paranoia. Mephedrone has been packaged and sold as bath salts, research chemicals, or plant food. Bath salts are sold under names such as “Vanilla Sky,” “Bliss,” and “Ivory Wave.” Mephedrone alone is also known as “Meow Meow,” “M-CAT,” “Bubbles,” or “Mad Cow.” Bath salts, or synthetic cathinones, may also contain other related chemicals: MDPV (3,4-methyldioxypyrovalerone); methylone (3,4-methylenedioxy-methcathinone or MDMC); naphyrone (naphthylpyrovalerone or NRG-1); 4-fluoromethcathinone or 3-FMCO; methedrone (4-methoxymethcathinone, bk-PMMA, or PMMC); or butylone (beta-keto-N-methylbenzo-dioxylpropylamine or bk-MBDB). A 19-year-old male in nearby Hudson, Wisconsin, was pulled over for erratic driving in May 2011 and upon questioning admitted having recently snorted bath salts.

Other Synthetic Drugs

Chemical mixtures that are sold online as “research drugs” that are “not intended for human consumption,” were intentionally consumed by a group of young people in suburban Blaine, Minnesota, in March 2011. The chemical compound known as 2C-E (2,5-dimethoxy-4-ethylphenylethylamine) was snorted by 11 young people, who were seeking effects similar to the stimulant drug MDMA or “ecstasy.” All experienced profound hallucinations and became distressed. They were eventually hospitalized, and one 19-year-old male was pronounced dead at the hospital. The Blaine man who supplied the substance was charged with felony third degree murder. Some later reports said that some people thought they were ingesting 2C-I, a chemical cousin of 2C-E, that has allegedly milder effects. Exposures to 2C-I and related analogues reported to the Hennepin Regional Poison Center numbered 4 in 2009, 7 in 2010, and 12 in the first quarter of 2011. 2C-E and 2C-I are also in the phenylethylamine class, and share significant structural similarities with 2C-B, a Schedule I substance. The structural similarities of 2C-E to the Schedule I substance 2C-B create the possibility of prosecution under the Federal Analog Act of the Controlled Substances Act.

The primary users of these emerging synthetic drugs tend to be young males age 16 to 30, especially ones who are already in trouble with substance abuse and the law (based on interviews with school-based counselors). For this group, an added appeal of using these synthetic substances is that they are not routinely detected in standard urine screens. A statewide bill banning the sale and possession of bath salts, 2C-E analogues, and synthetic THC was enacted by the Minnesota legislature and signed into law, effective July 1, 2011.

Alcohol

Alcohol remained the most widely abused substance in Minnesota and the Twin Cities. Approximately one-half of the total admissions to addiction treatment programs (51.3 percent) reported alcohol as the primary substance problem in 2010. Of these clients, more than one-half (59.8 percent) were 35 and older, with 1.4 percent being younger than 18; 73.8 percent were White (exhibit 4). The average age of first use of alcohol for clients receiving treatment for alcohol addiction was 15.4 (exhibit 5).

In 2009, there were 421 traffic deaths statewide, and in keeping with historical trends, roughly one-third of these deaths ($n=141$) were related to alcohol. Also in Minnesota in 2009, 32,756 motorists were arrested for DWI (Driving While Intoxicated). Effective July 1, 2011, the Minnesota Ignition Interlock Program takes effect. It allows the use of ignition interlock devices for convicted drunk drivers who seek to get their licenses reinstated sooner. An ignition interlock is a breath analyzer device that is wired into a vehicle's starting system that prevents a vehicle from starting if it detects a certain alcohol concentration level after the driver blows into its tube. The length of time a convicted DWI offender may be required to use an ignition interlock device depends on the prior record of the driver and the length of license revocation.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV

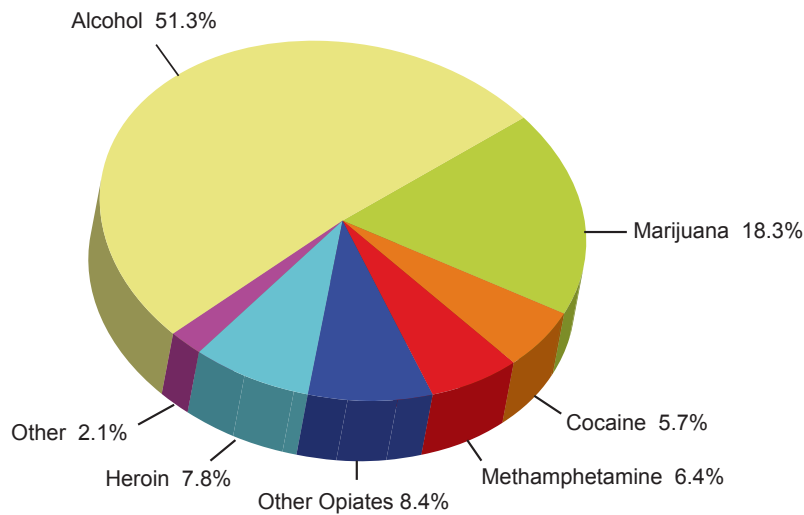
As of December 31, 2010, a cumulative total of 9,493 Minnesota residents reported cases of HIV infection. This includes 5,824 AIDS cases and 3,669 HIV, non-AIDS cases. Of these 9,493 HIV/AIDS cases, 3,228 were known to be deceased. Approximately 85 percent of the reported HIV new infections occurred in the Minneapolis/St. Paul metropolitan area. There were differences by gender for Minnesota cases of HIV infection. In 2010, male-to-male sex (MSM) accounted for 68 percent of new cases among males, 2 percent were injection drug users (IDUs), and MSM/IDU accounted for 4 percent (exhibit 19). Among females, heterosexual contact accounted for 71 percent, and 4 percent were IDUs.

Hepatitis C

Hepatitis C, the contagious liver disease that results from infection with the Hepatitis C virus (HCV), can range from a mild illness lasting a few weeks to a serious, lifelong illness. According to the Centers for Disease Control and Prevention (CDC), most people become infected with HCV by sharing needles or other equipment to inject drugs. It is transmitted when blood from a person infected with HCV enters the body of someone who is not infected. As of December 31, 2010, 35,241 people were living in Minnesota with past or present HCV infection; 63 percent of those with a reported address resided in the Minneapolis/St. Paul metropolitan area.

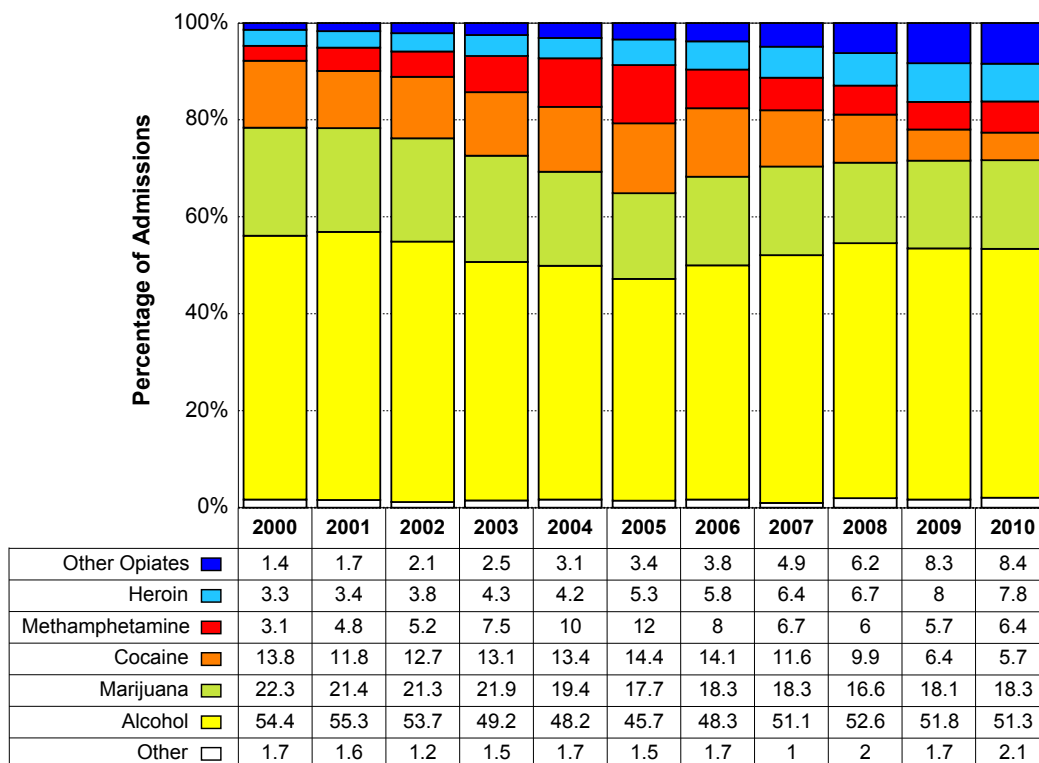
For inquiries concerning this report, please contact Carol Falkowski, Drug Abuse Strategy Officer, Minnesota Department of Human Services, 444 Lafayette Road, St. Paul, MN 55101, Phone: 651-431-2457, Fax: 651-431-7449, E-mail: carol.falkowski@state.mn.us.

Exhibit 1. Percent of Admissions to Minneapolis/St. Paul Area Addiction Treatment Programs, by Primary Substance Problem: 2010



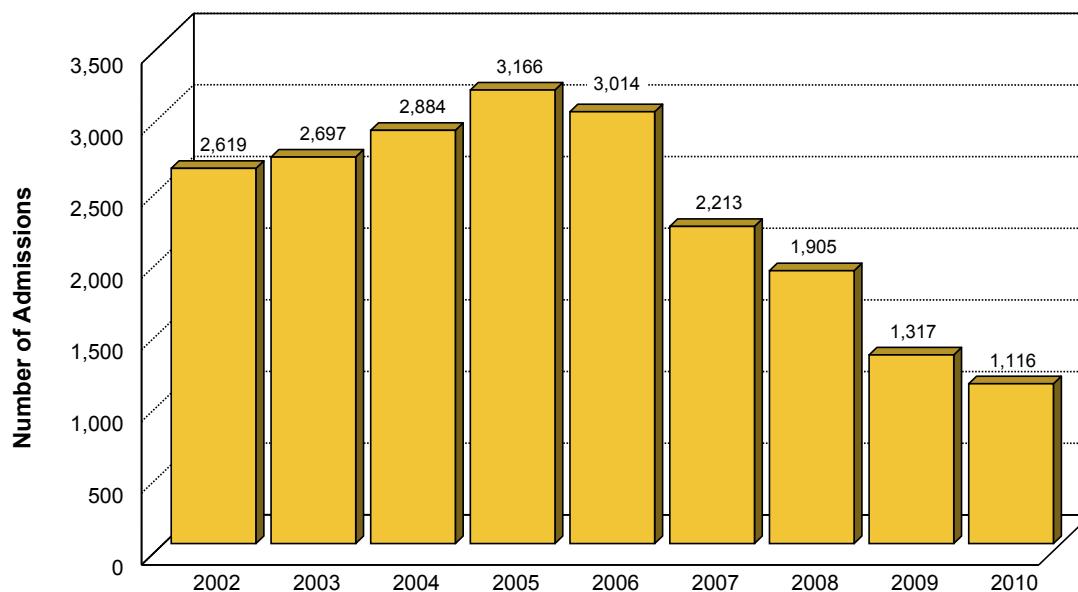
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 2. Percent of Admissions to Addiction Treatment Programs, by Primary Substance Problem, Minneapolis/St. Paul Area: 2000–2010



SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 3: Number of Primary Cocaine Admissions to Treatment Programs, Minneapolis/St. Paul: 2002–2010



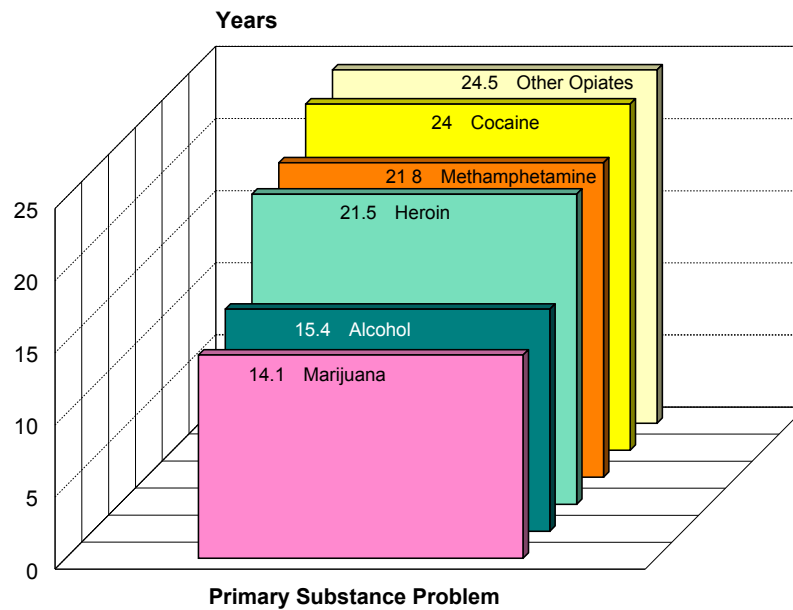
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 4. Characteristics of Clients Who Received Addiction Treatment Services, by Primary Substance Problem and Percent, Minneapolis/St. Paul: 2010

Total 2010 Admissions = 19,544	Alcohol 10,033 (51.3%)	Marijuana 3,578 (18.3%)	Cocaine 1,116 (5.7%)	Metham- phetamine 1,259 (6.4%)	Heroin 1,532 (7.8%)	Other Opiates 1,639 (8.4%)
Gender						
Male	67.9	79.7	60.4	63.0	66.1	53.8
Female	32.1	20.3	39.6	37.0	33.9	46.2
Race/Ethnicity						
White	73.8	53.6	38.0	80.9	64.0	82.1
African-American	13.9	29.8	49.9	2.3	24.5	4.9
American Indian	3.6	3.8	4.6	2.1	5.4	6.8
Hispanic	4.4	6.3	3.7	4.6	3.2	2.7
Asian-Pacific Islander	1.6	1.7	1.2	6.4	0.7	2
Other	2.6	4.8	2.7	3.6	2.3	1.6
Age						
17 and Younger	1.4	31.0	0.4	1.4	0.8	1.5
18–25	16.3	37.1	9.3	25.7	34.9	29
26–34	22.5	18.5	16.6	38	25.1	34.7
35 and Older	59.8	13.3	73.7	34.9	39.2	34.8
Route of Administration						
Oral	100	1.7	0	6.1	0.6	69.4
Smoking	0	97.9	78.2	69.0	4.9	4.5
Snorting/Inhalation	0	0	18.1	5.5	30.9	14.6
Injection	0	0	1.9	17.5	62.1	9.6
Unknown	0	0.4	1.8	1.9	1.5	1.9

SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 5. Average Age of First Use by Treatment Admission Clients, by Primary Substance Problem, Minneapolis/St. Paul: 2010



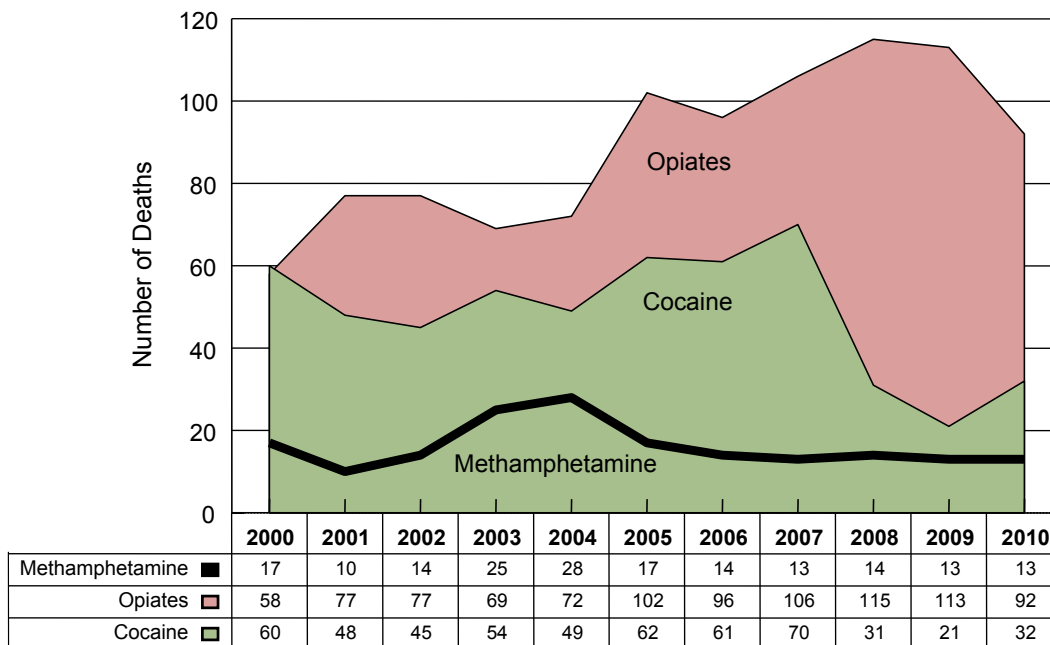
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 6. Drug-Related Deaths, by County, Minneapolis/St. Paul Area: 2000–2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hennepin County											
Cocaine	43	37	34	44	39	50	48	59	21	10	25
Opiates	41	58	59	50	47	60	69	67	84	77	65
Methamphetamine	6	8	11	15	19	10	8	6	9	6	9
	3 MDMA	1 MDMA	3 MDMA	1 MDMA	8 MDMA	3 MDMA	1 MDMA	2 MDMA	1 MDMA	1 MDMA	
Ramsey County											
Cocaine	17	11	11	10	10	12	13	11	10	11	7
Opiates	17	19	18	10	25	42	27	39	31	36	27
Methamphetamine	11	2	3	10	9	7	6	7	5	7	4
	3 MDMA										1 MDMA

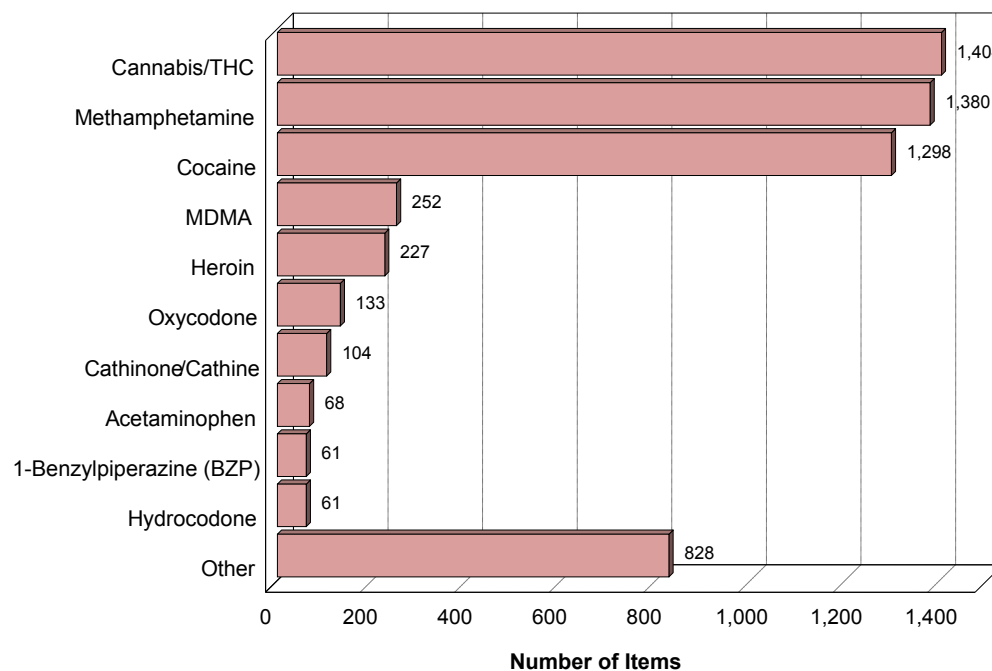
SOURCE: Office of the Hennepin County Medical Examiner and Office of the Ramsey County Medical Examiner

Exhibit 7. Number of Drug-Related Deaths in Hennepin County and Ramsey County, Minneapolis/St. Paul Area: 2000–2010

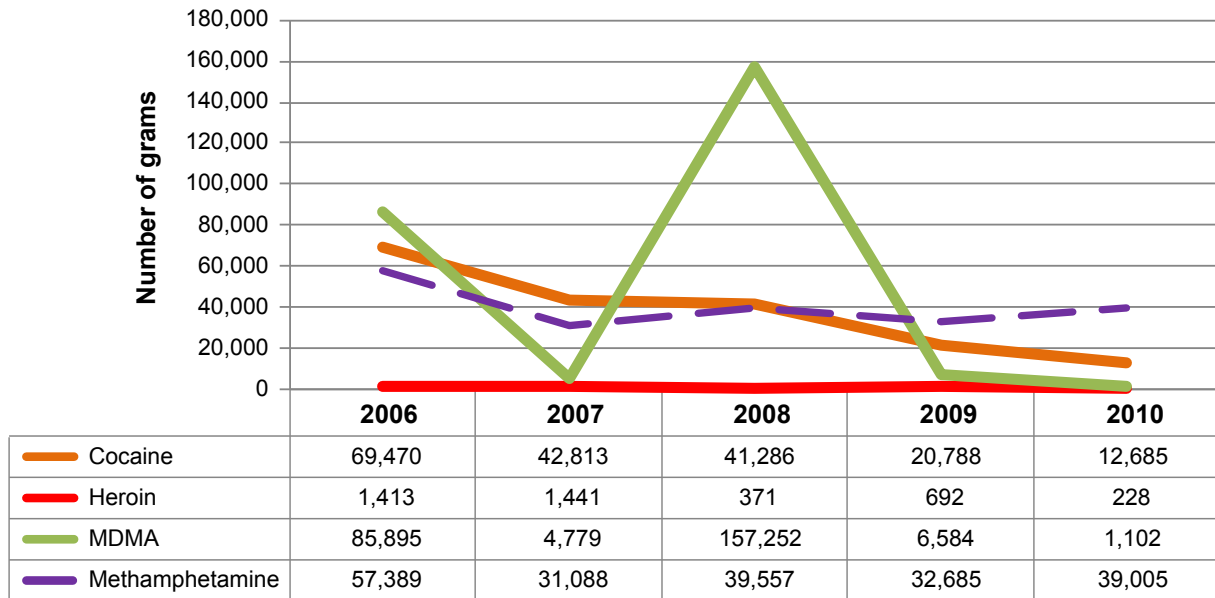


SOURCE: Hennepin County Medical Examiner and Ramsey County Medical Examiner

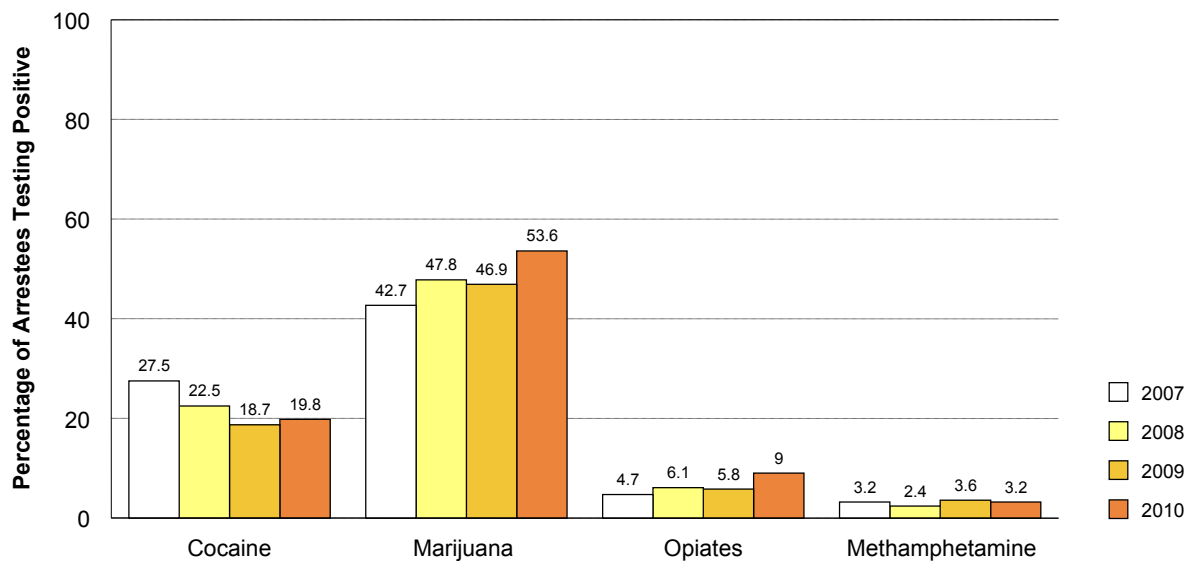
Exhibit 8. Most Frequently Identified Drugs Among Total Analyzed Drug Items, Minneapolis/St. Paul Area: 2010



SOURCE: NFLIS, DEA

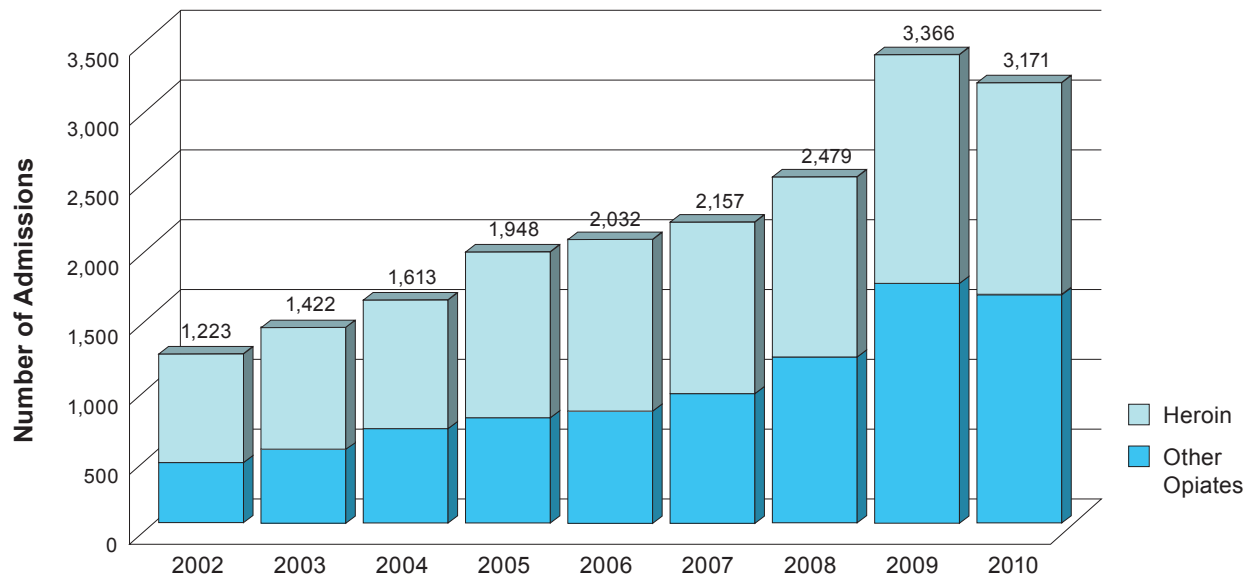
Exhibit 9. Drugs Seized by Narcotics Task Forces, Minnesota: 2006–2010

SOURCE: Office of Justice Programs, Minnesota Department of Public Safety, *Drug and Violent Crime Task Force 2011 Annual Report*, March 2011

Exhibit 10. Percent of Male Arrestees Who Tested Positive for Drugs, Hennepin County (Minneapolis): 2007–2010

SOURCE: Data for 2007–2009 from the ADAM II 2009 Annual Report, ONCDP; Tables 3.4 and 3.5, 2010 ADAM Report, Appendix C, p. 131; sampled eligible arrestees: 2007=881, 2008=854, 2009=996, and 2010=899

Exhibit 11. Number of Admissions to Addiction Treatment Programs With Heroin and Other Opiates as the Primary Substance Problem, Minneapolis/St. Paul: 2002–2010



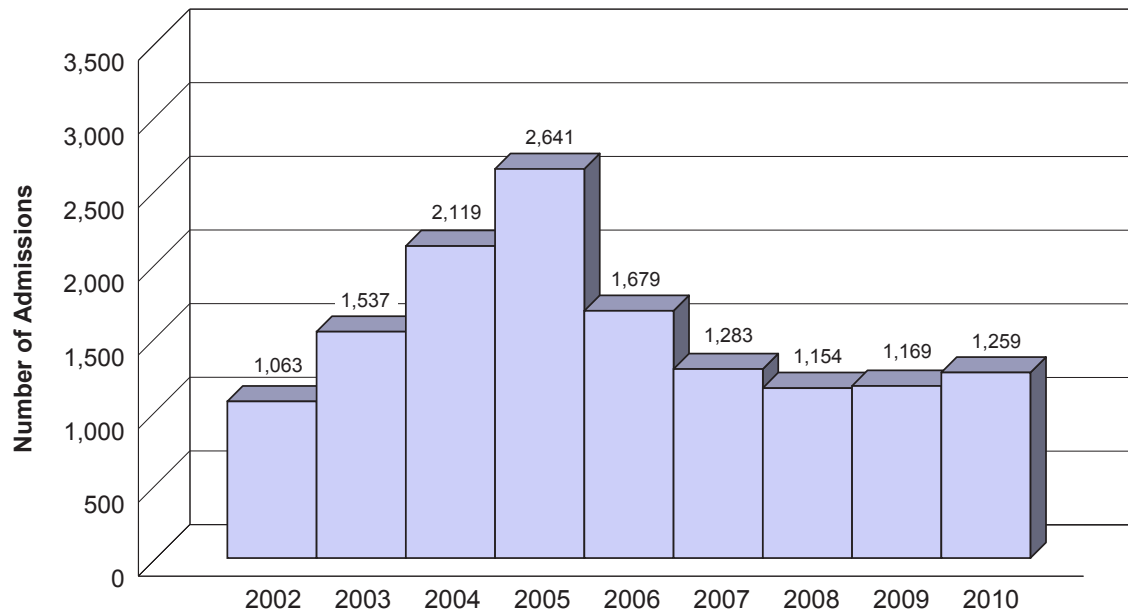
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 12. Price and Purity of Mexican Heroin, Minneapolis: 2007–2009

	2007	2008	2009
Purity	59.9%	54.75%	53.35%
Price per Milligram Pure	\$0.29	\$0.26	\$0.25
# Qualified Samples	16	13	4

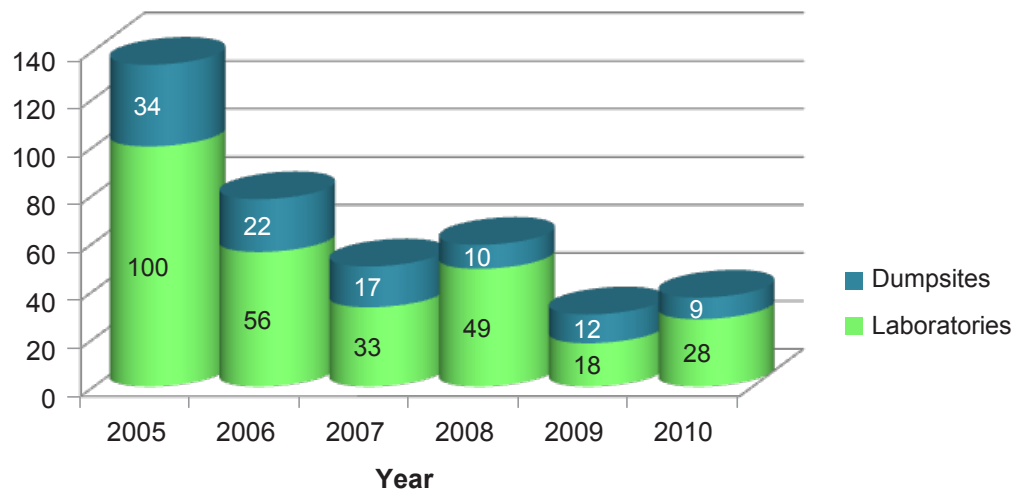
SOURCE: HDMP, DEA, 2009 *Heroin Domestic Monitor Program*, Report, DEA-NCW RPT-013-10, November, 2010

Exhibit 13. Number of Admissions to Addiction Treatment Programs With Methamphetamine as the Primary Substance Problem, Minneapolis/St. Paul: 2002–2010

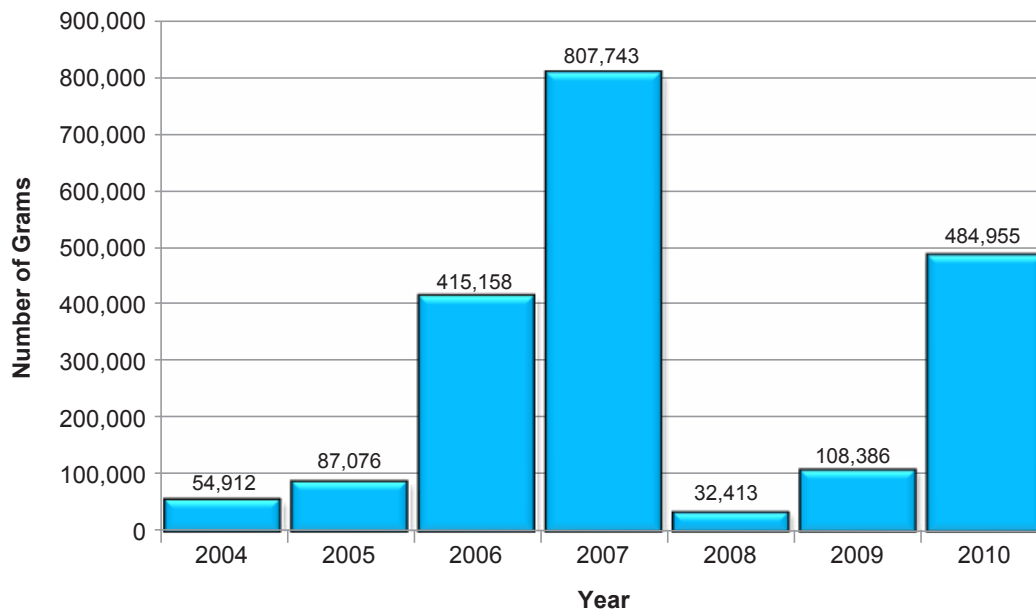


SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

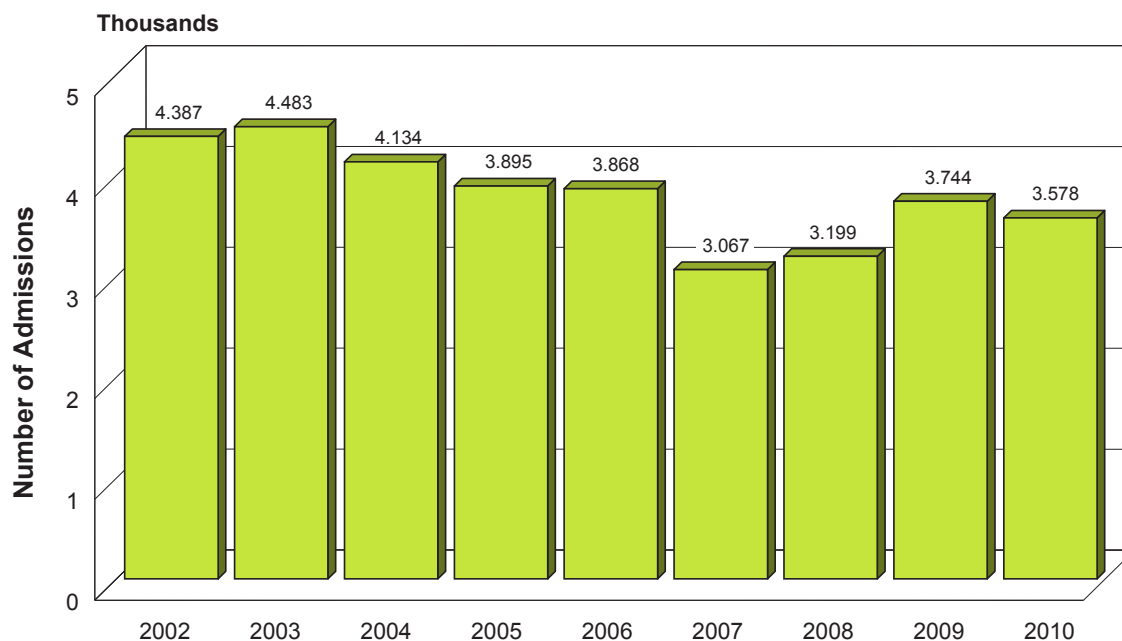
Exhibit 14. Number of Methamphetamine Laboratories and Dumpsites Dismantled by Narcotics Task Forces, Minnesota: 2005–2010



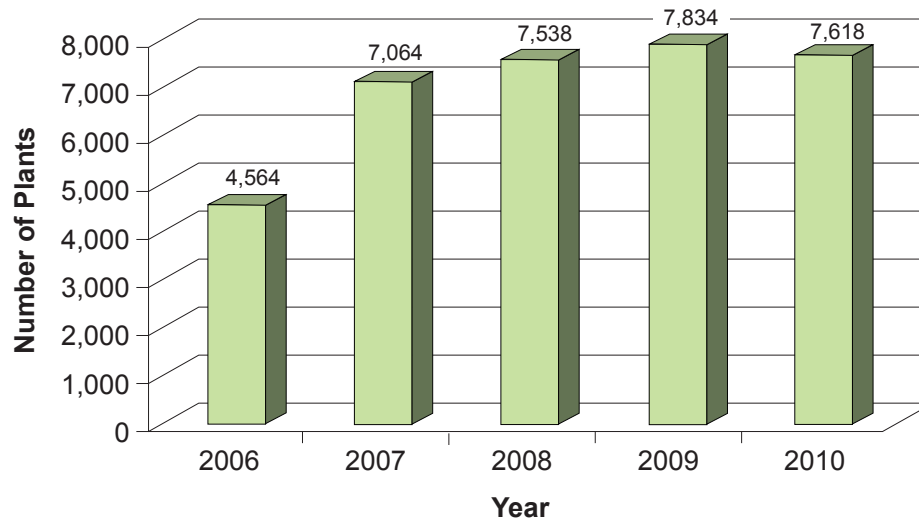
SOURCE: Office of Justice Programs, Minnesota Department of Public Safety, *Drug and Violent Crime Task Force 2011 Annual Report*, March 2011

Exhibit 15. Number of Grams of Khat Seized by Narcotics Task Forces, Minnesota: 2004–2010

SOURCE: Office of Justice Programs, Minnesota Department of Public Safety, *Drug and Violent Crime Task Force 2011 Annual Report*, March 2011

Exhibit 16: Number of Admissions to Addiction Treatment Programs With Marijuana as the Primary Substance Problem, Minneapolis/St. Paul: 2002–2010

SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES)

Exhibit 17. Cultivated Marijuana Plants Seized by Narcotic Task Forces, Minnesota: 2006–2010

SOURCE: Office of Justice Programs, Minnesota Department of Public Safety, *Drug and Violent Crime Task Force 2011 Annual Report*

Exhibit 18. Number of Exposures to Selected Drugs Reported to Hennepin County Regional Poison Center, Minneapolis: 2009–First Quarter 2011

	2009	2010	1st Q 2011
"Bath Salts"	0	6	26
2C-I and Analogs	4	7	12
MDMA	63	38	13

SOURCE: AAPC Toxic Exposure Surveillance System (TESS), Hennepin County Regional Poison Center

Exhibit 19. Number and Percent of New Cases of HIV Infection, by Gender and Mode of Exposure, Minnesota: 2010

Mode of Exposure	Males # Cases	Males %	Females # Cases	Females %	Total # Cases	Total %
MSM	178	68	--	--	178	54
IDU	6	2	3	4	9	3
MSM/IDU	10	4	--	--	10	3
Heterosexual	11	4	48	71	59	18
Perinatal	1	0	1	1	2	1
Unspecified	29	11	10	15	39	12
No interview	28	11	6	9	34	10
Total	263	100	68	100	331	100

Notes: MSM=men who have sex with men; IDU= injection drug user.

SOURCE: Minnesota Department of Health, AIDS/HIV Surveillance Unit

Drug Use Trends in New York City: 2010

Rozanne Marel, Ph.D., Robinson B. Smith, M.A., Gregory Rainone, Ph.D., and Raymond Toledo, Ph.D.¹

ABSTRACT

This report describes drug patterns and trends for the five boroughs of New York City in 2010. While cocaine remained a major problem in New York City, cocaine indicators declined for this reporting period. Drug Abuse Warning Network (DAWN) weighted data showed a significant increase in emergency department (ED) visits between 2004 and 2009, but there were significant decreases between both 2007 and 2008 versus 2009. Primary cocaine treatment admissions declined to the lowest level in more than two decades in 2010; many clients in treatment had a primary, secondary, or tertiary problem with cocaine. While there were more drug items seized and identified by National Forensic Laboratory Information System (NFLIS) laboratories as containing cocaine than for any other drug, the percentage of analyzed items that were cocaine decreased from 49 percent in 2007 to 36 percent in 2010. Street reports showed that cocaine was highly available, although the quality of crack may have been lower than in past reporting periods. Heroin also remained a major problem in New York City, but heroin indicators were mixed in this reporting period. Almost one-quarter of all primary treatment admissions were for heroin in 2010. Among primary heroin treatment admissions, the percentage of injectors increased to 42 percent. There was no significant change in the DAWN weighted data from 2004 to 2009 for heroin, but heroin ED visits did decrease significantly between 2009 and the 2 years preceding it. Heroin prices remained unchanged during this reporting period. Thirteen percent of NFLIS items seized and analyzed were for heroin in 2010. ADAM II data showed significant decreases in opiate use among male arrestees in Manhattan. Marijuana indicators continued their recent steady increase and remained at a high level. Marijuana primary treatment admissions increased to the highest number ever and represented more than one-quarter of all treatment admissions. One-third of the total number of items seized and identified by NFLIS laboratories were identified as marijuana; the percentage of items that were identified as containing marijuana increased from 26 percent in 2007 to 33 percent in 2010. Weighted DAWN data for marijuana ED visits increased by 159 percent between 2004 and 2009 but decreased between 2008 and 2009. Marijuana continued to be of good quality and widely available. Prices were stable during this reporting period. ADAM II data revealed significant increases in marijuana use among male arrestees. Street reports suggested that marijuana in a blunt cigar continued to serve as the base to which other drugs are added. Prescription drugs represented only a small fraction of primary admissions to treatment. Despite this, the Street Studies Unit (SSU) continued to report the availability of many kinds of prescription drugs on the street. Furthermore, DAWN weighted data showed significant increases in ED visits from 2004 to 2009 for opiates/opioids as a category and specifically for methadone, oxycodone, and hydrocodone. Numbers of weighted DAWN ED visits involving benzodiazepines as a category also increased significantly, specifically for alprazolam, in that period. Although

¹The authors are affiliated with the New York State Office of Alcoholism and Substance Abuse Services, New York, New York.

prescription drugs represented only a small number of NFLIS items analyzed, the specific drugs that were identified most often were alprazolam, oxycodone, methadone, hydrocodone, clonazepam, and buprenorphine. Methamphetamine indicators remained relatively low. Primary methamphetamine treatment admissions, drug items seized and identified by NFLIS as methamphetamine, and proportions of ADAM II arrestees with positive tests for methamphetamine were all at very low levels. Weighted DAWN ED visits for methamphetamine did show significant increases for 2009, compared with 2004 and 2008. Retail prices showed a significant increase at the high-end of price per milligram for locally produced methamphetamine. While there was little methamphetamine selling activity at general street locations, the SSU reported that regular users had no problem locating the drug. MDMA (3,4-methylenedioxymethamphetamine) indicators remained low. MDMA primary treatment admissions represented a very small number. DAWN weighted data for MDMA-involved ED visits remained low, but they did change significantly for several comparison years between 2004 and 2009. The proportion of items seized and identified as MDMA by NFLIS laboratories in New York City continued to increase in 2010. The number of items identified by NFLIS laboratories as BZP (1-benzylpiperazine) also increased, from 7 in 2008 to 361 in 2010. PCP (phencyclidine) ranked seventh among all items seized and identified by NFLIS, and there were significant increases in DAWN estimates of ED visits involving the drug in 2009, compared with 2004, 2007, and 2008. There were 108,886 New Yorkers living with human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS) as of December 31, 2009. This represented increases of 3 percent from 2008 and 10 percent from 2005. Of the 3,669 new diagnoses of HIV/AIDS in New York City, 80 percent were Black or Hispanic. In 2009, 39.6 percent of people living with HIV or AIDS were 50 or older, compared with 37.0 percent in 2008.

INTRODUCTION

Area Description

New York City, with almost 8.2 million people, is the largest city in the United States. It is situated in the southeastern corner of the State on the Atlantic coast and encompasses an area of more than 300 square miles. New York City has nearly 600 miles of waterfront and one of the world's largest harbors.

According to the 2010 census, the city's population grew by 166,855 persons (2.1 percent) over the 2000 census count. If the New York City five boroughs were compared with other cities, 4 out of the 5 would rank among the top 10 U.S. cities, with Brooklyn ranking 4th in population, Queens 5th, Manhattan 7th, and the Bronx 10th. Historically, New York City has been home to a large multiracial, multiethnic population. New York City is the largest and most racially/ethnically diverse city in the country. As has been true throughout its history, immigration continues to shape the character of New York City. It has contributed to a substantial shift in the racial/ethnic composition of New York. Findings from the 2010 U.S. Census show that the population diversity continues: 33 percent are White non-Hispanic; 23 percent are Black/African American non-Hispanic; 29 percent are Hispanic; and 13 percent are Asian non-Hispanic.

According to the New York City Department of City Planning, approximately 1 in every 36 people living in the United States resides in New York City. New York City has the highest population density of any major city in the United States, with more than 27,000 people per square mile. More than 3 million New York City residents are foreign born, and more than one-quarter arrived in 2000 or later. The average commute for New Yorkers is just under 40 minutes, about 15 minutes longer than the national average. New York City has the largest Chinese population outside of Asia and the largest Puerto Rican population of any U.S. city. Among Latinos in New York City, however, Puerto Ricans currently rank third, following Dominicans and Mexicans. An estimated 200 languages are spoken in New York City, and almost one-half of all New Yorkers speak a language other than English at home (www.nyc.gov/html/dcp/html/census/pop-facts.shtml).

New York City remains the economic hub of the Northeast. Its main occupations include management and professional, sales and office, and service. The unemployment rate in New York City for April 2011 was 8.6 percent; the rate for New York State was 7.9 percent. The unemployment rate for the Nation was 9.0 percent. The unemployment figures for April 2010 were 9.8 percent for New York City, 8.2 percent for New York State, and 9.8 percent for the Nation. According to the U.S. Census Bureau, 2005–2009 American Community Survey, the median household income in New York City in 2009 was \$50,173, with 19 percent living below the Federal poverty level.

Data Sources

This report describes current drug abuse trends in New York City from 1995 to 2010, using the data sources summarized below:

- **Emergency department (ED) data** were derived from the *Drug Abuse Warning Network, 2009: Selected Tables of National Estimates of Drug-Related Emergency Department Visits*, Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), SAMHSA, 2010. Weighted ED visit data for calendar years 2004–2009 are based on a representative sample of hospitals in the five boroughs of New York City. The data are presented as estimates or rates per 100,000 population for ED visits involving selected drugs, with confidence intervals (denoted by CI) indicating the lower and upper bounds of the estimates/rates at the 95-percent confidence level. This report follows the Substance Abuse and Mental Health Services Administration (SAMHSA) convention of providing confidence intervals when making comparisons based on estimates or rates, and of not reporting estimates when the relative standard error is greater than 50 percent, or the number is less than 30. All increases or decreases in estimated ED visits noted are statistically significant at or below $p=.05$. Only weighted DAWN data released by SAMHSA can be used for trend analysis. A full description of the DAWN system can be found at <http://dawninfo.samhsa.gov/>.
- **Treatment admissions data** were provided by the New York State Office of Alcoholism and Substance Abuse Services (OASAS) for 1995 through 2010 and included admissions to both State-funded and nonfunded programs. Demographic data are for 2010.
- **Forensic laboratory testing data** for New York City were provided by the Drug Enforcement Administration (DEA)'s National Forensic Laboratory Information System (NFLIS) for January through December 2010. The data include New York Police Department laboratory data for the five boroughs of New York City from local as well as New York State and DEA laboratories.

- **Arrestee data** were derived from the *ADAM II 2010 Annual Report, Arrestee Drug Abuse Monitoring Program II, Office of National Drug Control Policy (ONDCP), May 2011*, and included weighted data on urinalysis test positivity for selected drugs from male arrestees in Manhattan, New York City.
- **Drug price, purity, and trafficking data** were provided by the *National Illicit Drug Prices—Year-End 2009 and Midyear 2010*, a National Drug Intelligence Center (NDIC) Intelligence Bulletin, January 2011; the *DEA Domestic Monitor Program (DMP); The DEA New York Field Division Intelligence Bulletin: Heroin Domestic Monitor Program FY 2010—Preliminary Results, November 2010*; and OASAS Street Studies Unit (SSU) reports. The SSU is a street research unit that monitors drug activity on the streets of New York City.
- **Acquired immunodeficiency syndrome (AIDS) and human immune-deficiency virus (HIV) data** were provided by the New York City Department of Health and Mental Hygiene, HIV Epidemiology Program, for 1981–2008, including the *HIV Epidemiology and Field Services Semiannual Report, Vol. 5, No. 2, January 1, 2009–December 31, 2009*.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine indicators declined during this reporting period (exhibit 1). Nevertheless, the drug still accounted for major problems in New York City. Primary cocaine treatment admissions to State-funded and nonfunded programs in New York City had declined from 17,572 in 1998 to 12,674 in 2010 (and from 13,744 in 2009). Cocaine admissions reached the lowest number in more than two decades in 2010 and constituted 16 percent of New York City's 81,053 total drug and alcohol treatment admissions. In addition to these primary cocaine admissions, 16,447 admissions reported cocaine as a secondary substance, and 3,930 reported cocaine as a tertiary substance. Among the 81,053 drug and alcohol treatment admissions in 2010, 33,051 (41 percent) mentioned cocaine as a primary, secondary, or tertiary substance of abuse.

Exhibit 2 shows demographic characteristics of cocaine treatment admissions for 2010 by the two primary modes of use: smoking crack (representing 60 percent of cocaine admissions) and using cocaine intranasally (representing 37 percent). Clients who smoked crack were more likely than intranasal users to be female (36 versus 23 percent), Black (68 versus 42 percent), and without income (37 versus 31 percent). Clients using intranasally were more likely to be Hispanic or White. For both groups, the secondary drugs of abuse tended to be alcohol and marijuana. Admissions for primary cocaine represented an aging population, and those smoking crack tended to be older than those using cocaine intranasally.

Weighted DAWN emergency department estimates were available for New York City for the years 2004–2009. According to these estimates, 25,951 (CI=17,770–34,131) DAWN ED visits involved cocaine in 2009 (exhibit 3). Overall, this was a 27-percent increase from 2004, when there were an estimated 20,445 visits (CI=13,141–27,749). However, there was a significant 18-percent decline in estimated cocaine-involved ED visits in 2009 in New York City, from the 31,647 (CI=20,785–42,508) visits in 2008.

DEA's NFLIS showed that of the 51,730 drug items seized and identified by forensic laboratories in New York City in 2010, 18,776 (36 percent) were identified as containing cocaine. This contrasted with calendar year 2007, when 49 percent of the drug items in New York City were identified as cocaine. ADAM II data for Manhattan male arrestees in 2010 showed that 30.3 percent of arrestees tested positive for cocaine. This represented significant declines from 2000, 2001, 2002, and 2003. Changes in the intervening years, from 2004 to 2010, were not significant.

The NDIC reported that prices for cocaine powder for midyear 2010 were \$21,000–\$42,000 per kilogram; mid-level sales were \$750–\$1,500 per ounce; and retail prices were \$100–\$200 per ounce, \$26–\$80 per gram, and \$10–\$20 per bag/glassine. There was no significant change in price between the end of 2009 and midyear 2010. The NDIC reported that crack sold for \$25,000–\$38,000 per kilogram, \$650–\$1,500 per ounce, \$100–\$200 per one-eighth ounce, \$30–\$100 per gram, and \$5–\$15 per rock. As with powder cocaine, there was no significant change in price between the end of 2009 and midyear 2010 for crack cocaine.

According to the SSU, cocaine hydrochloride (HCl) continued to be readily available. Cocaine prices can fluctuate, as sellers vary the purity of the product and offer packages of differing size. Dominicans and Colombians continued to dominate as cocaine distributors in New York City. Cocaine HCl continued to be packaged using various methods, including vials, nail-size plastic bags, aluminum foil, glassine bags, light plastic wrap knotted at both ends, cellophane, folded paper, magazine pages, and balloons. Of these, the most frequently used methods were plastic wrap and aluminum foil. Of all the basic selling methods used in marketing cocaine, the new techno-method or “virtual connection” method continued to be utilized more frequently than older more traditional methods. A buyer makes a connection with a seller through the use of a beeper, Internet, or cell phone, including text messaging. After cell phone or text message contact, the seller may set up a meeting, where he or she arranges for the delivery of the ordered goods which are then dropped off at a customer's office, home, or other location, such as a nearby fast-food or take-out restaurant. Cocaine sellers typically work out of their own apartments or ones belonging to relatives. Cocaine selling on the street, however, continued to be common among sellers, who primarily sold small amounts of cocaine at prices under \$50.

Street sources reported that crack continued to be available throughout the city, but that the quality had declined. Crack selling techniques were becoming more covert, with a substantial decline in “open-air” market activity. Field workers also reported that crack users appeared to be older. While there is only one standard price at any given selling location, SSU staff found crack being sold for various prices throughout the city, usually ranging from \$5 to \$20. The most common price continued to be \$10. There were three basic packaging methods associated with crack in New York City. These were the plastic vial, thumb-nail-size plastic bag, and glassine bag. The thumb-nail-size bag continued to be the most common packaging method used by sellers.

Heroin

Heroin continued to be a major drug problem in New York City (exhibit 4). For example, nearly one-quarter of New York City's primary treatment admissions in 2010 were for heroin. Overall, the trends in heroin indicators were mixed. Primary heroin admissions to treatment programs in New York City gradually increased between 1995 and 2004, from 18,287 to 23,802, representing a 30-percent increase (exhibit 4). However, the number of primary heroin admissions has remained stable

for the last several years. They numbered 19,208 in 2010, constituting 24 percent of New York City's 81,053 drug treatment admissions. In addition to these primary heroin admissions, heroin was reported as a secondary substance of abuse for 2,567 admissions and a tertiary drug for 1,077 admissions. Heroin was identified as the primary substance for a total of 84 percent of the admissions in which heroin was reported as a substance of abuse.

Other changes were observed in mode of heroin use. Intranasal heroin use may have peaked in the second half of 1998, with 62 percent of heroin admissions to all New York City drug treatment programs reporting this as their primary route of administration. Since then, the proportions reporting intranasal use have declined slightly. In 2010, the proportion using primarily intranasally was 57 percent. Meanwhile, heroin injection increased among heroin admissions, from 32 percent in the second half of 1998 to 42 percent in 2010. This continued the increasing trend in injection as the primary route of administering heroin noted over the last two reporting periods.

Exhibit 5 highlights general demographic characteristics of heroin abusers admitted to all New York City treatment programs in 2010 by primary mode of use. In general, primary heroin admissions were predominantly male (78 percent) and 35 and older (76 percent). They were more likely to be Hispanic (47 percent) than Black (26 percent) or White (22 percent); and they were likely to have cocaine identified as a secondary drug of abuse (40 percent). Compared with heroin injectors, intranasal users were more likely to be Black (36 versus 13 percent). In contrast, heroin injectors were more likely than intranasal users to be White (35 versus 13 percent), to have cocaine identified as a secondary drug of abuse (47 versus 36 percent), and to have started use before reaching age 20 (53 versus 41 percent).

In addition to heroin admissions to traditional treatment programs, heroin admissions for detoxification or crisis services in New York City have become sizable in number. These special services are usually short-term, provided in a hospital or community-based setting, and medically supervised. In 1995, 4,503 such admissions were reported involving heroin abuse. In 2010, the number of heroin admissions was 12,463. While that represents an overall increase since 1995, there were fewer heroin admissions for crisis services in 2010 than in 2009 (14,548).

For the five boroughs of New York City, weighted DAWN data for 2004 through 2009 showed that in 2004, there were 13,383 (CI=8,541–18,225) estimated heroin-involved ED visits, while in 2009, there were 12,802 (CI=8,474–17,129) such visits. This represents a significant decrease of 20 percent between 2008 and 2009. NFLIS data showed that 13 percent of the 51,730 drug items seized and identified in New York City in 2010 ($n=6,521$) contained heroin.

According to the NDIC, prices in midyear 2010 were \$35,000–\$80,000 per kilogram for South American (SA) heroin and \$80,000 per kilogram of Southwest Asian heroin. Mid-level prices were \$1,200–\$4,000 per ounce of South American. Retail prices for South American heroin were \$100–\$150 per bundle and \$10–\$20 per bag. There were no significant changes in prices between the end of 2009 and the middle of 2010. According to the DEA DMP, the purity of heroin in 2009 fell to 44.1 percent. From 1992 to 2000, the purity was generally greater than 60 percent milligram pure, but since 2004, it has remained below 50 percent. The price per milligram pure rose from \$0.66 in 2008 to \$0.85 in 2009. According to preliminary results from the DEA New York Field Division, while SA heroin continued to be the predominant heroin being purchased at the street level in New York City, for the first time since 2005, Southwest Asian (SWA) heroin purchases in the DMP were

reported in the New York area. The average purity of these 2010 SWA purchases was 26.7 percent milligram pure, compared with 36.9 percent for SWA in 2005.

According to the ADAM II data for Manhattan male arrestees in 2010, 7.6 percent of arrestees tested positive for opiates. This represented a significant decline in those testing positive for opiates in the current reporting period, compared with 2000, 2001, 2002, and 2003. Changes in the intervening years, from 2004 to 2010, were not significant.

While many indicators for heroin in New York City remained stable or showed slight declines, it should be noted that several indicators, including DAWN ED visit data, point to a substantial increase in heroin and other opiate use and consequences in the suburban area surrounding New York City. Street researchers have also reported an increase in the number of young White buyers from suburban New York and New Jersey at “copping sites” in New York City.

According to the SSU field staff, heroin in New York City continued to be highly available, and the demand for heroin remained high. Despite the wide availability of heroin, however, there appeared to be fewer heroin sellers operating in public than was the case for those selling marijuana or crack. Most heroin users reported that the potency was good. According to various street contacts, the majority of the heroin available in the city came from South America, and the distribution was controlled by Colombian/Dominican organized crime groups.

The majority of heroin coping sites were indoor or off-the-street operations. The most popular packaging method was the glassine bag, which varies by color to denote a given area or dealer. In addition, brand names were sometimes used, but this practice was not as common as it once was. Although most heroin users described themselves as snorters, they continued to report that they knew of more and more users relying on needles. This was reported to be particularly true for young users (i.e., those younger than 30).

Other Opiates/Narcotics

Treatment admissions for other opiates/narcotics represented only 2.2 percent of admissions in New York City in 2010, but they have increased in both New York City and elsewhere in New York State. DAWN weighted estimates for 2009 revealed an estimated 8,058 (CI=6,377–9,739) ED visits for opiates/opioids (exhibit 3). This represented a 123-percent increase since 2004, when there were 3,615 (CI=2,657–4,573) such estimated visits. Most narcotic analgesic-involved ED visits were for methadone, with an estimated 4,387 (CI=3,385–5,389) methadone-involved ED visits in 2009; this represented a 92-percent increase from the estimated 2,288 (CI=1,580–2,996) such visits in 2004. There were also an estimated 421 (CI=355–488) visits involving hydrocodone/combination in 2009, representing an increase of 49 percent from 2001. However, the largest increase within the category of narcotic analgesics involved oxycodone/combination ED visits, with 934 (CI=749–1,120) ED visits in 2009, representing a 262-percent increase from 2004.

According to NFLIS data, 1,400 (2.7 percent) of the drug items seized and identified by forensic laboratories in New York City in 2010 were identified as oxycodone; these items represented 0.8 percent of the total number analyzed. ADAM II data for Manhattan male arrestees revealed that 1.5 percent of arrestees tested positive for oxycodone in 2010.

According to the SSU, prescription opiates were available and popular on the street. OxyContin® was sold on the street for \$15–\$17 for a 40-milligram tablet. Other prices for opiates on the street included Vicodin® selling for \$5–\$10 per dosage unit and Percocet® selling for \$8–\$15 per dosage unit. SSU staff also reported that OxyContin® continued to be used to cut heroin or to boost methadone. Field workers continued to report that Suboxone® was available on the street. Buprenorphine moved from 15th place among all items seized and identified in NFLIS laboratories in 2008 to 9th place in 2010.

Benzodiazepines/Barbiturates

Psychoactive prescription drugs other than narcotic analgesics continued to be widely available and popular in 2010. The SSU continued to report that a variety of such substances were readily available on the street. In 2009, for the five boroughs of New York City, 3,616 (CI=2,900–4,332) benzodiazepine-involved DAWN ED visits were estimated (exhibit 3). This was a significant increase (by 63 percent) from 2004, when there were an estimated 2,213 visits (CI=1,677–2,748) involving benzodiazepines. Within this class of substances, the specific drugs most frequently mentioned in 2009 ED visits were alprazolam (1,704, CI=1,325–2,082), which increased by 79 percent over 4 years; clonazepam (748, CI=551–945); diazepam (276, CI=215–337); and lorazepam (228, CI=156–300). According to the NFLIS data, 3.3 percent ($n=1,721$) of the items seized and identified by laboratories in New York City in 2010 contained alprazolam. This compares with 2007, when 1.4 percent of the seized items were identified as alprazolam.

According to the SSU, the three most popular or commonly sold pharmaceuticals on the street in this category were alprazolam (Xanax®), amitriptyline (Elavil®), and clonidine (Catapres®). Xanax® was sold on the street for \$2–\$7 per 2-milligram pill, and Valium® sold for \$3. According to the SSU, street sales involving these pharmaceuticals exceeded the street sales associated with methadone. Most of the medications mentioned above come in a variety of strengths, and not all strengths were found on the street.

Methamphetamine/Amphetamines

Although methamphetamine was popular in other parts of the Nation, most indicators related to the drug in New York City in 2010 remained at low levels. In New York City, there were an estimated 487 weighted DAWN ED visits involving stimulants in 2009, including 347 (CI=217–478) methamphetamine-involved visits (exhibit 3). For the first time, methamphetamine-involved estimated DAWN ED visits showed significant increases. The estimated 347 methamphetamine-involved visits in 2009 represented a 63-percent increase from 2004 and an 18-percent increase from 2008.

With respect to law enforcement indicators, NFLIS data showed that less than 1 percent of the 51,730 drug items seized and identified by laboratories in New York City in 2010 contained methamphetamine. In ADAM II data for Manhattan male arrestees in 2010, a very low percentage (0.1 percent) of arrestees tested positive for methamphetamine.

According to the NDIC, the wholesale price of methamphetamine in midyear 2010 was \$21,000–\$26,000 per pound for Mexican ice. At the retail level, the range was \$1,600–\$3,000 per ounce and \$200–\$240 per gram for Mexican ice. The retail price for locally produced methamphetamine powder was \$2,000 per ounce and \$150–\$210 per gram. The high-end figure represented a substantial increase from 2009.

Street researchers continued to report that the general demand for crystal methamphetamine in New York City remained low. However, while there was little methamphetamine selling activity at general street locations, the SSU reported that regular users had no problem locating the drug. The use of crystal methamphetamine was still primarily limited to the gay/male community. Some informants indicated that methamphetamine quality was poor and the price was high.

Marijuana

In New York City, marijuana indicators, which increased steadily in recent reporting periods, remained at a high level. Overall, the number of primary marijuana admissions increased, from 4,330 in 1995 to 22,071 in 2010, the highest annual number in that time period (exhibit 6). By 2010, primary marijuana admissions represented 27 percent of admissions to all New York City treatment programs. In addition, a higher percentage of clients in treatment had a primary, secondary, or tertiary problem with marijuana than with any other drug.

Exhibit 7 shows demographic characteristics of primary marijuana admissions to all New York City treatment programs in 2010. The vast majority were male (77 percent), and 46 percent were 25 and younger. More than one-half (56 percent) were Black; about one-third (29 percent) were Hispanic; and 7 percent were White. Alcohol was the secondary drug of abuse for 34 percent of the 2010 marijuana admissions.

In 2004, there were 5,920 (CI=4,246–7,593) estimated marijuana-involved DAWN ED visits in the five boroughs of New York City. Marijuana-involved ED visits increased to 15,310 in 2009 (CI=11,482–19,137), a 174-percent increase (exhibit 3). However, there was also a significant 6-percent decrease between 2008 and 2009.

According to NFLIS data, 33 percent of the drug items seized and identified by laboratories in New York City in 2010 ($n=17,177$) contained marijuana/cannabis. This compares with 2007, when 26 percent of analyzed items in New York City were identified as containing marijuana/cannabis. According to the NDIC, marijuana prices in mid-2010 ranged from \$1,000–\$8,000 per pound wholesale for high-quality Canadian marijuana to \$700–\$1,500 per pound for low-quality locally produced marijuana. At mid-level, the price for high-quality Canadian was \$65 to \$1,000 per ounce. At the retail level, the prices were \$300–\$1,000 per ounce for high-quality Canadian and \$65–\$75 per ounce for low-quality locally produced. None of these prices represented a change from the previous period. ADAM II data revealed that about 48 percent of male arrestees in Manhattan in 2010 tested positive for marijuana. This represented a significant increase, compared with 2000, 2007, 2008, and 2009.

According to the SSU, marijuana continued to be widely available and in high demand. Field researchers continued to report the current tendency by drug users to mix and combine multiple drugs for simultaneous use, with marijuana in a blunt cigar serving as the base to which other drugs were added. The quality of marijuana varied greatly by seller and location. Usually street sales involved thumb-nail-size plastic Ziploc® bags.

Club Drugs

Club drugs are a collection of various synthetic chemical compounds that are often abused by young people in a variety of social settings, such as dance clubs, after-hour clubs, and other special events. Club drugs include MDMA (3,4-methylenedioxymethamphetamine), GHB (gamma hydroxybutyrate), and ketamine. Many of the club drugs have stimulant or hallucinogenic properties.

According to the weighted DAWN ED data for the five boroughs of New York City, an estimated 372 (CI=257–488) MDMA-involved ED visits were reported in 2004 (exhibit 3). The estimate in 2009 was 685 (CI=562–808), representing an 84-percent increase from 2004. ED visits involving MDMA also increased by 43 percent between 2008 and 2009.

In 2010, 1,134 of the items seized and identified by NFLIS laboratories in New York City were identified as containing MDMA, representing 2.2 percent of analyzed items. In 2007, MDMA accounted for 0.5 percent of the items identified by NFLIS laboratories. For the second year in a row, MDMA ranked sixth among all items analyzed.

According to the NDIC for midyear 2010, a dose sold for \$3–\$30 per tablet retail, not a significant change from the end of 2009. Street sources reported that while MDMA continued to be available in some parts of the city, there were other areas where MDMA was not easy to obtain.

LSD (lysergic acid diethylamide) is a strong hallucinogen that has not been a major problem in New York City since the late 1960s and early 1970s. According to DAWN ED data for New York City, there were an estimated 86 (CI=58–115) LSD-involved visits in 2009.

PCP (Phencyclidine)

PCP (“angel dust”) continued to be available in some areas of New York City. For the five boroughs of New York City, there were an estimated 1,102 (CI=874–1,330) DAWN PCP-involved ED visits in 2009, representing a 144-percent increase from the 451 (CI=335–567) visits in 2004. PCP-involved DAWN visits represented the highest proportion of any illicit drug other than cocaine, heroin, and marijuana (exhibit 3). PCP ranked seventh ($n=758$) among all items seized and identified by NFLIS laboratories in New York City in 2010.

Other Drugs

The number of drug items seized and identified as BZP (1-benzylpiperazine), an illegal synthetic stimulant, by New York City NFLIS laboratories increased, from 7 items in 2008 to 361 items in 2010.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

The AIDS epidemic, with its impact on injection drug users (IDUs), has played a crucial role in shaping the New York City drug scene over the last two decades. HIV first emerged in New York City in the mid- to late-1970s. AIDS reporting was mandated in 1983, but reporting of HIV infection began in June 2000.

As of December 31, 2009, 108,886 New Yorkers had been diagnosed with HIV or AIDS. This represented increases of 3 percent from 2008 and 10 percent from 2005. In 2009, 42,488 (39 percent) were living with HIV (non-AIDS), and 66,398 (61 percent) were living with AIDS. According to the New York City Department of Health and Mental Hygiene, the true number of persons living with HIV/AIDS (PLWHA) was actually higher, since they estimate that one-quarter of persons living with HIV have never been tested and do not know that they are infected. In 2009, there were 1,600 deaths among persons with HIV/AIDS in New York City.

Of the 108,886 PLWHA in New York City as of December 31, 2009, 71 percent were male, and 29 percent were female. In terms of race/ethnicity, 45 percent were Black; 33 percent were Hispanic; and 20 percent were White. For transmission risk factors, 33 percent ($n=35,882$) were men who have sex with men (MSM); 20 percent ($n=21,202$) had an injection drug use history; 19 percent reported a heterosexual transmission factor; 2 percent had a perinatal transmission risk factor; less than 1 percent had another risk factor; and 26 percent had an unknown risk factor or were under investigation.

According to the New York City Department of Health and Mental Hygiene *HIV Epidemiology Program 2nd Semiannual Report*, important trends include the following. In 2009, there were 3,669 new diagnoses of HIV/AIDS in New York City. Approximately three-quarters (75.8 percent) of these new diagnoses were male; 24.2 percent were female. Slightly more than two-fifths (43.0 percent) of new diagnoses were MSM, while 22.4 percent were among people reporting heterosexual transmission risk. Four-fifths of new diagnoses found were among Blacks or Hispanics. As noted in the last reporting period, PLWHA were aging, with the proportion age 50 and older increasing, from 25.0 percent in 2003 to 39.6 percent in 2009.

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Exhibit 1. Trends in Selected Indicator Data for Cocaine in New York City: 1995–2010 (Semiannual and Annual)

Year	Semiannual/ Annual Periods	Deaths Involving Cocaine ¹	Cocaine- Involved Estimated Visits ²	Treatment Admissions: Cocaine as Primary Drug of Abuse ³	Cocaine Arrests ⁴	Births to Women Using Cocaine ⁵
1995	1H			8,371		
	2H			7,836		
	Total			16,207	40,846	1,059
1996	1H			8,561		
	2H			8,817		
	Total			17,378	38,813	1,005
1997	1H			9,048		
	2H			8,401		
	Total			17,449	35,431	864
1998	1H			8,999		
	2H			8,573		
	Total			17,572	35,577	742
1999	1H			8,346		
	2H			7,567		
	Total			15,913	31,781	626
2000	1H			7,337		
	2H			6,722		
	Total			14,059	31,919	490
2001	1H			7,343		
	2H			7,032		
	Total			14,375	23,498	438
2002	1H			7,736		
	2H			7,872		
	Total			15,608	26,773	363
2003	1H			8,203		
	2H			7,911		
	Total			16,114	25,868	354
2004	1H			8,410		
	2H			8,301		
	Total		20,445	16,711	27,963	337
2005	1H			8,215		
	2H			7,741		
	Total		30,478	15,956	26,773	301
2006	1H			8,582		
	2H			8,868		
	Total		36,791	17,450	27,992	298
2007	1H			8,618		
	2H			7,988		
	Total	394	35,706	16,606		
2008	1H			8,180		
	2H			7,568		
	Total	357	31,647	15,748		
2009	1H			6,978		
	2H			6,766		
	Total		25,951	13,744		
2010	1H			6,491		
	2H			6,183		
	Total			12,674		

¹DAWN, OAS, SAMHSA, Drug-Related Mortality, 2008 for the five boroughs of New York City.²DAWN, 2009, CBHSQ, SAMHSA.³New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.⁴New York City Police Department.⁵New York City Department of Health and Mental Hygiene.

SOURCES: DAWN, OAS, SAMHSA, Drug-Related Mortality, 2008; DAWN, CBHSQ, SAMHSA; New York State Office of Alcoholism and Substance Abuse Services (OASAS); New York City Police Department; and New York City Department of Health and Mental Hygiene

Exhibit 2. Characteristics of Primary Cocaine Admissions¹ to State-Funded² and Nonfunded³ Treatment Programs, by Route of Administration and Percent, in New York City: 2010

Demographic Characteristic	Percent Total (N=12,674)	Percent Smoking Crack (n=7,601)	Percent Using Cocaine Intranasally (n=4,645)
Gender			
Male	69	64	77
Female	31	36	23
Age at Admission			
25 and Younger	5	3	7
26–34	15	12	19
35 and Older	80	84	74
(Average Age)	(42.5)	(43.4)	(41.2)
Race			
Black	58	68	42
Hispanic	25	18	35
White	13	10	17
No Source of Income ⁴	35	37	31
Readmissions	82	86	76
Age of First Use			
14 and Younger	7	5	9
15–19	30	25	38
20–29	43	47	38
30 and Older	20	22	15
Secondary Drug of Abuse			
Alcohol	36	39	32
Marijuana	23	22	25
Heroin	8	7	8

¹Figures on this table may differ somewhat from figures cited on other tables, because computer runs may have been executed at different times and files are being updated continuously.

²State-funded programs receive some or all funding through the New York State Office of Alcoholism and Substance Abuse Services (OASAS).

³Nonfunded programs receive funding through sources other than OASAS, including Medicaid, private insurance reimbursements, and patient fees (self-pay).

⁴Defined as not earning income, not receiving support from family or significant others, and not receiving any public assistance.

SOURCE: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

Exhibit 3. Estimated Drug-Related Emergency Department (ED) Visits in New York City for Selected Illicit, Psychotherapeutic, and CNS¹ Drugs of Abuse, with Relative Standard Errors and Confidence Intervals²: 2009

Selected Drugs	Estimated Numbers of Visits³	Relative Standard Error (RSE) as Percent	Lower 95% Confidence Limit²	Upper 95% Confidence Limit²
Nonalcohol Illicit Drugs	67,219	11.3	53,847	84,591
Cocaine	25,951	16.1	17,770	34,131
Heroin	12,802	17.2	8,474	17,129
Marijuana	15,310	12.8	11,482	19,137
Methamphetamine	347	19.1	217	478
MDMA	685	9.2	562	808
PCP	1,102	10.6	874	1,330
Nonmedical Use of Pharmaceuticals	20,857	7.8	17,661	24,054
<i>Psychotherapeutic Agents</i>				
Benzodiazepines	3,616	10.1	2,900	4,332
<i>Selected CNS Agents</i>				
Opiates/Opioids	8,058	10.6	6,377	9,739
Narcotic Analgesics	6,169	8.8	5,102	7,235
Fentanyl	87	23.3	47	127
Hydrocodone	421	8.1	355	488
Methadone	4,387	11.7	3,385	5,389
Morphine	189	13.5	139	239
Oxycodone	934	10.1	749	1,120

¹CNS=Central Nervous System.

²Confidence intervals showing the lower and upper bounds at 95-percent confidence level.

³Summing or combining visits produces incorrect and inflated counts.

SOURCE: Site-specific data obtained by request from DAWN, CBHSQ, SAMHSA

Exhibit 4. Trends in Selected Indicator Data for Heroin in New York City: 1995–2010 (Semiannual and Annual)

Year	Semiannual/ Annual Period	Deaths Involving Heroin¹	Heroin/Morphine ED Estimated Visits²	Treatment Admissions: Heroin as Primary Drug of Abuse³	Heroin Arrests⁴	Average Purity of Street Heroin (%)⁵
1995	1H			9,286		
	2H			9,001		
	Total			18,287	38,131	(69.4)
1996	1H			9,161		
	2H			9,617		
	Total			18,778	37,901	(56.3)
1997	1H			10,276		
	2H			10,431		
	Total			20,707	35,325	(62.5)
1998	1H			10,793		
	2H			10,203		
	Total			20,996	37,483	63.6)
1999	1H			10,690		
	2H			10,189		
	Total			20,879	32,949	(61.8)
2000	1H			10,944		
	2H			10,672		
	Total			21,616	33,665	(62.9)
2001	1H			11,324		
	2H			11,455		
	Total			22,779	27,863	(56.0)
2002	1H			11,357		
	2H			11,157		
	Total			22,514	34,098	(61.4)
2003	1H			11,540		
	2H			12,023		
	Total			23,563		(53.5)
2004	1H			12,059		
	2H			11,743		
	Total		13,383	23,802		(43.3)
2005	1H			11,127		
	2H			10,665		
	Total		18,179	21,792		(49.4)
2006	1H			11,189		
	2H			11,055		
	Total		17,892	22,244		(44.5)
2007	1H			11,356		
	2H			11,256		
	Total	96	16,884	22,612		(49.0)
2008	1H			11,024		
	2H			11,700		
	Total	155	16,084	22,724		(47.1)
2009	1H			10,689		
	2H			11,242		
	Total		12,802	21,931		(44.1)
2010	1H			10,008		
	2H			9,200		
	Total			19,208		

¹DAWN, OAS, SAMHSA, Drug-Related Mortality, 2008 for the five boroughs of New York City.²DAWN, 2009, CBHSQ, SAMHSA.³New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.⁴New York City Police Department.⁵DEA.

SOURCES: DAWN, OAS, SAMHSA, Drug-Related Mortality, 2008. DAWN, CBHSQ, SAMHSA; New York State Office of Alcoholism and Substance Abuse Services (OASAS); New York City Police Department; and DEA

Exhibit 5. Characteristics of Primary Heroin Admissions¹ to State-Funded² and Nonfunded³ Treatment Programs by Route of Administration and Percent, in New York City: 2010

Demographic Characteristic	Percent Total (N=19,208)	Percent Using Heroin Intranasally (n=10,875)	Percent Injecting Heroin (n=8,022)
Gender			
Male	78	78	78
Female	22	22	22
Age at Admission			
25 and Younger	6	3	10
26–34	17	12	24
35 and Older	77	85	66
(Average Age)	(42.5)	(44.2)	(40.1)
Race			
Black	26	36	13
Hispanic	47	47	47
White	22	13	35
No Source of Income ⁴	33	32	35
Readmissions	87	86	89
Age of First Use			
14 and Younger	12	10	14
15–19	34	31	39
20–29	37	38	36
30 and Older	17	21	11
Secondary Drug of Abuse			
Alcohol	12	13	10
Marijuana	10	12	8
Cocaine	40	36	47

¹Figures on this table may differ somewhat from figures cited on other tables, because computer runs may have been executed at different times and files are being updated continuously.

²State-funded programs receive some or all funding through the New York State Office of Alcoholism and Substance Abuse Services (OASAS).

³Nonfunded programs receive funding through sources other than OASAS, including Medicaid, private insurance reimbursements, and patient fees (self-pay).

⁴Defined as not earning income, not receiving support from family or significant others, and not receiving any public assistance.

SOURCE: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

**Exhibit 6. Trends in Selected Indicator Data for Marijuana in New York City: 1995–2010
(Semiannual and Annual)**

Year	Semiannual/ Annual Period	Marijuana ED Estimated Visits¹	Treatment Admissions: Marijuana as Primary Drug of Abuse²	Marijuana/ Cannabis Arrests³
1995	1H		2,171	
	2H		2,159	
	Total		4,330	12,357
1996	1H		2,845	
	2H		3,185	
	Total		6,030	18,991
1997	1H		3,794	
	2H		3,657	
	Total		7,451	27,531
1998	1H		4,554	
	2H		4,473	
	Total		9,027	42,030
1999	1H		5,119	
	2H		5,100	
	Total		10,219	43,122
2000	1H		5,664	
	2H		5,487	
	Total		11,151	60,455
2001	1H		6,677	
	2H		6,593	
	Total		13,270	47,651
2002	1H		7,512	
	2H		6,798	
	Total		14,310	47,250
2003	1H		6,844	
	2H		6,627	
	Total		13,471	
2004	1H		6,835	
	2H		6,468	
	Total	5,920	13,303	
2005	1H		7,161	
	2H		6,954	
	Total	10,192	14,115	
2006	1H		8,158	
	2H		8,128	
	Total	12,938	16,286	
2007	1H		8,809	
	2H		8,514	
	Total	14,500	17,323	
2008	1H		9,836	
	2H		9,821	
	Total	16,204	19,657	
2009	1H		9,977	
	2H		10,899	
	Total	15,310	20,876	
2010	1H		11,541	
	2H		10,530	
	Total		22,071	

¹DAWN, CBHSQ, SAMHSA.

²New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.

³New York City Police Department.

SOURCES: DAWN, CBHSQ, SAMHSA, New York State Office of Alcoholism and Substance Abuse Services (OASAS), and New York City Police Department

**Exhibit 7. Characteristics of Primary Marijuana Admissions¹
to State-Funded² and Nonfunded³ Treatment
Programs by Percent in New York City: 2010**

Demographic Characteristic	Percent of Total (N=22,071)
Gender	
Male	77
Female	23
Age at Admission	
17 and Younger	10
18–25	36
26–34	31
35 and Older	23
(Average Age)	(28.2)
Race	
Black	56
Hispanic	29
White	7
No Source of Income ⁴	28
Readmissions	58
Age of First Use	
14 and Younger	49
15–19	43
20–29	7
30 and Older	1
Secondary Drug of Abuse	
Alcohol	34
Cocaine	10

¹Figures on this table may differ somewhat from figures cited on other tables, because computer runs may have been executed at different times and files are being updated continuously.

²State-funded programs receive some or all funding through the New York State Office of Alcoholism and Substance Abuse Services (OASAS).

³Nonfunded programs receive funding through sources other than OASAS, including Medicaid, private insurance reimbursements, and patient fees (self-pay).

⁴Defined as not earning income, not receiving support from family or significant others, and not receiving any public assistance.

SOURCE: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

Drug Use in Philadelphia, Pennsylvania: 2010

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ABSTRACT

Each drug or drug group below is commented on in descending order of impact or ranking when compared with other drugs. During 2008, indicator data pointed to a shift from cocaine to marijuana as the leading drug in Philadelphia; this shift continued through 2010. Marijuana constituted the plurality of primary treatment admissions and National Forensic Laboratory Information System (NFLIS) drug items identified and the majority of Adult Probation/Parole Department (APPD) urine/drug screens. Street prices of marijuana were stable. Marijuana use was common by itself or in combination with PCP (phencyclidine), as reported by treatment admissions clients. Alcohol was the second most frequently mentioned drug in treatment admissions data. Alcohol in combination with other drugs detected in mortality cases ranked second. It was most commonly reported as used along with or after cocaine and/or marijuana use. Indications of the decline of cocaine occurred in several areas—the proportion of treatment admissions, the number of mortality cases, and the proportion of APPD urine/drug screens. Cocaine was most commonly used in combination with marijuana, heroin, or benzodiazepines, according to clients in treatment. Crack smoking continued as the preferred route of administration of cocaine. After a 4-year period of stability, the street-level purity of heroin, at 55 percent in 2008, declined by 5 percentage points in 2009. In 2010, heroin continued to rank fourth in treatment admissions, third in deaths with the presence of drugs, and third in the NFLIS data. Heroin was reported as most commonly used in combination with cocaine, opioids, or benzodiazepines. Within the category “other opioids,” indicators were at moderate levels with mixed results, depending on the drug and the data source. The very large increase in primary opioid treatment admissions that began in 2008 continued throughout 2010. “Any prescription opioid” was the majority group, at 42.7 percent of all deaths with the presence of drugs in 2010, even though there were declines from 2009 in some of the individual drugs in this group. The 2010 NFLIS data revealed increases in the number of oxycodone and codeine items identified in forensic laboratories. Benzodiazepine indicators, while lower than indicators of drugs discussed above, suggested that benzodiazepines remained primarily as an adjunct drug, according to trend data. These indicators appeared stable or slightly increasing in 2010. Among drug groups, benzodiazepines ranked second in the mortality data. Alprazolam was clearly the benzodiazepine of choice and ranked fourth in Medical Examiner (ME) toxicology reports and fifth in the NFLIS data. Clients in treatment reported that benzodiazepines were most commonly

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used in combination with oxycodone, heroin, or marijuana. In 2010, PCP indicators reflected medium levels and mixed trend data. Treatment admissions, deaths with the presence of PCP, and APPD urinalysis positivity for PCP increased modestly, while there was a decline in the PCP NFLIS drug items identified in 2010. The most common cause of death with the presence of PCP changed to drug intoxication in 2009, but it reverted to homicide in 2010. ME toxicology tests revealed the increased presence of antidepressant drugs in 2010 deaths. Treatment admissions were rare for methamphetamine and other amphetamines in 2010.

INTRODUCTION

Area Description

Philadelphia, the largest city in the State, is located in the southeastern corner of Pennsylvania. The 2010 U.S. Census population count of 1,526,006 showed an increase of 0.56 percent (8,456 persons) over the 2000 count for Philadelphia. The population is 53.2 percent female. Since the last census, the White-only population decreased to 41 percent, and all other racial groups increased. As of 2010, the majority group was Black/African-American only (43.4 percent). Other racial groups included Asian only (6.3 percent), other race only (6.5 percent), and two or more races (2.8 percent). Hispanic or Latino origin (12.3 percent) also increased since 2000. These demographic data are provided to assist the reader in understanding the comparative impact of substance use by various groups. According to the Southeastern Pennsylvania Household Health Survey, an estimated 11.4 percent of Philadelphia's adults were in recovery in 2010 ($n=128,300$).

Data Sources

This report focuses primarily on the city/county of Philadelphia and includes data from the sources shown below. Unless otherwise noted, fiscal year (FY) refers to a year starting July 1 and ending the following June 30.

- **Treatment admissions data** for residents of Philadelphia County were provided by the Behavioral Health Special Initiative Client Data System (BHSI/CDS). The data represent mentions of use of different drugs by people admitted to treatment from 2006 through 2010. This database covers the uninsured population in the treatment provider network.
- **Mortality data** were provided by the Philadelphia Medical Examiner's (ME) Office. These data cover mortality cases with toxicology reports indicating the detection of drugs in persons who died in Philadelphia from January 1, 2006, through December 31, 2010. Cause of death designations changed, effective January 1, 2009. The cases include persons who died from drug intoxication of one or multiple drugs, as well as persons who exhibited some substance presence but died from other causes. Alcohol cases are only reported in combination with one or more other drugs. The ME does not test for the presence of marijuana/THC (tetrahydrocannabinol)/cannabis.
- **Crime laboratory drug analysis data** came from the National Forensic Laboratory Information System (NFLIS); data include analysis of drug samples tested by the Philadelphia Police Department Forensic Science Laboratory from 2007 through 2010.

- **Criminal justice urinalysis data** for adults who are in probation or parole status were derived from reports from the First Judicial District of Pennsylvania, Adult Probation/Parole Department (APPD), from January 1, 2006, through December 31, 2010. Data represent the first time persons were tested when placed in probation or parole status.
- **Heroin purity and price data** were provided by the Drug Enforcement Administration (DEA), Domestic Monitor Program (DMP), through 2009.
- **Drug prices** were provided by the U.S. Department of Justice, *National Drug Intelligence Center (NDIC)*, *Mid-Year 2010 Report*. The NDIC report indicated that price information was derived from undercover purchases and informants.
- **The Recovery Prevalence estimate** was provided by the 2010 Southeastern Pennsylvania Household Health Survey, Public Health Management Corporation, Community Health Data Base.
- **Emergency Medical Services (EMS) responses due to drug use/overdose data** were provided by the Philadelphia Fire Department, EMS, for 2010.
- **Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data** were provided by the Philadelphia Department of Public Health's AIDS Activities Coordinating Office, for cases reported from November 1, 1981, to December 31, 2009.

In addition to these sources, this report draws on focus group discussions and conversations with people currently enrolled in treatment programs and with people who were actively using drugs.

DRUG ABUSE PATTERNS AND TRENDS

Data collected relative to 2010 continued to reflect the declining use of cocaine that became evident in 2008. Marijuana has emerged as the most commonly used illicit drug. The four drugs of highest concern continued to be marijuana, alcohol, cocaine, and heroin. Together, these drugs constituted 87.6 percent of primary drug treatment admissions in 2006 and 78.9 percent in 2010 (exhibit 1). The mid-level drugs—prescription opioids, benzodiazepines (particularly alprazolam), and phencyclidine (PCP)—have constituted higher proportions of treatment admissions, from 4.3 percent in 2006 to 16.5 percent in 2010 (exhibit 1). Drugs whose use was considered at low or very low levels included antidepressants, antipsychotics, and the “speed-type” drugs (amphetamines, MDMA [3,4-methylenedioxymethamphetamine], and methamphetamine). The demographic characteristics of people who entered treatment in 2010 revealed the over-representation of males and Blacks (exhibit 2).

Exhibit 3 shows that in 2010, the average number of drugs detected in decedents with drug-positive toxicology reports was the lowest in the last 5 years, and that 2010 also had the fewest drug-positive decedents. Single-drug deaths remained relatively uncommon (exhibit 4). In 2010, cocaine continued to be the most frequently detected single drug among decedents, but the leading drug group was “any prescription opioid” (exhibit 5). Exhibit 6 shows that the leading cause of death with the presence of drugs was drug intoxication and that this cause of death represented the highest average number of drugs per decedent. In 2010, White male decedents ($n=340$) outnumbered Black male decedents ($n=264$), while Black female decedents ($n=119$) outnumbered White female

decedents ($n=117$). Overall, Whites accounted for 48.8 percent of the deaths ($n=457$), followed by Blacks, 40.9 percent ($n=383$), Hispanics, 8.7 percent ($n=81$), and Asians and others, 1.6 percent ($n=15$).

The total number of drugs analyzed by the Philadelphia Police Forensic Science Laboratory and reported through the NFLIS was 33,435 (exhibit 7). By far, the two leading drugs identified were marijuana (38.4 percent, $n=12,845$) and cocaine (32.5 percent, $n=10,883$). Buprenorphine ranked 10th in both 2009 and 2010, and BZP (1-benzylpiperazine) ranked 15th in 2009 and 17th in 2010, but neither drug has appeared in any other indicator.

The Philadelphia APPD analyzed urine specimens from people placed in probation or parole status. The results of the first testing of each probationer/parolee from 2006 through 2010 (exhibit 8) show that females were slightly more likely to test positive than males. The Philadelphia Fire Department's EMS, a new data source for this report, reported 649 EMS responses due to drug use/overdose in 2010.

Cocaine/Crack

Although cocaine was unquestionably a substantially problematic drug of abuse in Philadelphia, the declines in several cocaine indicators that were noted in 2008 continued in 2009 and 2010. Treatment admissions data (exhibit 1) show cocaine as ranking first from 2004 through 2007, second in 2008, and third in 2009 and 2010, behind marijuana and alcohol. The proportion that was male in 2010 (72.0 percent) was approximately the same as it was in 2007 (71.7 percent). Blacks accounted for 57.7 percent of primary cocaine treatment admissions in 2010, followed by Whites (29.8 percent) and Asians and others (3.9 percent). Hispanics of any race constituted 12.6 percent of cocaine admissions in 2010. The population entering treatment has been increasingly older than 40 since 2006, with 44.7 percent of all cocaine admissions being older than 40 in 2008, compared with 48.5 percent in 2010.

While deaths with the presence of cocaine continued to rank first in drug deaths in 2010, the numbers of annual cases have been declining since 2006 (exhibit 3). ME data show that cocaine was present in 233 of the 936 deaths in 2010 (24.9 percent of all drug-positive cases). When the cause of death was deemed drug intoxication, cocaine ranked third, at 62.7 percent of the cases (exhibit 9). In 2010, levamisole was detected in 73 percent of cocaine-positive decedents, the highest percentage ever recorded for this substance (levamisole is combined with cocaine prior to sale on the streets). Toxicology reports indicated that the most common drugs used by decedents with cocaine were heroin or prescription opioids.

NFLIS data in 2010 revealed that cocaine continued to represent the second highest number of drug items seized and identified by forensic laboratories ($n=10,883$) in 2010, accounting for 32.5 percent of the total (exhibit 7). APPD urinalysis data of adults on probation or parole in 2010 revealed the presence of cocaine in 22.8 percent of all drug-positive tests, which reflected the continued decline of cocaine positivity (exhibit 8). Cocaine continued to rank second in the APPD panel.

The NDIC reported the following prices for crack cocaine as of June 30, 2010: \$1,000–\$1,400 per ounce (mid-level); \$5–\$10 per rock; \$50–\$100 per gram; and \$5–\$25 per vial (retail). These prices were unchanged from the report from 6 months earlier. The NDIC reported the following prices for

powder cocaine as of June 30, 2010: \$28,000–\$42,000 per kilogram (wholesale); \$800–\$1,300 per ounce (mid-level); and \$5–\$10 per bag/glassine (retail). These prices were unchanged from the report from 6 months earlier.

Heroin/Morphine

According to DEA DMP data, the average street-level purity of heroin in Philadelphia declined every year from 2000 (at 73.0 percent) through 2004 (at 51.6 percent); it was at 55.0 percent in 2008 and declined to 50.0 percent in 2009 (data for 2010 were not available for inclusion in this report). While the price per milligram pure was \$1.56 due to the purity decline, there was no increase in the street price of heroin.

Treatment admissions data (exhibit 1) revealed that heroin consistently ranked fourth through 2010 (14.3 percent). The proportion that was male in 2010 (73.4 percent) returned to the level of 2007. Whites accounted for 60.2 percent of heroin treatment mentions in 2010, followed by Blacks (24.4 percent) and Asians and others (6.9 percent). Hispanics of any race constituted 17.7 percent of heroin treatment admissions. At 37.5 percent in 2010, clients age 21–30 continued as the largest age group entering treatment for heroin, with all age groups remaining relatively stable over the past several years.

In 2010, deaths with the presence of heroin/morphine ($n=206$) decreased for the second consecutive year; they ranked third behind cocaine and alcohol in combination (exhibit 3). When the cause of death with drugs present was deemed drug intoxication, heroin/morphine ranked first among all drugs, at 67.0 percent of such cases (exhibit 9). Among decedents, any opioid or benzodiazepine were commonly detected along with heroin/morphine. NFLIS data revealed that drug items seized and identified as heroin constituted the third highest number of drug items analyzed and identified in area forensic laboratories ($n=3,886$) in 2010, representing 11.6 percent of the total sample (exhibit 7).

The NDIC reported prices for South American heroin and Mexican brown powder. The DEA's Domestic Monitor Program, through 2009, had not identified the latter in Philadelphia. Prices for South American heroin as of June 30, 2010, were \$45,000–\$90,000 per kilogram (wholesale); \$21,500–\$3,500 per ounce and \$80–\$130 per 10 bags/glassines (mid-level); and \$40–\$85 per gram (retail). These prices were unchanged from the report from 6 months earlier. Prices for Mexican brown powder as of June 30, 2010 were \$58,000–\$65,000 per kilogram (wholesale); \$1,950–\$2,200 per ounce (mid-level); and \$70–\$110 per gram (retail). These prices were unchanged from the report from 6 months earlier.

Other Opioids/Opiates

The nonmedical use of pharmaceutically produced opioid products continued to be reported by clients entering treatment. Mentions of “Other Opiates/Synthetics” by people admitted to treatment programs were comparatively low from 2006 to 2008 (a combined 0.7 percent for all opiates other than heroin), but they increased to 3.5 percent of all admissions ($n=513$) in 2009 and 7.4 percent ($n=1,120$) in 2010 (exhibit 1). Of the 1,120 treatment admissions, 72.1 percent were male; 69.6 percent were White; 23.8 percent were Black; 4.5 percent were Asians/others; and 12.4 percent were of Hispanic ethnicity. Most of the people who mentioned other opiates/synthetics upon treatment entry (53.8 percent) were age 21–30.

Deaths with the presence of “any opioid” (42.7 percent) exceeded all other drug groups in 2010 (exhibit 5). APPD urinalysis data of adults on probation or parole do not distinguish heroin from all opiates/opioids. In 2010, opiates/opioids were detected in 13 percent of all positive tests (exhibit 8). Opiates/opioids ranked fourth in the APPD data in 2010.

Oxycodone

Oxycodone was detected in 798 decedents from 2006 through 2010, the sixth most frequently detected drug during that time period (exhibit 3). The 2010 annual total of 181 was the second highest over those 5 years. In 2010, oxycodone was present in 19.3 percent of drug-positive deaths.

NFLIS 2010 data revealed that drug items seized and identified as oxycodone represented the fourth most frequently identified number of the total number of drug items analyzed and identified ($n=1,509$); this was an increase from the 1,391 detections in 2009 (exhibit 7). Beginning in the latter half of 2009, focus group participants revealed the preference for lower dose oxycodone products over the higher dose ones due to the greater flexibility to manage the effects of these drugs and to conserve costs. These preferences continued in 2010.

Methadone

The reader is cautioned in interpreting data in this section. Among all information sources, it was uncertain whether methadone was used as directed by a physician for the management of pain, as a prescribed adjunctive measure in treatment/recovery programs, and/or in an abusive or recreational manner. ME detections of methadone in decedents have been declining. Deaths with the presence of methadone ranked eighth for the period 2006 through 2010 (exhibit 3).

Hydrodome

Since 2006, the average annual number of detections of hydrocodone in mortality cases has been 57, ranging from 44 in 2010 to 69 in 2008. Hydrocodone detections ranked 14th among all deaths with positive toxicology reports in the 17-year period from 1994 to 2010. Hydrocodone-positive cases ranked 17th in 2010. The 2009 and 2010 NFLIS data revealed that hydrocodone ranked ninth in the number of drug items seized and identified by NFLIS Philadelphia laboratories (exhibit 7).

Codeine

Medications that contain codeine were also commonly abused in Philadelphia, based on ME reports. The ME detected codeine in at least 687 cases from 2006 through 2010. There were 98 codeine-positive cases in 2010 (exhibit 3). Codeine detections ranked sixth among all deaths with positive toxicology reports in the 17-year period from 1994 to 2010; codeine-positive cases ranked ninth in 2010.

Propoxyphene

Propoxyphene detections have been decreasing. Propoxyphene ranked 14th among all deaths with positive toxicology reports in the 17-year period from 1994 to 2010; propoxyphene-positive cases ranked 27th in 2009 and 48th in 2010.

Benzodiazepines

Benzodiazepines, particularly alprazolam, continued to be used in combination with other drugs based on death and treatment admissions data. Annual proportions of treatment admissions have been increasing, from 272 in 2007 (ranking seventh) to 738 in 2010 (ranking sixth) (exhibit 1). Whites accounted for 53.4 percent of primary benzodiazepine treatment admissions in 2010, followed by Blacks (33.3 percent) and Asians and others (5 percent). Hispanics of any race constituted 12.5 percent of those admissions. In 2010, 52.7 percent of those entering treatment for benzodiazepines were age 21–30.

The ME detected the presence of “any benzodiazepine” in 35.7 percent of all drug-positive decedents in 2010, the second highest group (exhibit 5). Mortality data revealed the presence of benzodiazepines most commonly in combination with oxycodone or heroin. APPD urinalysis data of adults on probation or parole in 2010 revealed the presence of benzodiazepines in 14.7 percent of all drug-positive tests, the highest percentage in the last 5 years (exhibit 8).

Alprazolam

Among users of benzodiazepines, alprazolam has been the preferred drug since 2001, based on ME reports and NFLIS data. Alprazolam was detected in 204 decedents in 2010, making it the fourth most frequently detected drug. Within the last 5 years, alprazolam was the most frequently detected benzodiazepine in area ME cases, with 826 detections among decedents since 2006 (exhibit 3). When the cause of death with drugs present was deemed drug intoxication, alprazolam ranked second among all drugs, at 65 percent of such cases in 2009. It ranked sixth (at 59.1 percent of cases) in 2010 (exhibit 9). NFLIS data for 2009 and 2010 revealed that alprazolam was detected in the fifth highest number of drug items seized and identified by laboratories ($n=1,238$ in 2009 and $n=1,270$ in 2010), accounting for 3.5 percent and 3.8 percent respectively (exhibit 7).

Diazepam

Diazepam was detected in 110 decedents in 2010, making it the seventh most frequently detected drug during that time period (exhibit 3). In 2010, diazepam represented the 12th highest number of drug items seized and identified by NFLIS laboratories ($n=107$), accounting for 0.3 percent of drug items.

Clonazepam

Clonazepam was detected in 39 decedents in 2010, ranking 20th. NFLIS data for 2010 revealed that clonazepam ranked eighth in the number of drugs seized and identified by NFLIS laboratory tests ($n=235$), accounting for 0.7 percent (exhibit 7).

Methamphetamine, Amphetamines, and MDMA

Methamphetamine and amphetamines remained a relatively minor problem in Philadelphia, and use of these drugs appeared to be confined to a small portion of the population based on ME and NFLIS data. Treatment admissions data revealed a miniscule proportion of methamphetamine (0.02 percent) and amphetamine mentions (0.09 percent) in 2010 (exhibit 1).

ME data revealed that from 2006 through 2010, there were 61 detections of methamphetamine, 72 detections of (other) amphetamines, 35 detections of MDMA, and 34 detections of MDA (3,4-methylenedioxymphetamine) in 112 decedents. In the 17-year period from 1994 through 2010, the detection of these drugs in ME cases ranked as follows: methamphetamine, 47th; amphetamine, 48th; MDMA, 63rd; and MDA, 64th.

NFLIS data for 2010 revealed that out of 33,435 drug-positive results, drug items seized and identified as containing MDMA ranked 13th ($n=74$); methamphetamine ranked 14th ($n=57$); amphetamine ranked 16th ($n=36$); and MDA ranked tied for 34th ($n=3$). Together ($n=170$), these detections accounted for 0.5 percent of the total items analyzed by NFLIS. APPD urinalysis data of adults on probation or parole in 2010 revealed the presence of amphetamines in 0.8 percent of the people who tested positive for any drug (exhibit 8).

The NDIC reported the following prices for locally produced ice as of June 30, 2010: \$12,000–\$18,000 per pound (wholesale); \$1,000–\$1,500 per ounce (mid-level); and \$100 per gram (retail). NDIC also reported the following prices for locally produced methamphetamine powder, as of June 30, 2010: \$10,000–\$24,000 per pound or \$40,000–\$44,000 per kilogram (wholesale); \$600–\$3,200 per ounce (mid-level); and \$50–\$100 per gram (retail). An MDMA tablet was reported as selling for \$5–\$20 (retail). All of the prices noted for these substances were unchanged from the report from 6 months earlier.

Marijuana

Since 2008, marijuana has emerged as the leading illicit drug in Philadelphia. Marijuana ranked first in primary drugs mentioned at admission to treatment (exhibit 1). The proportion of treatment admissions that was male in 2010 (81.9 percent) was stable from 2009. Blacks accounted for 65.3 percent of marijuana treatment mentions in 2010, followed by Whites (21.2 percent) and Asians and others (9.8 percent). Hispanics of any race represented 12.6 percent. Clients who entered treatment for marijuana were somewhat older in 2010, as compared with 2006. Primary marijuana admissions constituted the majority of treatment admissions among all drugs for clients 40 and younger and 14.6 percent of clients older than 40.

More items were seized and identified as marijuana/cannabis by NFLIS laboratories than any other drug in 2008, 2009, and 2010 (exhibit 7). APPD urinalysis data, the first tests of adults placed on probation or parole, continued to detect the presence of marijuana in more samples than any other drug, with 68.4 percent of the tests that were positive for any drug having been positive for marijuana in 2010 (exhibit 8). Among marijuana-positive results, the most common other drugs were for PCP or benzodiazepines.

The NDIC reported the following prices for high-quality Mexican marijuana as of June 30, 2010: \$600–\$2,000 per pound (wholesale); \$100–\$400 per ounce (mid-level); and \$5–\$50 per bag/glassine (retail). These prices were unchanged from the report from 6 months earlier.

PCP

PCP (phencyclidine) is most commonly used as an additive to marijuana blunt cigars. Mentions of PCP at admission to treatment have been increasing since 2007 (exhibit 1). The proportion that was

male in 2010 was 78.6 percent. Blacks accounted for 59.5 percent of PCP treatment mentions in 2010, followed by Whites (21 percent) and Asians and others (6.3 percent). Hispanics of any race constituted 18.6 percent of PCP treatment admissions in that year. In 2010, PCP users who entered treatment were less likely to be age 30 or younger than in recent years.

From 2006 through 2010, the average number of deaths with the presence of PCP was 64. There were 62 such deaths in 2010. PCP-positive decedents were more likely to have died by homicide than by drug intoxication in 2010. Drug items seized and identified as containing PCP by NFLIS laboratories represented the sixth highest number of drug items analyzed and identified in 2010 ($n=650$), accounting for 1.9 percent of the total (exhibit 7). APPD urinalysis data of adults on probation or parole in 2010 revealed the presence of PCP in 12.5 percent of the drug-positive tests, continuing a slowly increasing proportion since 2006 (exhibit 8). PCP positivity ranked fifth in the APPD panel.

Antidepressants

In 2010, 28.1 percent of all deaths with the presence of drugs ($n=263$) tested positive for at least one antidepressant. When the cause of death was drug intoxication, there was only one single-drug death. The antidepressants most frequently detected by the ME were citalopram ($n=79$) and nortriptylene ($n=29$).

Antipsychotics

ME toxicology reports revealed the presence of antipsychotic drugs. Although such cases sometimes included illicit substances, the relatively rare presence of more than one antipsychotic in a decedent leads to the hypothesis that these drugs are not abused. Rather, they have been taken as prescribed by dually diagnosed individuals. Exhibit 10 shows the relationships between the numbers of different antipsychotic drugs that were detected in a slightly more than equal number of decedents. Antipsychotics have not been identified as “street drugs.” The three drugs most frequently detected from 2006 through 2010 were quetiapine ($n=184$), olanzapine ($n=77$), and clozapine ($n=25$). In 2010, the average number of drugs per antipsychotic drug-positive decedent was 4.5 drugs.

Alcohol

Treatment admissions data (exhibit 1) revealed that alcohol ranked second from 2006 through 2010, except in 2008, when it ranked third. Males constituted 76 percent of primary alcohol treatment admissions in 2010. Blacks accounted for 59.6 percent of such admissions in 2010, followed by Whites (29 percent) and Asians and others (3.1 percent). Hispanics of any race accounted for 10.3 percent. Alcohol was the second most common drug mentioned at admission to treatment across all age groups in 2010. There was an increase in clients younger than 21 and decreases in the 21–30 and 40-and-older age groups.

The number of deaths with the presence of alcohol in combination declined from 264 in 2007 to 223 in 2008, increased slightly to 227 in 2009, then decreased to 216 (23.1 percent) of all drug-positive decedents in 2010 (exhibit 3). Among decedents who tested positive for alcohol, 32.4 percent

($n=70$) were deemed drug intoxication as the cause of death (exhibit 9). Among decedents, opioids or antidepressants were most commonly detected along with alcohol in 2010.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

In 2009, Philadelphia recorded 932 AIDS cases among adults. Among those cases, 11.1 percent ($n=103$) involved injection drug users and people who shared infected needles. Of the 910 newly diagnosed cases of HIV in 2009, 11.2 percent ($n=102$) resulted from infected needle sharing. The rates of AIDS and HIV diagnoses associated with sharing infected needles have been declining (exhibits 11 and 12).

For inquiries concerning this report, please contact Samuel Cutler, City of Philadelphia, Department of Behavioral Health and Intellectual Disability Services, Office of Addiction Services, 1101 Market Street, Suite 800, Philadelphia, Pennsylvania 19107-2908, Phone: 215-685-5414, Fax: 215-685-4977, E-mail: sam.cutler@phila.gov.

Exhibit 1. Number of Primary Drugs of Abuse Reported at Admission to Treatment by Uninsured Persons, in Philadelphia: 2006 Through 2010

Drugs Mentioned	2006	2007	2008	2009	2010
Marijuana	3,647	3,384	3,592	3,826	3,486
Alcohol	3,893	3,406	3,378	3,489	3,477
Cocaine	4,701	3,859	3,439	3,182	2,868
Heroin	3,578	2,775	2,503	1,994	2,179
Other Opiates/Synthetics	105	87	136	513	1,120
Benzodiazepines	307	272	512	694	738
PCP (Phencyclidine)	368	325	458	583	649
Other Sedatives/Hypnotics	968	692	463	290	389
Other Hallucinogens	261	192	169	163	105
Barbiturates	1	1	3	21	51
Methamphetamine	2	2	2	16	35
Other Tranquilizers	1	1	0	10	15
Over-the-Counter	--	5	--	3	15
Other Amphetamines	79	49	46	33	14
Inhalants	10	11	8	3	7
Other (Not Listed)	140	84	32	44	78
Total	18,061	15,145	14,741	14,864	15,226

SOURCE: Behavioral Health Special Initiative Client Data System

Exhibit 2. Profiles of Clients Who Entered Substance Abuse Treatment, in Philadelphia: 2010

	Percent of Treatment Admissions
Gender	
Male	75.7
Female	24.3
Race/Ethnicity	
Black	50.7
White	36.4
Asian/Other Race(s)	4.5
Unknown/Unrecorded	8.5
Hispanic (Any Race)	12.9
Age	
Younger than 21	5.4
21–25	18.9
26–30	18.5
31–35	14.5
36–40	12.1
41–45	12.0
46 and Older	18.5
Route of Administration	
Smoking	40.3
Oral	38.4
Injection/Skin Popping	9.8
Intranasal	5.3
Not Reported	6.3

SOURCE: Behavioral Health Special Initiative Client Data System

Exhibit 3. Mortality Cases in Philadelphia with the Presence of the 10 Most Frequently Detected Drugs by the Medical Examiner: 2006 through 2010

ME-Identified Drugs	2006	2007	2008	2009	2010	Total
Cocaine	552	389	338	311	233	1,823
Alcohol-in-Combination	386	264	223	227	216	1,316
Heroin/Morphine	337	228	246	221	206	1,238
Alprazolam ¹	129	121	172	200	204	826
Oxycodone	148	127	183	159	181	798
Diphenhydramine	179	170	172	201	158	880
Diazepam ¹	117	89	120	118	110	554
Codeine	191	153	152	93	98	687
Methadone	139	116	120	104	82	561
Citalopram	68	73	65	99	79	384
Total Deaths with the Presence of Drugs	1,153	964	1,040	1,024	936	5,117
Total Drugs Mentioned	4,797	3,531	3,908	3,735	3,341	19,312
Average Number of Drugs Per Death	4.16	3.66	3.76	3.65	3.57	3.77

¹Increased testing protocols for benzodiazepines were instituted July 2008.

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 4. Number and Proportion of Single-Drug Mortality Cases Detected by the Medical Examiner, in Philadelphia: 2006–2010

	2006	2007	2008	2009	2010
Single-Drug Deaths	133	158	160	145	123
Percent of All Deaths	11.5	16.4	15.4	14.2	13.1

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 5. Most Commonly Detected Classes of Drugs Among Mortality Cases, as Reported by the Medical Examiner, by Percentage, in Philadelphia: 2009 and 2010

	2009 Percentage by Group Among All Cases	2010 Percentage by Group Among All Cases
Any Prescription Opioid	39.3	42.7
Any Benzodiazepine	34.3	35.7
Any Antidepressant	26.1	28.1
Any Antipsychotic	5.7	6.6
Any Speed-Type Drug	3.7	2.6

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 6. Percentage of Deaths with Positive Toxicology Reports for Drugs by Cause and Average Number of Drugs Detected by Cause, as Determined by the Medical Examiner, in Philadelphia: 2009 and 2010¹

ME-Identified Cause	2009 Percentage by Cause	2009 Average Number of Drugs	2010 Percentage by Cause	2010 Average Number of Drugs
Drug Intoxication	39.5	4.74	40.8	4.52
Homicide	13.3	2.46	14.9	2.61
Suicide	7.4	2.78	9.0	2.61
Natural	29.7	3.23	26.9	3.29
Accidental	10.2	2.84	8.4	2.58
Total		3.65		3.57

¹The cause of death designations were changed, effective 1/1/2009. Comparisons to earlier periods cannot be made.
SOURCE: Philadelphia Medical Examiner's Office

Exhibit 7. Top 10 Drugs Identified by NFLIS, Philadelphia: 2009 and 2010

Drug	2009 Count	2009 Percentage	2010 Count ¹	2010 Percentage
Marijuana	13,083	37.5	12,845	38.4
Cocaine	11,691	33.5	10,883	32.5
Heroin	4,187	12.0	3,886	11.6
Oxycodone	1,391	4.0	1,509	4.5
Alprazolam	1,238	3.5	1,270	3.8
PCP (Phencyclidine)	907	2.6	650	1.9
Codeine	251	0.7	286	0.9
Clonazepam	238	0.7	235	0.7
Hydrocodone	223	0.6	191	0.6
Buprenorphine	121	0.3	164	0.5
All others	1,599	4.6	1,516	4.5
Total Count	34,929	100.0	33,435	100.0

¹No change in any of the top 10 ranked drugs from 2009 to 2010.
SOURCE: NFLIS, DEA

Exhibit 8. Number of Drug-Positive Urinalysis Results of Adults in Probation or Parole Status who were Tested for the First Time and Percent Positive for Any Drug, in Philadelphia: 2006–2010

Drug/Drug Group	2006	2007	2008	2009	2010
Marijuana	1,487	1,741	1,904	1,406	1,560
Cocaine	1,091	1,176	1,148	581	520
Benzodiazepines	285	338	477	296	335
Methadone	222	239	258	164	*1
Opioids	300	325	441	317	297
Phencyclidine (PCP)	208	301	354	263	285
Alcohol	152	169	189	113	*
Barbiturates	44	30	50	27	*
Amphetamines	13	23	35	18	19
Propoxyphene	0	0	12	26	2
Total Persons Tested	5,702	6,077	6,835	4,752	4,806
Total Positive Persons	2,757	3,133	3,437	2,337	2,281
Percent That Tested Positive	48.4	51.6	50.3	49.2	47.5

*No test for these drugs in 2010.

Note: Some people tested positive for more than one drug.

SOURCE: Adult Probation/Parole Department, First Judicial District, Philadelphia

Exhibit 9. Number and Percentage of the Presence of Selected Drugs in Decedents Whose Cause of Death was Drug Intoxication, as Determined by the Philadelphia Medical Examiner, in Philadelphia: 2009 and 2010

Drug	2009 All Causes N=	2009 Drug Intoxication N=	2009 Drug Intoxication Percent=	2010 All Causes N=	2010 Drug Intoxication N=	2010 Drug Intoxication Percent=
Heroin/Morphine	221	151	68.3	206	138	67.0
Methadone	104	61	58.7	82	53	64.6
Cocaine	311	195	62.7	233	146	62.7
Diazepam	118	68	57.6	110	66	60.0
Oxycodone	159	94	59.1	181	107	59.1
Alprazolam	200	130	65.0	204	120	58.8
Quetiapine	40	19	47.5	44	23	52.3
Citalopram	99	38	38.4	79	32	40.5
Alcohol-in-Combination	227	89	39.2	216	70	32.4
Phencyclidine (PCP)	51	22	43.1	62	19	30.6

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 10. Number of Antipsychotic Drugs Detected in Decedents Versus Unique Cases with at Least One Antipsychotic Drug, in Philadelphia: 2006–2010

	2006	2007	2008	2009	2010	Total
Quetiapine	25	29	49	37	44	184
Olanzapine	22	19	19	9	8	77
Clozapine	5	5	2	6	7	25
Haloperidol	3	2	2	1	1	9
All others	7	5	3	8	6	29
Total detections	62	60	75	61	66	324
Unique cases	59	57	74	58	62	310

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 11. Number and Percentage, by Exposure Category, of AIDS Diagnoses, in Philadelphia: 2007–2009

	AIDS 2007		AIDS 2008		AIDS 2009	
	No.	%	No.	%	No.	%
IDU ¹	199	17.3	137	13.1	103	11.1
MSM ² and IDU	20	1.7	16	1.5	9	1.0
MSM	350	30.4	343	32.9	357	38.3
Heterosexual Contact	568	49.3	512	49.0	228	24.5
No Identified Risk	14	1.2	36	3.4	235	25.2
Total Adult Cases	1,151		1,044		932	

¹IDU= injection drug user.²MSM=men who have sex with men.

SOURCE: Philadelphia Department of Public Health, AIDS Activities Coordinating Office

Exhibit 12. Number and Percentage, by Exposure Category, of Newly Diagnosed HIV Cases, in Philadelphia: 2007–2009

	HIV 2007		HIV 2008		HIV 2009	
	No.	%	No.	%	No.	%
IDU ¹	148	16.6	125	13.3	102	11.2
MSM ² and IDU	15	1.7	15	1.6	9	1.0
MSM	280	31.4	309	32.8	350	38.5
Heterosexual Contact	435	48.8	456	48.4	216	23.7
No Identified Risk	13	1.5	37	3.9	233	25.6
Total Adult Cases	891		942		910	

¹IDU= injection drug user.²MSM=men who have sex with men.

SOURCE: Philadelphia Department of Public Health, AIDS Activities Coordinating Office

Drug Abuse Patterns and Trends in Phoenix and Arizona: 2010

James K. Cunningham, Ph.D.¹

ABSTRACT

Cocaine-related inpatient hospital admissions in Maricopa County (Phoenix area) declined from 2007 to 2010, although the decline appeared to bottom out in 2010. Cocaine treatment episodes (as a percentage of total treatment episodes) also decreased slightly in 2010, following a somewhat more pronounced decline during the 2007–2009 time period. Cocaine-positive urinalysis tests of arrestees decreased in 2009, compared with 2008, but increased slightly in 2010. Amphetamine-related hospital admissions were flat during 2008 and the first half of 2009, but they increased slightly in the second half of 2009 and again in the second half of 2010 (most amphetamine-related hospital admissions are probably related to methamphetamine, a type of amphetamine). Other methamphetamine indicators—treatment episodes, urinalysis tests of arrestees, high school surveys of lifetime use—either declined slightly or were flat in 2010. Heroin/opioid-related hospital admissions rose in 2010, extending an upward trend that has continued since 2000 (heroin/opioid-related hospital admissions include admissions related to heroin and other opioids). Primary heroin treatment episodes (as a percentage of total treatment episodes) also increased in 2010. Marijuana/cannabis-related hospital admissions rose in 2010, continuing an upward trend that began in 2007. Primary marijuana-related treatment episodes (as a percentage of total treatment episodes) also rose in 2010. In order, the five top drugs submitted to the National Forensic Laboratory Information System (NFLIS) in the Maricopa County area during 2010 were marijuana/cannabis, methamphetamine, cocaine, heroin, and oxycodone. MDMA (3,4-methylenedioxymethamphetamine or ecstasy) was the eighth most common drug item identified in local NFLIS forensic laboratories. There were reports that methamphetamine was being smuggled into Arizona prisons in writing paper. In particular, a piece of paper is soaked with liquid methamphetamine and dried, and then a letter is written on it. The paper is then mailed to the prison or passed to inmates during visitation. Inside the prison, a piece of methamphetamine-soaked paper sells for two different prices depending on the ethnicity of the inmate. One-quarter of a piece of paper is sold for \$25 to Mexican-American inmates and for \$50 to inmates of other ethnicities. The methamphetamine is used by crumbling the paper and then soaking it in water, usually inside a deodorant cap. After some time has passed, the inmate draws the liquid from the deodorant cap into a needle for injection. Source information indicates that a green-colored heroin is being sold by street-level distributors in Phoenix. It is originally in solid form and becomes powdery when broken apart into smaller pieces. Emergent human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) rates related to injection drug use have declined slowly but steadily over the past several years.

¹The author is affiliated with the Department of Family and Community Medicine, College of Medicine, The University of Arizona, Tucson, Arizona.

INTRODUCTION

Area Description

Maricopa County, which includes the State's capital, Phoenix, is Arizona's primary population center, with 3,817,117 residents in 2010, making it the fourth most populous county in the United States. Whites (non-Latino) constituted 57.5 percent of the population; 31.8 percent were Latino; 5.2 percent were African-American; 3.2 percent were Asian; and 2.2 percent were American Indian/Alaska Native. Maricopa County is located in the central part of the State and includes more than 20 cities and towns, as well as multiple Indian reservations, the largest of which are the Salt River Pima Maricopa Indian Community and the Gila River Indian Community.

Data Sources

This report is based on the most recent available data obtained from the following sources:

- **Treatment episodes data** came from the Arizona Department of Health Services (ADHS), Division of Behavioral Health Services (DBHS), Division of Clinical Recovery Services, Bureau of Grants Management, Training and Administration, Evaluation Unit. Treatment data include data for clients age 18 and older.
- **Hospital admissions (inpatient) data** came from analyses conducted by the University of Arizona, Department of Family and Community Medicine, using hospital discharge records from the Arizona Hospital Discharge Data System operated by the Arizona Department of Health Services.
- **Law enforcement data**, including price information and drug trafficking patterns, were obtained from the Drug Enforcement Administration (DEA) Phoenix Field Division. Price data were for the second half of 2010.
- **Self-reported youth drug use data** were obtained from the Arizona Criminal Justice Commission.
- **Forensic drug analysis data** were obtained from the National Forensic Laboratory Information System (NFLIS), DEA.
- **Arrestee data** were provided by the Arizona Arrestee Reporting Information Network (AARIN).
- **Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) data** were obtained from the ADHS, Bureau of Epidemiology and Disease Control, Office of HIV/STD Services, *HIV/AIDS Annual Report, March 2011*.
- **Population data** were obtained from the U.S. Census Bureau.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In 2010, ADHS/DBHS data indicated that primary cocaine treatment episodes constituted 4 percent of the total treatment episodes in Maricopa County (Phoenix area) (exhibit 1). Cocaine treatment

episodes (as a percentage of total treatment episodes) decreased slightly in 2010, following a somewhat more pronounced decline during the 2007–2009 time period (exhibit 2). Cocaine-related inpatient hospital admissions in Maricopa County also declined from 2007 to 2010, although the decline appeared to bottom out in 2010 (exhibit 3). In 2010, cocaine-related hospitalizations were substantially lower than heroin/opioid-related and amphetamine-related admissions (most amphetamine-related hospital admissions involve methamphetamine, a type of amphetamine). Reported lifetime use of cocaine among high school students declined from 2006 to 2010 (exhibit 4).

Cocaine-positive urinalysis tests of arrestees decreased in 2009, compared with 2008, but they increased slightly in 2010 (exhibits 5 and 6). Cocaine was the third most common drug item seized and identified by NFLIS laboratories in Maricopa County (exhibit 7). The price for an ounce of powder cocaine was approximately \$600 in the second half of 2010; the price for an ounce of crack cocaine was approximately \$600–\$800. Price estimates in this report are based on relatively small numbers of seizures/acquisitions and should be considered with caution.

Heroin

ADHS/DBHS data indicated that primary heroin treatment episodes, as a percentage of total treatment episodes, increased from 10 percent in 2007 to 20 percent in 2010 (exhibit 2). Primary heroin/opioid-related hospital admissions in Maricopa County increased in 2010, extending an upward trend that has generally continued since 2000 (exhibit 3). Heroin/opioid admissions included admissions related to heroin and admissions related to other opioids (e.g., oxycodone and hydrocodone). Hospital data coding is such that specific types of opioids cannot be separated for analysis. Approximately 2.1 percent of high school students reported lifetime use of heroin/opiates in 2010 (exhibit 4).

Heroin was the fourth most common drug item seized and identified by NFLIS laboratories in Maricopa County (exhibit 7). There was little change in opiate-positive urinalysis tests between 2009 and 2010 (these tests check for heroin as well as for other opiates) (exhibits 5 and 6). The price of an ounce of black tar heroin in the second half of 2010 was approximately \$650–\$750. DEA source information indicates that a green-colored heroin, which is originally in solid form and becomes powdery when broken apart into smaller pieces, is being sold by street-level distributors in Phoenix.

Other Opiates/Narcotics

In 2010, approximately 5 percent of the treatment episodes in Maricopa County had opioids other than heroin/morphine reported as the primary drug of abuse (exhibit 1). In 2010, oxycodone and hydrocodone were the fifth and seventh most common drug items, respectively, seized and identified by NFLIS laboratories (exhibit 8). Approximately 17 percent of high school students reported lifetime use of prescription pain relievers in 2010 (exhibit 9). The street price of oxycodone pills ranged from \$6 to \$40 per tablet in the second half of 2010. The street price of hydrocodone pills ranged from \$1 to \$2 per tablet.

Benzodiazepines/Barbiturates

Three benzodiazepines—alprazolam, clonazepam, and diazepam—were among the top 12 most frequently identified drug items in the NFLIS system in Maricopa County in 2010 (exhibit 8). Four drug items were identified by NFLIS laboratories as containing barbiturates (butalbital) in 2010.

Methamphetamine/Amphetamines

The percentage of treatment episodes associated with methamphetamine declined from 29 percent in 2007 to 20 percent in 2010 (exhibit 1), tying heroin/morphine (which was also at 20 percent of all episodes) as the most common illicit drug associated with treatment episodes in Maricopa County. Amphetamine-related hospital admissions were flat during 2008 and the first half of 2009, but they rose slightly in the second half of 2009 and again in the second half of 2010 (exhibit 3). Reported lifetime use of methamphetamine among high school students declined from 2006 to 2010 (exhibit 4).

Methamphetamine was the second most common drug item seized and identified by NFLIS laboratories (exhibit 7). In the second half of 2010, the price of an ounce of methamphetamine was estimated to be approximately \$600–\$800. Clandestine laboratory incidents in Arizona reported to the National Clandestine Laboratory Database declined sharply from 2001 through 2007 and then remained relatively low and flat through 2010 (exhibit 10).

There were reports that methamphetamine was being smuggled into Arizona prisons in writing paper. In particular, a piece of paper is soaked with liquid methamphetamine and dried, and then a letter is written on it. The paper is then mailed to the prison or passed to inmates during visitation. Inside the prison, a piece of methamphetamine-soaked paper sells for two different prices depending on the ethnicity of the inmate. One-quarter of a piece of paper is sold for \$25 to Mexican-American inmates and for \$50 to inmates of other ethnicities. The methamphetamine is used by crumbling the paper and then soaking it in water, usually inside a deodorant cap. After some time has passed, the inmate draws the liquid from the deodorant cap into a needle for injection.

Marijuana

Seventeen percent of treatment episodes in 2010 were associated with marijuana, making it the fourth most common drug associated with treatment episodes (exhibit 1). Marijuana/cannabis hospital admissions increased in 2010, continuing an upward trend that began in 2007 (exhibit 11). Reported lifetime use of marijuana among high school students was approximately 30 percent in 2010 (exhibit 4).

Marijuana-positive urinalysis tests of arrestees increased in 2010, compared with 2009 (exhibits 5 and 6). Marijuana/cannabis was the most common drug item seized and identified by NFLIS laboratories in 2010 (exhibit 7). The retail price of an ounce of marijuana was approximately \$60 during the second half of 2010.

Club Drugs

Proportions of treatment episodes associated with MDMA/ecstasy (3,4-methylenedioxy-methamphetamine) and LSD (lysergic acid diethylamide) were relatively low in 2010 (such episodes were included in the “other” category of exhibit 1). Eight drug items were identified by NFLIS laboratories as containing LSD in 2010. There were 181 drug items identified as containing MDMA by NFLIS laboratories in 2010, making it the eighth most common item submitted to NFLIS (exhibit 8).

PCP

Indicators for PCP (phencyclidine) were relatively low—14 drug items were identified as containing PCP by NFLIS laboratories in 2010.

Other Drugs

Twenty-three items were identified as containing BZP (1-benzylpiperazine) by NFLIS laboratories in 2010. There were 96 drug items identified as containing carisoprodol by NFLIS laboratories in 2010 (exhibit 8).

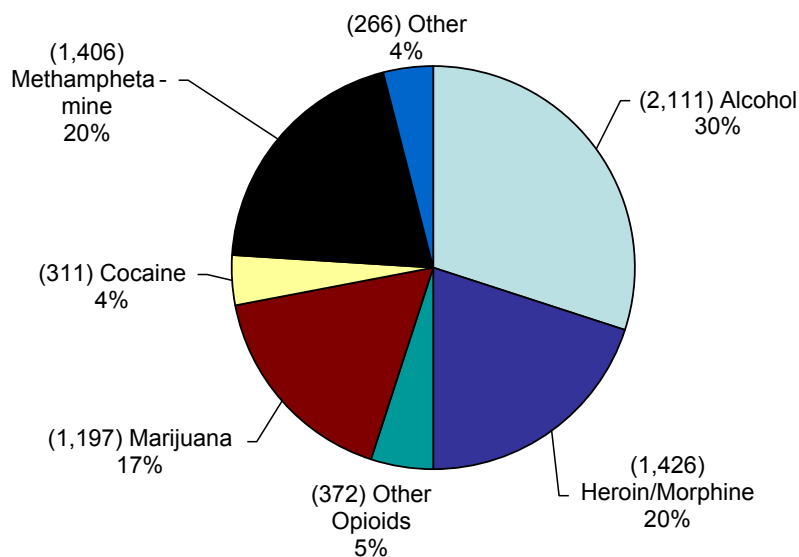
INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV/AIDS

In Arizona, 5-year emergent HIV/AIDS rates (per 100,000 per year) related to injection drug use appeared to have declined slowly but steadily over the past several years (exhibit 12).

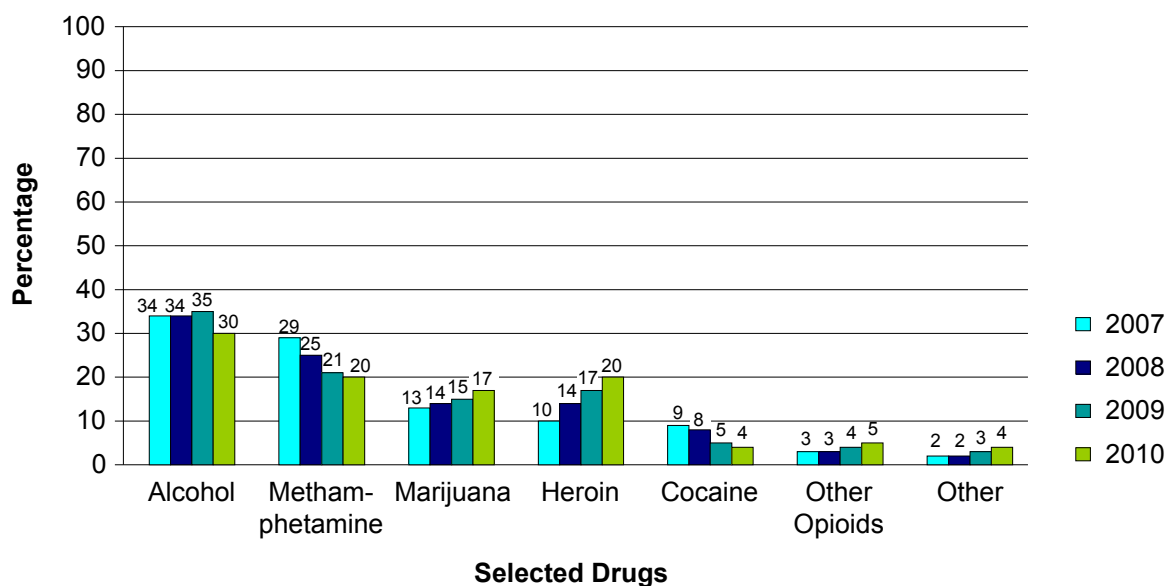
For inquiries concerning this report, contact James K. Cunningham, Ph.D., Department of Family and Community Medicine, College of Medicine, The University of Arizona, 1450 N. Cherry Avenue, Tucson, AZ 85719, Phone: 520-615-5080, Fax: 520-577-1864, E-mail: jkcunnin@email.arizona.edu.

Exhibit 1. Number and Percentage of Treatment Episodes, by Primary Substance Used, Maricopa County (Phoenix Area): 2010



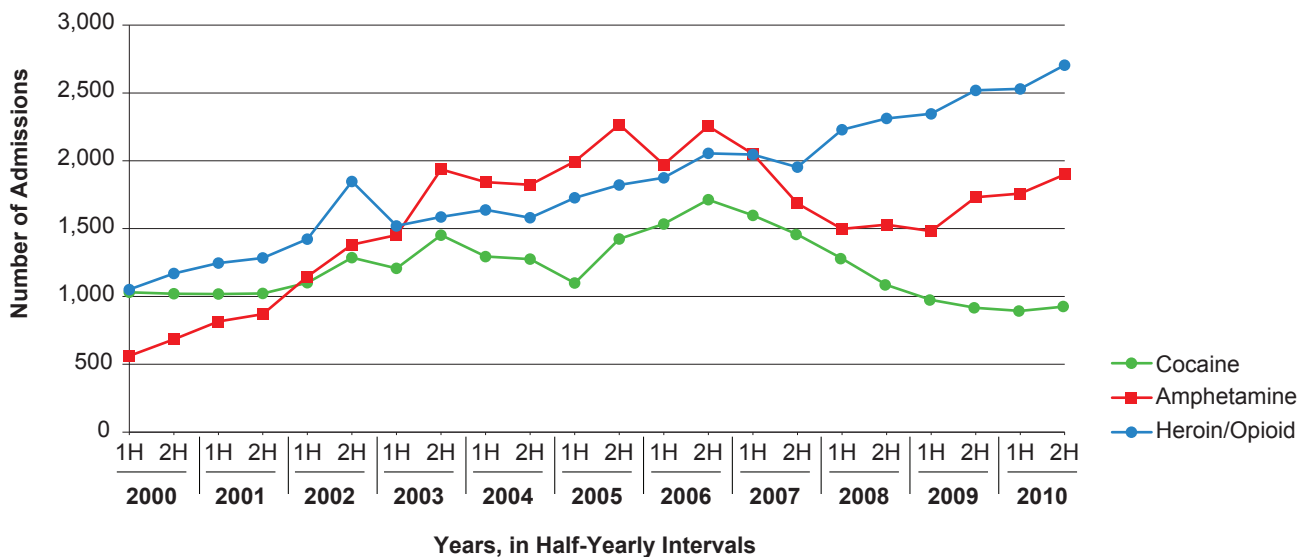
SOURCE: Arizona Department of Health Services

Exhibit 2. Percentage of Treatment Episodes by Primary Substance Used, Maricopa County (Phoenix Area): 2007–2010



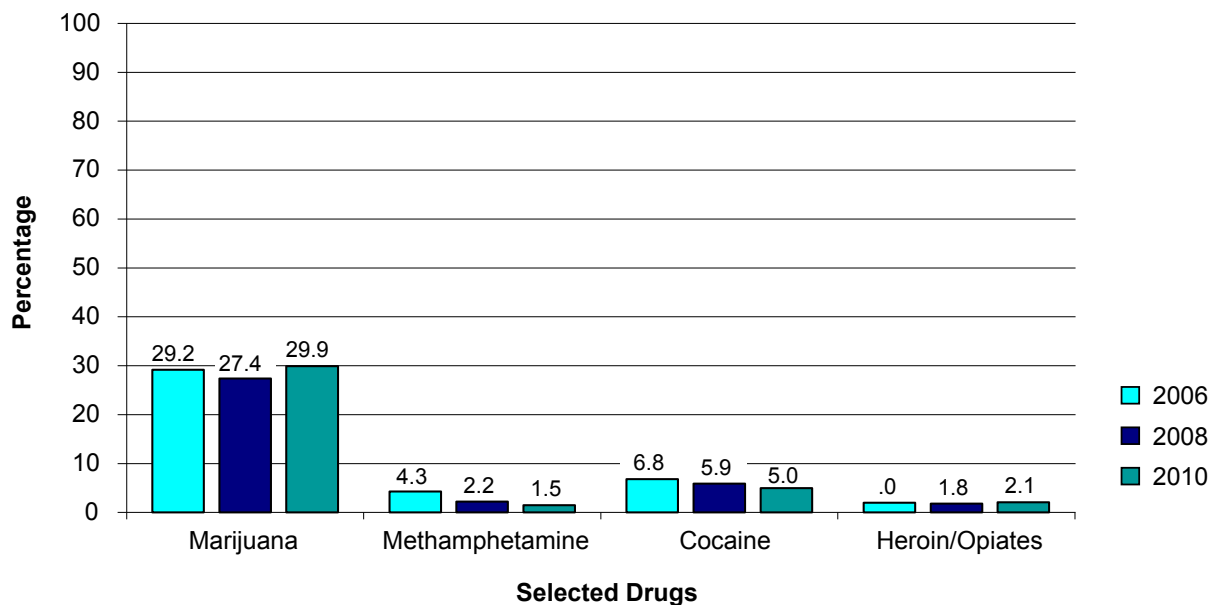
SOURCE: Arizona Department of Health Services

Exhibit 3. Number of Cocaine, Amphetamine, and Heroin/Opioid-Related Hospital Admissions, Maricopa County (Phoenix Area): 2000–2010, by Half-Years

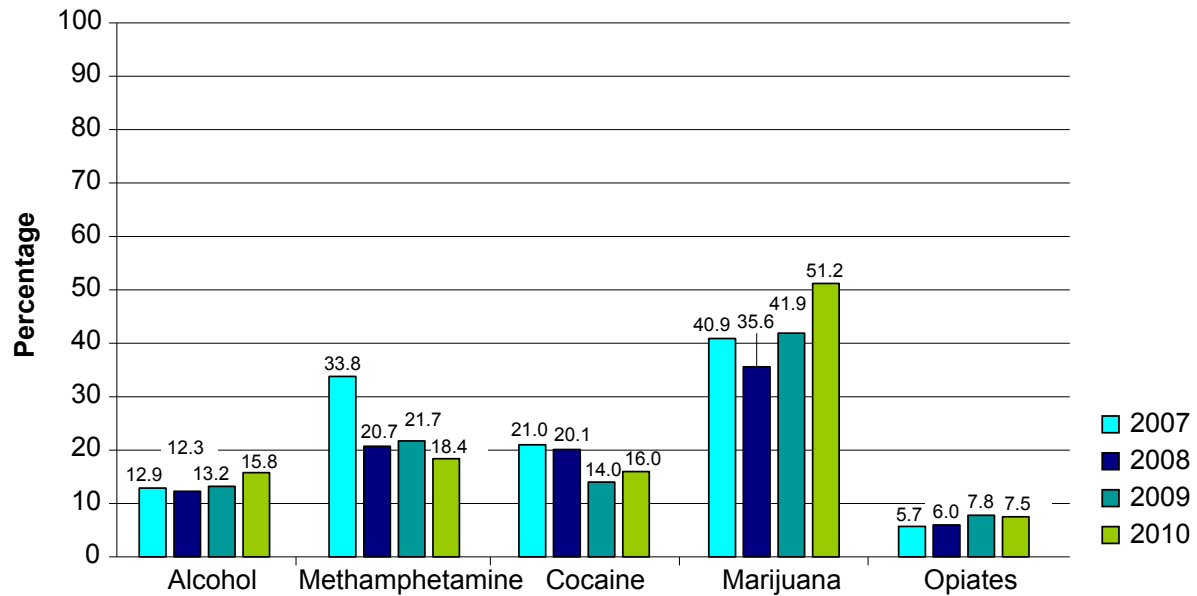


SOURCE: Arizona Hospital Discharge Data System, Arizona Department of Health Services, analysis by the University of Arizona Department of Family and Community Medicine

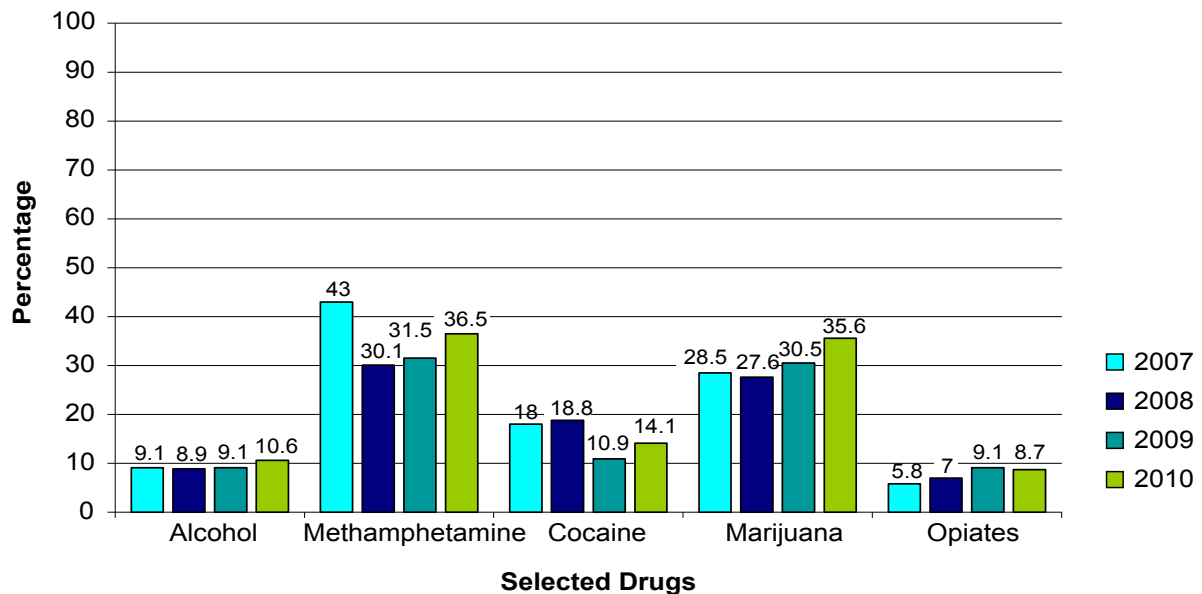
Exhibit 4. Percentage of Students Reporting Lifetime Use of Drugs, Arizona: 2006, 2008, and 2010



SOURCE: Arizona Youth High School Survey, Arizona Criminal Justice Commission

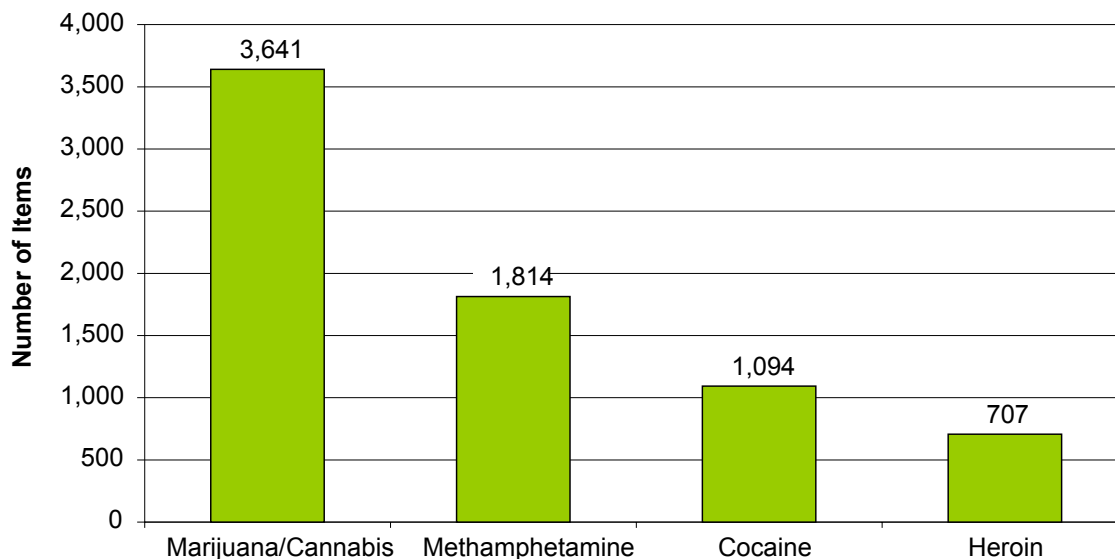
Exhibit 5. Percentage of Positive Drug Urine Tests Among Male Arrestees, Phoenix: 2007–2010

SOURCE: Arizona Arrestee Reporting Information Network (AARIN)

Exhibit 6. Percentage of Positive Drug Urine Tests Among Female Arrestees, Phoenix: 2007–2010

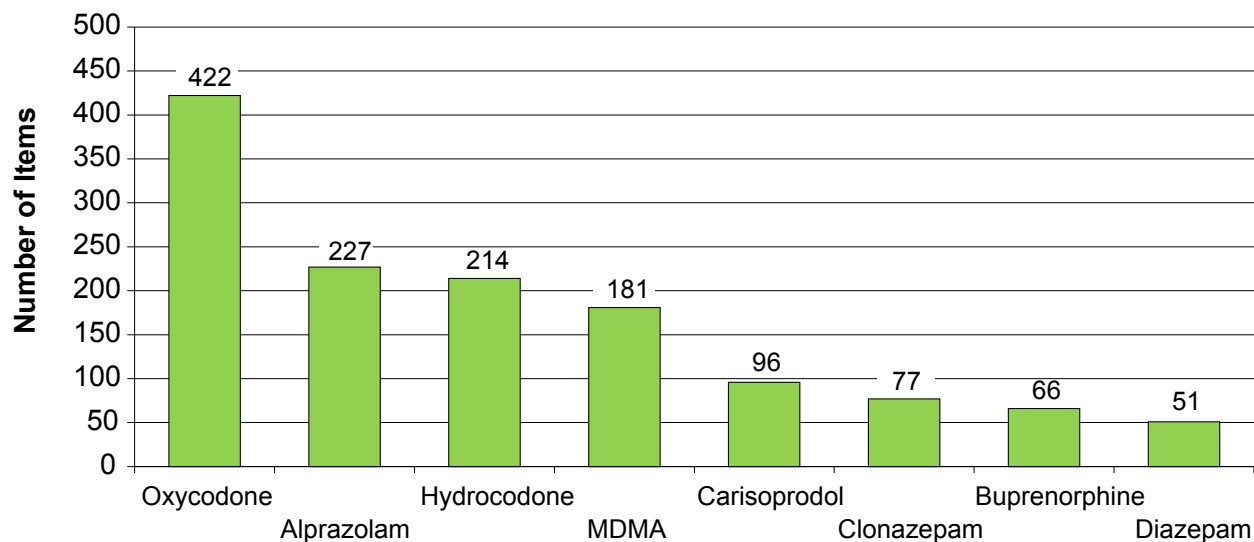
SOURCE: Arizona Arrestee Reporting Information Network (AARIN)

Exhibit 7. Number of Marijuana/Cannabis, Methamphetamine, Cocaine, and Heroin Drug Items Identified by NFLIS Forensic Laboratories, Maricopa County (Phoenix Area): 2010



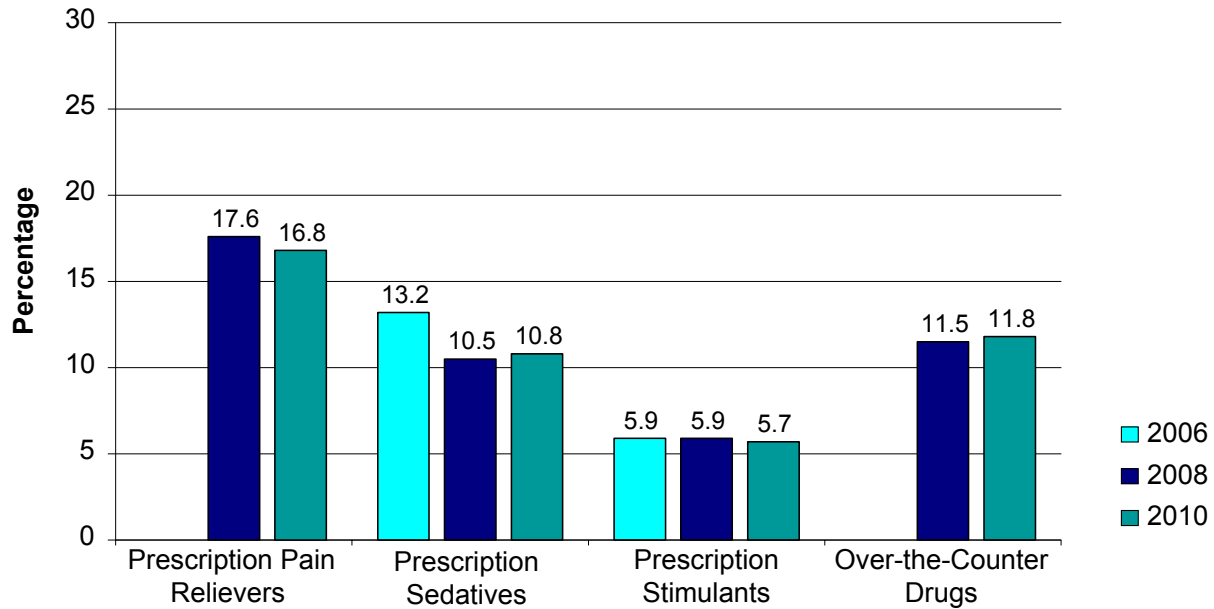
SOURCE: NFLIS, DEA

Exhibit 8. Number of Top 5 through 12 Most Common Drug Items Identified by NFLIS Forensic Laboratories, Maricopa County (Phoenix Area): 2010



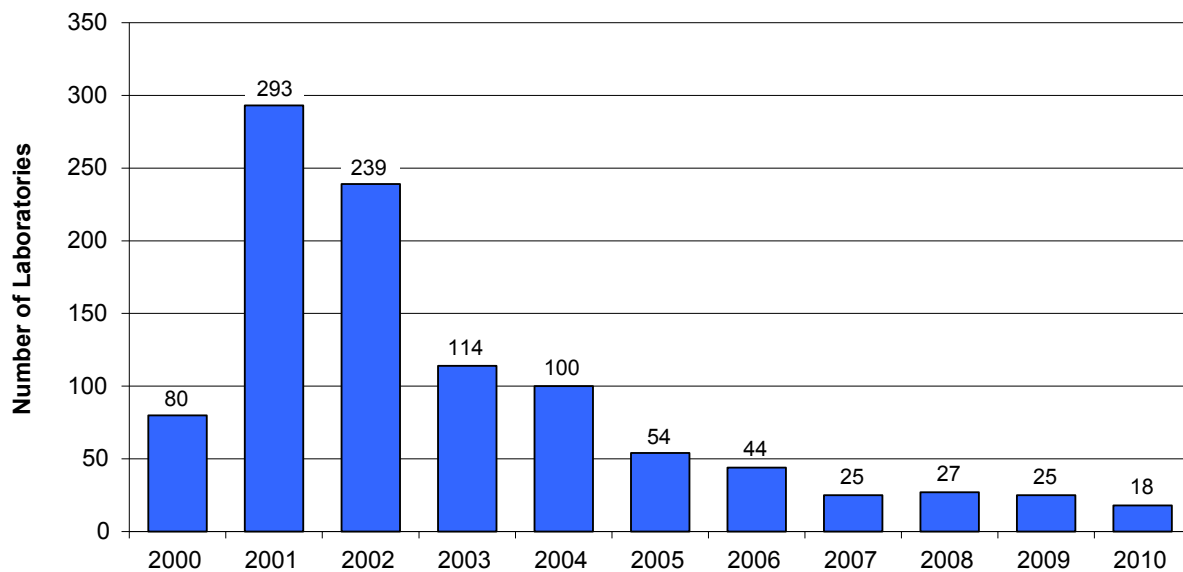
SOURCE: NFLIS, DEA

Exhibit 9. Percentage of Students Reporting Lifetime Use of Drugs (Continued from Exhibit 4), Arizona: 2006, 2008, and 2010



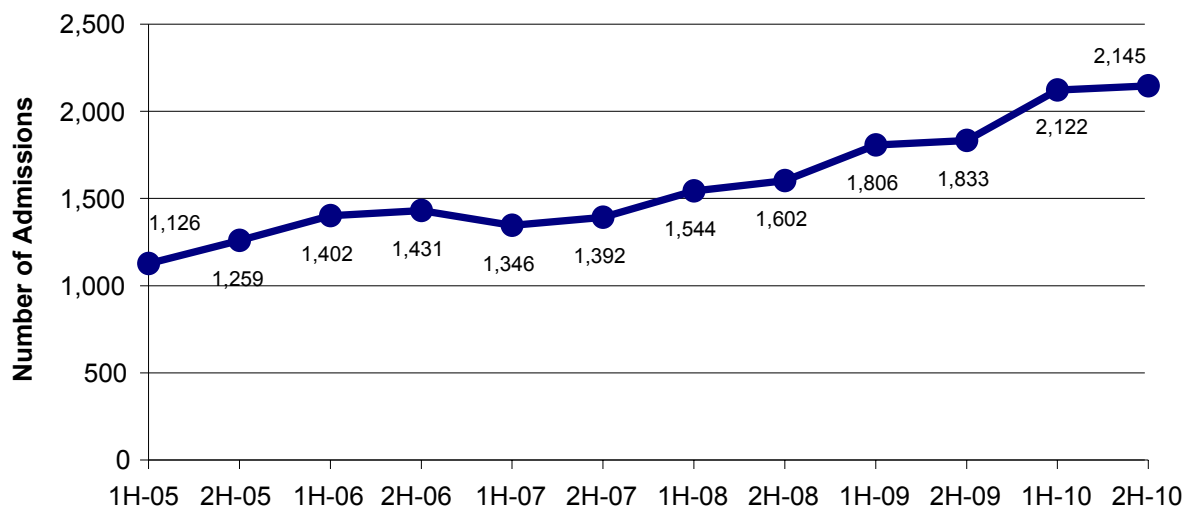
Note: There was a wording change for "prescription sedatives" and "prescription stimulants" in 2010.
 SOURCE: Arizona Youth High School Survey, Arizona Criminal Justice Commission

Exhibit 10. Number of Methamphetamine Laboratories Seized, Arizona: 2000–2010



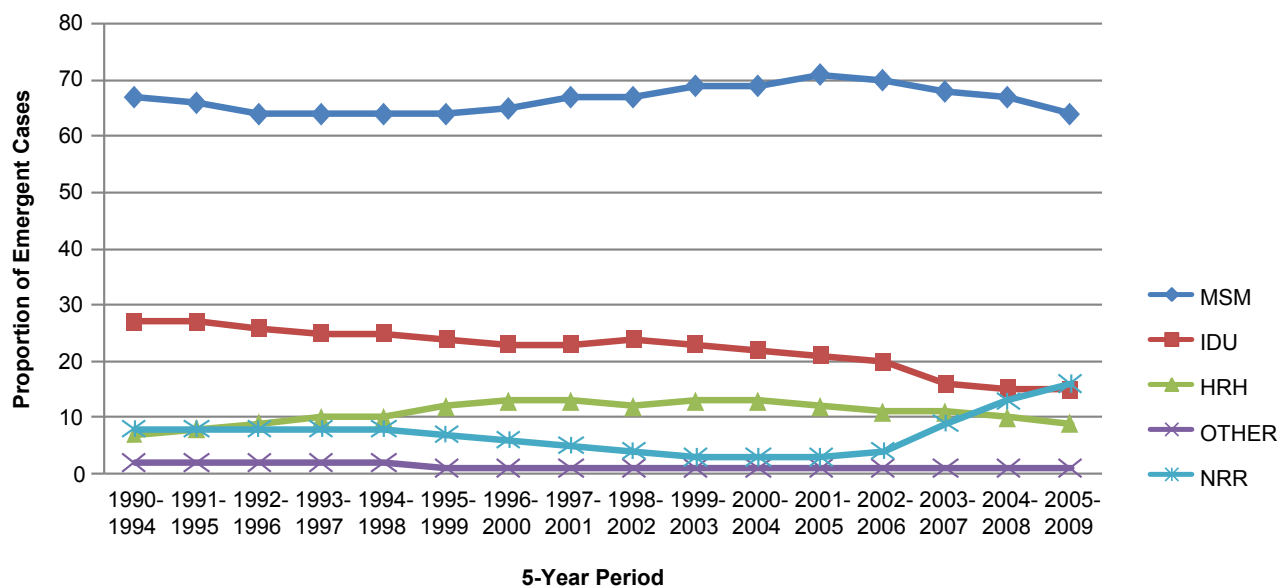
SOURCE: Phoenix Field Division, DEA

Exhibit 11. Number of Marijuana/Cannabis-Related Hospital Admissions, Maricopa County (Phoenix Area): 2005–2010, by Half-Years



SOURCE: Arizona Hospital Discharge Data System, Arizona Department of Health Services, analysis by the University of Arizona Department of Family and Community Medicine

Exhibit 12. Estimated 5-Year Emergent HIV/AIDS Rates per 100,000 per Year, by Reported Risk, Arizona: 1990–2009



Note: MSM=men who have sex with men; IDU= injection drug user; HRH=high-risk heterosexual; NRR=no reported risk.
SOURCE: Arizona Department of Health Services

Patterns and Trends in Drug Abuse in St. Louis, Missouri: 2010

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ABSTRACT

Heroin availability and its widespread presence in the rural and suburban areas continued to be a concern in 2010 in the St. Louis area. Two types of heroin were available in the St. Louis Metropolitan Statistical Area—Mexican black tar and Mexican brown powder. The proportion of St. Louis area primary treatment admissions for heroin was second only to alcohol admissions as the primary drug of abuse. The number of deaths remained high from heroin and were identified in rural medical examiner (ME) data as well as in metropolitan area data. Access to heroin has been consistent and reported from all sources, from school surveys and emergency department visits to law enforcement data. Methamphetamine indicators remained low but stable in St. Louis; however, clandestine laboratories were reportedly increasing. Social networks using “cookers” have devised ways to access precursors and continued to produce small amounts of the drug locally. Methamphetamine from Mexico and the Southwest supplied most of the methamphetamine in the city and county of St. Louis and the surrounding five Missouri counties. Crack cocaine, formerly the major stimulant problem in the area, decreased in all indicators for 2010, but it was trending upward again from recent levels. Marijuana indicators remained stable in 2010. Reports of club drug abuse continued to be sparse, primarily through anecdotal reports of MDMA (3, 4-methylenedioxy-methamphetamine) use. “Bath salts” have been noted in ME and poison control reports, and the use of bath salts and deaths involving them have been publicized in the media. In the St. Louis area, less than 5 percent of human immunodeficiency virus (HIV) cases had a primary risk factor of injection drug use, with most new cases identified among men who have sex with men (79.4 percent) and heterosexual contact by women of color (17.2 percent).

INTRODUCTION

Area Description

The St. Louis Metropolitan Statistical Area (MSA) includes approximately 2.2 million people. Most of the population lives in the city of St. Louis and St. Louis County; others live in the surrounding rural Missouri counties of Franklin, Jefferson, Lincoln, St. Charles, and Warren. Redefinition of the MSA has resulted in an area that includes a total of eight Missouri counties and eight Illinois counties, reflecting the population sprawl since the last U.S. Census. St. Louis City's population continued to decrease to less than 350,000, many of whom are indigent and minorities. However, revitalization, with an increase in young professionals, has led to conflicts with marginalized populations in the city. Most violent crime statistics for the city decreased in 2010. With the severe budget cutbacks, it is impossible to sort out the reported decrease in crime and the lack of manpower to follow up on

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all cases. Outlying counties have experienced an increase in violent crimes; these may be related to the depressed economic recession and increased unemployment. St. Louis County, which surrounds St. Louis City, has more than 1 million residents and is a mix of established affluent neighborhoods and middle- and lower-class housing areas on the north and south sides. The most rapidly expanding population areas are in St. Charles and Jefferson Counties in Missouri and St. Clair and Madison Counties in southern Illinois, which have a mixture of small towns and farming areas. The population in these rural counties total more than 800,000. Living conditions and cultural differences between the urban and rural areas have resulted in contrasting drug use patterns.

Much of the information included in this report is specific to St. Louis City and County, with caveats that apply to the total MSA. Anecdotal information and some medical examiner (ME) data and treatment data are provided for rural areas surrounding St. Louis.

Policy Issues

Even with legislation for precursor drugs, such as pseudoephedrine, methamphetamine use and local production continued for several reasons. The policy cannot address the vast majority of methamphetamine imported from Mexico, and the social networks that produce smaller amounts of methamphetamine have managed to work around the precursor laws. Attention is now focused on heroin, prescription opiates, and marijuana.

Missouri has been in a budget crisis for years, resulting in cuts in services, particularly in health services, and those for drug treatment and mental health. Limited treatment availability continues for drug abusers and may underestimate the scope of the substance abuse problem when used as an indicator. Medicaid offers treatment services to women and children on a limited outpatient basis. The future funding of mental health and substance abuse treatment is the subject of potential cutbacks as the State attempts to balance its budget.

Data Sources

The data sources used in this report are listed below:

- **Drug treatment data** were derived from the Treatment Episode Data Set (TEDS) database for calendar year (CY) 2010. Private treatment programs in St. Louis County provided anecdotal information.
- **Drug price and purity information** was provided by the Drug Enforcement Administration (DEA), Domestic Monitor Program (DMP), through 2010, and the National Drug Intelligence Center (NDIC).
- **Drug-related mortality data** were provided by the St. Louis City and County Medical Examiner (ME) Office for CY 2010.
- **Intelligence data** were provided by the Missouri State Highway Patrol; Aubrey Grant, Program Specialist/Policy Bureau, Office of the Illinois Attorney General; and the DEA.
- **Data on drug seizures** were provided by the DEA, National Forensic Laboratory Information System (NFLIS) for 2010.

- **Client ethnographic information** was obtained from user/key informant interviews.
- **Human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDs), and sexually transmitted disease (STD) data** were derived from the St. Louis Metropolitan Health Department and the Missouri Department of Health and Senior Services for 2010.
- **Uniform Crime Report data** for Missouri counties and **Missouri clandestine methamphetamine laboratory incidents** were provided by the Missouri State Highway Patrol for 2010.
- **Clandestine methamphetamine incidents for Illinois for 2010** were provided by the DEA and by the Illinois State Highway Patrol.
- **Anecdotal reports** were provided by the DEA, local agencies that provide crisis interventions services, and the St. Louis County Toxicology Laboratory and Poison Control project.

DRUG ABUSE PATTERNS AND TRENDS

Regionally, some of the indicators for the major substances of abuse changed substantially in 2010. Cocaine availability, proportions of treatment admissions, and numbers of deaths decreased, while heroin availability, treatment admissions, and deaths increased substantially. Heroin availability also increased in rural areas surrounding St. Louis. Alcohol and other categories remained more stable. Anecdotal information from the DEA and local agencies indicated that heroin use, purity, and availability may have also increased regionally. Heroin indicators surpassed cocaine and marijuana indicators in treatment admissions data. Death data for St. Louis City and County showed steady increases in heroin and other opiates in the past few years. Prescription narcotic analgesics were reported to be available in the more rural areas of the MSA.

Methamphetamine indicators decreased in 2010, but methamphetamine remained a drug for which resources were used. Methamphetamine remained stable as a drug of abuse in other cities and in the rural areas of Missouri. The influence of the distribution networks and combining of distribution networks for cocaine and heroin has led to increased availability throughout the region. Social networks with methamphetamine “cooks” were responsible for increases in clandestine laboratories in the region. Clandestine laboratories reached their highest number in 5 years in 2010.

Two types of heroin continued to be available in the area, and the heroin was more pure and less expensive than that which was previously available. St. Louis is a destination market and is subject to all the changes that occur in the supply chain. Heroin has been found in the suburbs and surrounding rural areas. ME and treatment data reflected a younger, primarily Caucasian user that is inexperienced with heroin. Fentanyl, methadone, oxycodone, and hydrocodone continued to be reported in ME and treatment admissions data.

Drug education and prevention activities have continued at the community level. The National Council on Alcoholism and Drug Abuse (NCADA) and other local education programs target prevention of drug use in the area. Faith-based initiatives are also involved in prevention. These groups are particularly active in the surrounding counties of St. Louis. The poor city economy continued to foster drug abuse and distribution. Marijuana continued to be a very popular drug of abuse among younger adults. Gangs continued to be involved in the drug trade and related violence, with Latino,

African-American, and Asian youth and young adults involved in these groups. Interdiction programs are active in the city and along major interstate highways.

New trends included the use of “bath salts,” which has been widely publicized. Prescription narcotics, which have contributed to younger users’ introduction into the heroin culture, and diversion of drugs (such as Suboxone®), have changed the past picture of the urban and suburban drug user.

While not reported separately, alcohol abuse and underage use of alcohol continued to be community concerns. Many traffic accidents and personal violence incidents included alcohol use in the situation. In St. Louis, in 2010, 32.9 percent of treatment admissions were for alcohol alone.

Crack/Cocaine

The ME data report for 2010 for the St. Louis area showed that deaths in which cocaine was involved were decreasing, with a decline in the number of such deaths from 167 in 2007 to 44 in 2010 (exhibit 1). Cocaine was the fourth most common primary drug of abuse among all treatment admissions in 2010, following alcohol, heroin, and marijuana. This represents a change for the region over the past 5 years, as the numbers of primary cocaine admissions decreased, while admissions for other drugs, such as heroin, increased. Cocaine represented 10.6 percent of admissions, compared with 21.5 percent for marijuana and 26.5 percent for heroin admissions (exhibit 1). In 2010, males constituted 70.0 percent, and females constituted 30 percent of cocaine admissions. Of these cocaine treatment clients, 81.4 percent were older than 35. Marijuana, heroin, and alcohol were the most frequently cited secondary and tertiary drugs of abuse in primary cocaine admissions in 2010.

While the DEA’s emphasis in the St. Louis area has shifted from cocaine to methamphetamine and heroin, law enforcement sources, the DEA, and street informants reported increasing quality and availability for cocaine, with continuing higher prices. As 2011 progressed, this trend appeared to be continuing, as cocaine was re-emerging in the urban areas. In December 2009, the NDIC reported that cocaine prices for St. Louis ranged from \$20 to \$40 per rock and \$100–\$400 per gram for powder (exhibit 2). The price per rock was reported to be climbing, however. Anecdotal information indicates that all cocaine in St. Louis is initially in powder form and is converted to crack for distribution. In the past, cocaine was readily available on the street corner in rocks or grams, but this picture was changing. No new information was available on the pricing in Kansas City and smaller cities outside St. Louis.

NFLIS data indicated that 2,642 (12.8 percent) drug items seized and identified in 2010 for the St. Louis MSA were identified as containing cocaine. This placed cocaine as the third most frequently identified substance in the NFLIS system during 2010, lower than in past reports.

Most primary cocaine treatment clients (89 percent) reported smoking crack cocaine in 2010. A decrease in the use of combined cocaine and heroin (“speedball”) by injection drug users (IDUs) has been noted anecdotally, due to low cocaine availability, and it has also been reported that younger cocaine users tended to smoke cocaine. Polydrug use was also evident in the treatment data. The reported use of marijuana, heroin, and alcohol in addition to cocaine suggested this trend will likely continue.

Heroin

Heroin stabilized in the St. Louis area in all indicators in 2010 (exhibit 1). The ME data report for 2010 showed direct heroin-induced deaths compared with heroin-related deaths, covering St. Louis City and St. Louis County and rural counties of Franklin, Jefferson, and St. Charles. The ME identified 129 heroin-induced deaths. Of the 65 such deaths in the city, 26 percent of decedents were younger than 30; 33 percent were female; and 68 percent were Caucasian. These comparisons were not available for the county. Of the total heroin deaths, 24 were reported from Jefferson, Franklin, and St. Charles Counties. In 2009, heroin was identified in 180 deaths in St. Louis City and County. In 2008, heroin was present in 137 deaths, while in 2007 and 2006, heroin was present in 65 and 47 deaths, respectively, in St. Louis. Even with the decreased availability of cocaine, a small percentage of these deaths represented use of heroin and cocaine together, many times also mixed with alcohol. A statistically significant increase in heroin-related deaths began in the second half of 2008 ($p < .03$), when heroin availability and purity began to climb. Prior to this latest increase in availability and purity, heroin was found in small pockets of IDUs residing in small college towns and in small rural towns along major highways in the Missouri and Illinois St. Louis MSA. With this increase in deaths and apparently spreading use, many communities have become alarmed, as the social networks for rural access are not well understood.

Heroin treatment admissions in 2010 represented 26.5 percent of all admissions, second only to alcohol. A trending upward began in 2006, when heroin admissions increased by 15.5 percent from 2006 to 2007, and by another 49.0 percent in 2008. In 2009, treatment admissions continued to climb among clients younger than 35. In 2010, 71.0 percent of heroin treatment admissions were younger than 35, and 29.5 percent were younger than 25. Admissions to some available treatment depended on ability to pay. Some heroin abusers in need of treatment utilized private pay methadone programs. Rapid detoxification, using naltrexone or buprenorphine, is a treatment option at private centers, but it is expensive. Some younger users were reporting initial addiction to prescription pain pills prior to starting to use heroin, not realizing the consequences of heroin involvement. Of the methods of administration, 63 percent of heroin treatment clients reported injection use (exhibit 1). The National Council on Alcohol and Drug Abuse reported a change in calls to their hotline indicating an increase in injection beginning in 2009, and the DEA reported the first instance of “open air” markets. This trending back to injection may signal lower available purity, but widespread experimentation in the use of the drug in social circles that previously would not use heroin has been reported throughout the region.

In 2010, males accounted for 57.1 percent, while females represented 42.9 percent of heroin treatment admissions. Admissions for African-Americans were less common than those for White heroin abusers. Most admissions were younger than 35 (71.0 percent) (exhibit 1). Cocaine and marijuana were the most frequently cited secondary and tertiary drugs of abuse in heroin clients. Most heroin clients entering treatment referred themselves or were referred by the courts.

A steady supply of Mexican heroin remained available; both the DEA and DMP made heroin buys in the region. Mexican black tar heroin purity was up to 40.0 percent per milligram pure in 2009 from earlier reporting periods. Currently, in Mexican brown powder or a slightly bleached version of this powder, purities of 20–40 percent per milligram pure have been reported. While purities reported by the DMP in 2009 were lower than in many other cities, the consistently higher purity in St. Louis has allowed for expansion into a larger market with inexperienced users. Most heroin was purchased

in a capsule (one-tenth-gram packages of heroin) for \$10–\$20 or as one-half gram baggies that sold for \$100 each (exhibit 2). Quetiapine (Seroquel®) has also been identified as a cutting agent in many samples.

The city of St. Louis is an end-user market and is dependent on transportation of heroin from points of entry into the Midwest. The wholesale price remained at \$100–\$400 per gram, depending on heroin type. On street corners, heroin sold for \$150 per gram, according to anecdotal reports. In St. Louis and other smaller urban areas, small distribution networks sold heroin. Kansas City's heroin supply differed from that of St. Louis, probably due to suppliers. Mexican black tar heroin was primarily available there. The lighter color, more potent heroin did not appear to be available in the Kansas City metropolitan area. Of the drug items seized and identified by NFLIS laboratories in 2010, 13.9 percent were identified as containing heroin.

Other Opiates/Narcotics

Other opiates represented 2.7 percent of all treatment admissions in 2010. These admissions for abuse of other opiates seem to represent a decrease in treatment admissions, but this may also be the result of treatment availability and fewer treatment slots. Methadone remained available, due to prescription abuse as well as patient diversion. The two most frequently analyzed opiates, following heroin, in NFLIS laboratories in the St. Louis MSA were hydrocodone and oxycodone. NFLIS data for 2010 indicated that the proportion of drug items seized and identified by forensic laboratories as hydrocodone ranked seventh among all samples analyzed (2.5 percent), while oxycodone ranked ninth and represented 1.9 percent of the total items identified.

OxyContin® (a long-lasting, time-release version of oxycodone) abuse remained a concern for treatment providers and law enforcement officials and was seen in emergency departments by patients requesting refills. Prescription practices were closely monitored for abuse, and isolated deaths have been reported, but no consistent reports were available on the magnitude of this potential problem. Abuse of oxycodone remained a concern in medical settings, where the drug is preferentially sought. The use of hydromorphone remained common among a small population of White chronic addicts based on anecdotal information (exhibit 2).

Fentanyl continued to appear in the ME data, with 20 deaths in St. Louis City and County and the three targeted rural counties (St. Charles, Jefferson, and Franklin) in 2010. Suboxone® was reported to be available and was being used and sold outside of addiction management programs. Methadone overdoses were reported in 2010 in 11 cases. The use of illicit methadone versus prescription methadone has been difficult to quantify.

Depressants

The remaining few private treatment programs in the State often provided treatment for benzodiazepine admissions, antidepressant clients, and primary alcohol abusers. Social setting detoxification has become the treatment of choice for individuals who abuse these substances. Since many of the private treatment admissions were polysubstance abusers, particular drug problems were not clearly identified.

Stimulants/Methamphetamine

Methamphetamine (“crystal” or “speed”), along with alcohol, remained a primary drug of abuse in both the outlying rural areas and statewide (most of Missouri, outside of St. Louis and Kansas City, is rural). Methamphetamine continued to be identified as a problem in rural communities.

In rural areas, methamphetamine appeared regularly in treatment data, but methamphetamine has been identified as a problem in all parts of the State. The urban, street-level distributors in St. Louis who formerly dealt in cocaine have become involved with other drugs, such as heroin. An increase in availability and purity of Mexican methamphetamine, and a growth in Hispanic groups in the St. Louis metropolitan area, may have allowed for the cross-over with heroin and methamphetamine. Primary treatment admissions for methamphetamine in 2010 in St. Louis represented 2.8 percent of total admissions ($n=382$) (exhibit 1). This number of methamphetamine treatment admissions in 2010 represented a slight increase over 2009 (2.5 percent). In rural treatment programs, methamphetamine was the drug of choice after alcohol. Males entering treatment for methamphetamine (at 52.1 percent) slightly outnumbered females (47.9 percent) (exhibit 1). Most clients admitted for primary methamphetamine abuse were age 26–34 (37.7 percent) or 35 and older (44.2 percent). Marijuana and alcohol and some heroin were the most frequently cited secondary and tertiary drugs of abuse among these clients. Clients entering treatment were typically referred by the courts or self-referred. The number of reported methamphetamine deaths remained low, with the ME reporting three deaths. Some African-American use of methamphetamine was reflected in these reported deaths.

Statewide, 1,960 clandestine laboratories were identified in Missouri in 2010, with many of these laboratories located in the rural counties surrounding St. Louis. Missouri continued to rank first in the country for clandestine laboratories. By comparison, there were 333 clandestine laboratories identified in Illinois. Those operating this large number of clandestine laboratories have developed ways to work around the barriers to obtaining precursor drugs needed for production since Senate Bill 10, the pseudoephedrine control law, came into effect in July 2005.

Hispanic traffickers were the predominant methamphetamine distributors in St. Louis. Shipments from “super laboratories” in the Southwest were trucked in on the interstate highway system. This network contrasts with the old local “mom and pop” laboratories that fueled much of the methamphetamine debate in the State over the past 10 years. The purity of the methamphetamine obtained through this source has improved in recent years. While much of the law enforcement resources and personnel were directed at local production and clean up, methamphetamine was available in the area through Hispanic organizations. Crystallized methamphetamine was available in Kansas City and outlying areas of the State, with some availability in St. Louis.

Mexican ice sold for \$100 per gram in St. Louis in 2010 and for as little as \$80–\$100 per gram in the Kansas City area (exhibit 2). Seized drug items identified as containing methamphetamine represented 4 percent of the total items identified by NFLIS laboratories in 2010; methamphetamine was the fifth most frequently identified substance in the St. Louis MSA. Pseudoephedrine was identified in 1.3 percent of the seized drug samples during this period. Because methamphetamine is so inexpensive and appeals to a wide audience, it is likely that its use will continue.

Marijuana

Marijuana treatment admissions reflected the increased utilization of the treatment system by the criminal justice system. Admissions in 2010 ($n=2,923$) accounted for 21.5 percent of all admissions in the St. Louis region; this may be related to heroin prevalence and treatment slot availability (exhibit 1). Marijuana, viewed by young adults as acceptable to use, was often combined with alcohol. Almost two-thirds of clients admitted to treatment were referred by the courts. The 25-and-younger age group accounted for 55.7 percent of primary marijuana treatment admissions in 2010. Increased THC (tetrahydrocannabinol) content of marijuana should not be ignored as part of the voluntary admissions. Some prevention organizations reported resurgence in marijuana popularity.

Changes in mental health services have clouded the substance abuse picture, with many individuals presenting for psychiatric admission who were also marijuana users. Limited resources required establishing enforcement priorities. Younger marijuana offenders who did not identify themselves as drug-dependent may represent some of the clients who were participating in treatment.

Marijuana was available from Mexico or domestic indoor growing operations; marijuana from Mexico was classed as lower grade and less expensive (\$199 per ounce). Indoor production makes it possible to produce marijuana throughout the year; indoor-grown marijuana was a higher grade and more expensive (\$400 per ounce). According to a local street newspaper, low quality marijuana sold for around \$100 per ounce in Missouri, while better quality marijuana cost upwards of \$450 for the same amount. The going rate for an “eighth” (about 3.5 grams) is \$60. Marijuana prices in Illinois were similar. NDIC reported slightly different prices (exhibit 2). In addition, the Highway Patrol Pipeline Program monitors the transportation of all types of drugs on interstate highways. Much of the marijuana grown in Missouri is shipped out of the State. NFLIS reported that approximately 46 percent of all drug items seized and identified in the St. Louis MSA in 2010 were marijuana/cannabis samples. This was the most frequently identified substance for the area in the NFLIS system. Marijuana was also the most frequently identified substance statewide, and there were consistently high levels of detection in the screening program in this reporting period.

Hallucinogens

Over the years, LSD (lysergic acid diethylamide) has sporadically reappeared in local high schools and rural areas. Blotters sold for \$20 per 50-microgram dose. PCP (phencyclidine) has been available in limited quantities in the inner city and has generally been used as a dip on marijuana joints. While PCP was not seen in quantity, it remained in most indicator data and police exhibits and as a secondary drug in ME data. PCP appeared to be more readily available and used in Kansas City. Most of the users of this drug in the inner city were African-American; it remained an indigenous drug of choice.

Club Drugs

MDMA (3,4-methylenedioxymethamphetamine) items accounted for 1.3 percent of the drug samples seized and identified in NFLIS laboratories in 2010. The 291 items identified as MDMA ranked ninth among all substances analyzed in the St. Louis MSA laboratories. Reports of other club drugs were almost nonexistent. The number of items identified as MDMA may support anecdotal reports of use of this substance in the St. Louis area.

Bath Salts

MDPV (3,4-methylenedioxypyrovalerone), marketed as “bath salts,” has been linked to excited delirium/cardiac arrest in deaths reported to the St. Louis ME and in poison control data. Other products such as mephedrone have not been reported. Bath salt sales have been legislated to stop sales in a number of communities, only to have other products appear on the market.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV/AIDS

New seropositive HIV and AIDS cases among IDUs remained low in the St. Louis HIV region, which includes St. Louis City and County and Franklin, Jefferson, St. Charles, Lincoln, and Warren Counties (exhibit 3). In 2009, as in preceding years, the predominant number of new HIV cases occurred among men who have sex with men (MSM) (79.4 percent), followed by cases resulting from heterosexual contact (17.2 percent). The largest increases were found among young African-American females, who were infected through heterosexual or bisexual contact, and young homosexual African-American males. Of new HIV cases in the St. Louis region, African-American females and African-American males accounted for more than one-half of new cases. Increased specialized minority prevention and testing efforts have been initiated.

Of the total cases of HIV/AIDS ($n=5,388$) through 2009, the same primary exposure categories are reflected: MSM, representing approximately 70 percent, and heterosexual contact, accounting for approximately 19 percent. Injection drug use was noted in 4.3 percent of HIV and 6.5 percent AIDS cases (exhibit 3).

In the CDC's Behavioral Risk Factor Surveillance System 33.4 percent of adults age 18–64 had ever been tested for HIV. Significantly more African-Americans (57.2 percent) than Whites (29.9 percent) had been tested in the State of Missouri.

STDs and Hepatitis C

A resurgence of syphilis among MSMs has led to increased surveillance and targeted prevention programs for this population. In 2010, 306 new cases of primary and secondary syphilis cases were identified in the St. Louis region. In the Kansas City region, there were 82 cases. Increased efforts in more tertiary prevention and active education campaigns in the highest risk populations have been used in an attempt to change these rates. In addition, there is a law that allows providers to treat partners without an in-person exam. Rates of gonorrhea dropped in late 2009, while chlamydia rates remained among the highest in the Nation. In the urban areas, STDs occurred with a chlamydia rate of 54 per 10,000 and a gonorrhea rate of 13.4 per 10,000. St. Louis had more than 70 percent of the State's 13,237 chlamydia cases ($n=9,750$) and more than 85 percent of the State's 3,636 gonorrhea cases ($n=3,132$) during 2010. The leveling off and decrease in some STDs is hypothesized to be due to better antibiotics, single-dose treatments, and better screening in the community. Syphilis/gonorrhea rates were high in neighborhoods known to have high levels of drug abuse and in the MSM cohorts, underscoring the concept of assortative mixing in cohorts. In the St. Louis region, 159 cases of hepatitis B and 1,252 cases of hepatitis C were reported in 2009. Exhibit

4 includes historic HIV and hepatitis C data for the immediate St. Louis City area and hepatitis C data for the St. Louis MSA in 2009.

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Exhibit 1. Indicators From Mortality and Treatment Admissions Data for Cocaine, Heroin, Marijuana, and Methamphetamine, St. Louis: 1996–2010

Indicator	Cocaine	Heroin	Marijuana	Methamphetamine
Number of Deaths¹ by Year				
1996	93	51	NA ²	9
1997	43	67	NA	11
1998	47	56	NA	9
1999	51	44	NA	4
2000	66	47	NA	9
2001	75	20	NA	3
2002	76	50	NA	–
2003	78	61	NA	–
2004	38	64	NA	–
2005	106	31	NA	–
2006	42	47	NA	–
2007	167	65	NA	4
2008	95	137	NA	7
2009	70	180	NA	1
2010	44	129	NA	3
Treatment Admissions Data				
Percent of all admissions (2010)	10.6	26.5	21.5	2.8
Percent of All Admissions (2009)	12.0	22.5	21.3	2.5
Percent of All Admissions (2008)	17.8	18.8	23.7	2.7
Percent of All Admissions (2007)	22.8	15.5	20.3	2.5
Percent of All Admissions (2006)	25.6	13.2	22.7	3.0
Gender (%) (2010)				
Male	70	57.1	74.8	52.1
Female	30	42.9	25.2	47.9
Age (%) (2010)				
12–17	<0.1	<1.0	23.9	<1
18–25	4.9	29.5	31.8	17.5
26–34	13.5	41.5	26.2	37.7
35 and older	81.4	28.0	18.0	44.2
Route of Administration (%) (2010)				
Smoking	89.5	<1.0	98.9	50.3
Intranasal	7.3	34.2	0	5.8
Injecting	1.0	63.6	0.0	40.1
Oral/Other	2.2	1.4	1.1	3.8

¹Excludes rural deaths.²NA=Not applicable.

SOURCES: St. Louis City/County Medical Examiner's Office; TEDS database

Exhibit 2. Other Combined Indicators for Cocaine, Heroin, Marijuana, and Methamphetamine, St. Louis: 2002–2010

Indicator	Cocaine	Heroin	Marijuana	Methamphetamine And Other Drugs
Multisubstance Combinations	Older users combine with heroin, alcohol	Less available cocaine, mix with alcohol, pills (bars of Xanax®)	Alcohol	Marijuana commonly used in combination, alcohol use common
Market Data (2008–2009)	Powder \$100–\$400/g, 70% pure; crack \$20–\$40/rock	\$100/1/2 gm baggie; \$20 per gel capsule; depending if MBP ¹ , SA ¹ ; \$200/g, 20–40 percent pure, street reports higher purity available	Low grade: \$100/oz High grade (indoor grow, includes various types): \$1,400/oz	Methamphetamine \$100/g, Mexican (80 percent) and local (80 percent pure); hydromorphone \$80/4-mg pill; OxyContin® \$20–\$40
Qualitative Data ²	Limited availability, urban choice	Younger users, 1/3 younger than 25, increased availability and purity	Readily available, younger users in treatment	Rural/suburban users of amphetamine
Other Data of Note	N/R ³	MBP, SA ¹ —young users able to smoke/snort	N/R	Methamphetamine laboratory seizures increase 2010—mom/pop laboratories; producers in super laboratories—controlled by Hispanic groups

¹MBP=Mexican Brown powder; SA=South American.

²Obtained from user/key informant interviews.

³N/R=Not reported.

Note: g=gram; oz=ounce; mg=milligram.

SOURCES: DEA; NDIC; Client Ethnographic Information

Exhibit 3. Persons with HIV (New HIV/AIDS and Existing Cases), by Exposure Category, St. Louis Metropolitan Area: Through 2009

Exposure Category	New Cases HIV 2009	Living with HIV Through 2009	New Cases AIDS 2009	Living with AIDS Through 2009
MSM	143 (79.4%)	1,770 (70.5%)	62 (78.5%)	1,985 (69.9%)
IDU/MSM	4 (2.2%)	75 (3%)	0	137 (4.8%)
IDU	2 (1.1%)	108 (4.3%)	8 (10.1%)	186 (6.5%)
Heterosexual	31 (17.2%)	547 (21.8%)	9 (11.4%)	507 (17.8%)
Hemophilia/ Coagulation Disorder	0	7 (0.3%)	0	26 (0.9 %)
Blood Transfusion	0	1 (0%)	0	0
Pediatric Population	0	23	0	15
Total	180	2,532	79	2,856

Note: MSM=men who have sex with men; IDU= injection drug user.

SOURCE: St. Louis City Health Department; Missouri Department of Health

Exhibit 4. Number of New HIV and Hepatitis C Cases, St. Louis: 2002–2009

New Cases	HIV	Hepatitis C
2002	178	227
2003	197	488
2004	122	540
2005	171	512
2006	227	305
2007	198	1,217
2008	212	1,415
2009	259	1,252 ¹

¹St. Louis MSA.

SOURCE: St. Louis City Health Department; Missouri Department of Health

Drug Use and Abuse in San Diego County, California: 2010

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ABSTRACT

Methamphetamine indicators in San Diego County were mixed in 2010 after several years of decline, with some indicators leveling off, while others suggest increased use and abuse. Methamphetamine accounted for 29 percent of treatment admissions in 2010, the same proportion as in 2009. The proportion of male arrestees testing positive for methamphetamine increased, while the percentage of female arrestees decreased from 2009 levels. Drug overdose deaths involving amphetamines increased in both number and rate per 100,000 (n=113 deaths, or 3.5 per 100,000), returning to levels on par with the height of methamphetamine use in the area in 2005. While declines in street prices were observed from 2008 to 2009, both the price per pound and per gram increased in 2010. Cocaine indicators remained low. This suggested that previously observed decreases were continuing in 2010, although some data suggested a leveling off of that decline. The number of primary treatment admissions for cocaine decreased from 2009 to 2010, but they accounted for a similar proportion of treatment admissions in 2010 (4.8 percent) as in 2009 (5.4 percent). Little change was observed in the cocaine prevalence among adult male and female arrestees, after 2 years of decreasing prevalence. The street price for one-quarter gram of cocaine appeared to decrease, although the lower end of the price range per ounce increased slightly (from \$700–\$1,000 to \$800–\$1,000). Heroin indicators suggested an upward trend, with the exception of preliminary data on overdose deaths. Heroin prevalence among adult arrestees increased to 10 percent for both male and female arrestees, and primary treatment admissions for heroin increased as a proportion of all treatment admissions (particularly among clients younger than 35). However, preliminary reports of drug overdose deaths involving heroin/morphine numbered 101 in 2010 (at a rate of 3.13 per 100,000), compared with 118 (at a rate of 3.69 per 100,000) in 2009. Numbers of treatment admissions for oxycodone and other prescription opiates increased slightly from 2009, with a shift in the relative share of the two drug types. From 2008 to 2010, the number of oxycodone admissions decreased, while the number of other opiate admissions increased. Marijuana indicators continued to be somewhat mixed. Primary treatment admissions for marijuana were down slightly from 2009 in 2010 (19 percent in 2010, compared with 20 percent in 2009), but prevalence among adult arrestees rose slightly among both males and females, and marijuana/cannabis accounted for the largest number of drug items seized and identified by forensic laboratories in San Diego County in 2010.

INTRODUCTION

Area Description

San Diego County is the southwestern-most county of California and shares 80 miles of border with Mexico. The San Ysidro border crossing, which links San Diego with its sister city of Tijuana,

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Mexico, is the busiest border crossing in the world, accommodating approximately 40 million legal crossings annually. Both Tijuana and San Diego County are located on major drug trafficking routes that bring illicit drugs from Mexico and South America to the United States. In particular, San Diego is a major transshipment point for both methamphetamine and marijuana.

San Diego County's total population was reported at just over 3.2 million in 2010 (exhibit 1). The county is home to a growing Hispanic (predominantly Mexican) population. Overall, 30.6 percent of county residents are Hispanic, and 49.2 percent are non-Hispanic White. Smaller proportions of the population are Asian and Pacific Islander (10.8 percent), non-Hispanic African-American (5.2 percent), American Indian (0.5 percent), and other races/ethnicities (3.7 percent) (exhibit 1).

Data Sources

The data sources used in this report are listed below:

- **Arrestee data** were provided by the San Diego Association of Governments (SANDAG) Substance Abuse Monitoring (SAM) program, a regional continuation of the Federal Arrestee Drug Abuse Monitoring (ADAM) program that was discontinued in 2003. This report presents preliminary 2010 data for adult ($N=832$) arrestees. Data for juvenile arrestees were not available for this report.
- **Drug price data** came from the San Diego Law Enforcement Coordination Center's "2010 Street Drug Price List (July 2010)," which reports on street-level drug buys conducted in San Diego County in 2009.
- **Forensic laboratory data** came from the National Forensic Laboratory Information System (NFLIS), Drug Enforcement Administration (DEA), for calendar year (CY) 2010. A total of 21,395 drug items were seized and analyzed by local forensic laboratories between January and December 2010.
- **Treatment data** were provided by the San Diego Department of Alcohol and Drug Programs (ADP) (tables produced by the California Department of Alcohol and Drug Programs) using the California Outcomes Measurement System (CalOMS). CalOMS is a statewide client-based data collection and outcomes measurement system for alcohol and other drug (AOD) prevention and treatment services. Submission of admission/discharge information for all clients is required of all counties and their subcontracted AOD providers, all direct contract providers receiving public AOD funding, and all private pay licensed narcotic treatment providers. Data for the current report include admissions to San Diego County for the period January–December 2010. CalOMS was implemented in early 2006 (replacing the earlier California Alcohol and Drug Data System [CADDSS]); data reported for periods prior to July 2006 may not be comparable to more recent periods.
- **Mortality data** were obtained from the Emergency Medical Services Medical Examiner Database, which is maintained by the County of San Diego Health and Human Services Agency.
- **Acquired immunodeficiency syndrome (AIDS) data and human immunodeficiency virus (HIV) data** were taken from the San Diego County Health and Human Services Agency's 2010 HIV/AIDS Epidemiology Report. Data through December 31, 2009, are included in this report.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Since 2007, cocaine indicators suggested that use and abuse of the drug was decreasing. Data from 2010 suggested a continued decrease, although some cocaine indicators suggested a possible leveling off of the downward trend. The number of primary cocaine treatment admissions decreased from 2009 ($n=763$) to 2010 ($n=660$) (exhibits 2 and 3), but accounted for a similar proportion of all treatment admissions (4.8 percent in 2010 versus 5.4 percent in 2009). Demographic characteristics of cocaine primary treatment admissions remained similar in 2010 to 2009. Three-quarters (75.2 percent) of cocaine admissions in 2010 were age 35 or older; two-thirds (63.2 percent) were male; and two-thirds (62.7 percent) were Black non-Hispanic. A majority cited at least one secondary substance of abuse, most commonly alcohol (37.1 percent) or marijuana (18.6 percent), while 27.9 percent reported no secondary substance of abuse (exhibit 3).

Among adult arrestees, 6 percent of males and 11 percent of females tested positive for cocaine in 2010, showing little change from the 7 percent of males and 11 percent of females testing positive in 2009 (exhibit 4). This is the lowest prevalence for both male and female arrestees since prior to 2000. The percentage of drug items seized and identified by forensic laboratories in 2010 that tested positive for cocaine also declined, with 8.5 percent of tested items seized and identified by NFLIS laboratories testing positive for cocaine (exhibit 5), compared with 9.4 percent in 2009, and 13.6 percent in 2008. Cocaine continued to rank third in the number of drug items seized and identified by laboratories in San Diego County, after drug items containing marijuana/cannabis and methamphetamine.

In its *National Drug Threat Assessment 2010*, the National Drug Information Center (NDIC) reported reductions in cocaine indicators across the United States and attributed these reductions to reduced quantities entering the United States since 2007, with concurrent decreases in purity and increases in price. However, cocaine prices in San Diego County during that period remained relatively stable (exhibit 6) and showed a decrease in the price per one-quarter gram (from \$50–\$100 to \$25–\$30 in the most recent report). However, the lower end of the price per ounce range increased slightly (from \$700 to \$800), and other price indicators remained unchanged.

Heroin

Overall, heroin indicators in 2010 suggested an upward trend, with the exception of preliminary data on overdose deaths involving heroin/morphine. There were 2,969 primary treatment admissions for heroin, accounting for 21.4 percent of all treatment admissions (exhibits 2 and 3). This compares with 2,763 primary heroin treatment admissions (19.4 percent) in 2009 and 2,777 such admissions (18.5 percent) in 2008. Clients admitted to treatment in 2009 for heroin were predominantly male (70.3 percent) and White non-Hispanic (59.5 percent). Treatment admission data suggested that individuals admitted to treatment for heroin were increasingly younger. Clients younger than 35 constituted the majority (63.2 percent) of heroin admissions and increased in proportion from 55.7 percent in 2009 and 48.0 percent in 2008. Overall, most primary heroin admissions (71.8 percent) reported injection as their primary route of administration, and 42.0 percent reported no other drug of abuse. The most common secondary drugs reported were methamphetamine (20.6 percent), marijuana (11.6 percent), alcohol (7.8 percent), and cocaine/crack (7.1 percent) (exhibit 3).

Heroin prevalence among adult arrestees was 10 percent among both males and females in 2010, an increase from 6 percent among males and 8 percent among females in 2009 (exhibit 4). This increase comes after several years of relative stability in this indicator. It should be noted that the urine test upon which this indicator is based cannot discern between heroin and prescription opioids. Of the total number of drug items seized and identified by forensic laboratories in 2009, 5.5 percent were heroin items, compared with 3.7 percent in 2009 (exhibit 5). Heroin ranked fourth in the proportion of total forensic laboratory items in 2010, after marijuana/cannabis, methamphetamine, and cocaine.

In contrast, there was a decrease in the number of overdose deaths involving heroin/morphine. There were 101 overdose deaths (at a rate of 3.13 per 100,000) in 2010, compared with 118 2009 overdose deaths (3.69 per 100,000) (exhibit 7). Overdose deaths are based on preliminary medical examiner data, so the number could change as more cases are closed. The street price of Mexican black tar heroin increased in San Diego County in 2010 (exhibit 6). The price per pound was \$8,000–\$12,000 in 2010, compared with \$8,000–\$10,000 in 2009. The lower end of the price per one-quarter gram range also increased (from \$15 to \$25).

Oxycodone and Other Prescription Opiates

There were 576 treatment admissions for primary abuse of oxycodone and other prescription opiates in 2010 (exhibits 2 and 3), accounting for 4.1 percent of all treatment admissions. This represents a decline from 594 in 2008 but an increase from the 553 admissions in 2009. In 2010, there were 303 primary treatment admissions for oxycodone (2.2 percent) and 273 primary admissions for other prescription opiates (2.0 percent). These numbers suggest a shift in the relative share of the two drug types. Since 2008, the number of oxycodone admissions has decreased, while the number of other opiate admissions has increased during the same 3-year period (exhibit 8). Admissions for oxycodone and the other opiates differed substantially with regard to demographics in 2010 (data not shown). There were gender differences; 34.3 percent of oxycodone admissions were female, compared with 56.4 percent of other opiates admissions. Oxycodone admissions were younger, with the distribution among age groups younger than 18, age 18–25, age 26–34, and 35 or older being 32.7, 31.7, and 35.6 percent, respectively (compared with 11.4, 29.7, and 59.0 percent, respectively, for the other opiates). While 91.6 percent of other opiate admissions cited oral administration as their primary route, only two-thirds (67.0 percent) did so for oxycodone. Inhalation of the drug was reported by 14.5 percent of clients as the primary route of administration, while 13.2 percent smoked it and 4.0 percent injected it. This proportion of injectors represented an increase from 1.5 percent who reported injection in 2009.

Of the drug items seized and identified by forensic laboratories in San Diego County in 2010 (exhibit 5), 579 (2.7 percent) were hydrocodone. Hydrocodone ranked fifth among drug items identified in 2010, behind marijuana/cannabis, methamphetamine, cocaine, and heroin. Also identified were 366 oxycodone items (1.7 percent), 126 morphine items (0.6 percent), 124 buprenorphine items (0.6 percent), 95 methadone items (0.4 percent, and 65 codeine items (0.3 percent).

Methamphetamine

Most methamphetamine indicators experienced declines from 2006 to 2008. Primary methamphetamine treatment admissions peaked in 2006, followed by declines in 2007–2009. In contrast, 2010

indicators suggested a leveling off or possible increase in methamphetamine indicators. Overall, the number of methamphetamine treatment admissions declined, from 5,547 in 2006 to 4,058 in 2010 (exhibit 2). However, primary methamphetamine treatment admissions accounted for the highest overall number treatment admissions in San Diego in 2010 (29.2 percent) in both 2009 and 2010 (compared with 38.7 percent in 2006). While notable changes in the demographic characteristics of primary methamphetamine admissions were observed in previous years (2006–2009), the characteristics of primary methamphetamine admissions were relatively stable from 2009 to 2010. A majority of the 2010 treatment admissions were male (53.7 percent), and almost one-half (48.7 percent) were non-Hispanic White, showing an overall racial and ethnic distribution similar to that of the San Diego population. The most common secondary drugs of abuse among primary methamphetamine clients were marijuana (29.1 percent) and alcohol (24.7 percent), with 35.1 percent citing no secondary drug (exhibit 3). The most common route of administration reported by primary methamphetamine admissions was smoking (75.4 percent), followed by injection (16.7 percent). Methamphetamine also appeared to be increasing as a reported secondary drug among individuals with other primary drugs at admission. For example, 20.6 percent of clients admitted for heroin treatment reported methamphetamine as their secondary drug, compared with 16.8 percent in 2009.

The prevalence of methamphetamine-positive urine tests among arrestees in San Diego County had shown relatively steady declines from 2005 through 2008. In 2009, this downward trend appeared to level off, with a slight increase among males and a larger increase among females. Preliminary data from 2010 suggested another slight increase in prevalence among males, increasing from 22 percent in 2009 to 25 percent in 2010. Among females, however, the prevalence decreased from 39 percent in 2009 to 33 percent in 2010 (exhibit 4).

Of the 21,395 items seized and identified in forensic laboratories in 2010, 4,585 (21.4 percent) were identified as containing methamphetamine. This was a similar proportion to the 20.2 percent identified as containing methamphetamine in 2009. Methamphetamine remained second in number of items to marijuana/cannabis in this indicator category (exhibit 5).

Methamphetamine prices appeared stable for the most part between 2008 and 2009, and there was some suggestion that methamphetamine prices in San Diego might be declining. However, methamphetamine prices increased slightly between July and December 2010. The price for a gram increased from \$75–\$100 in 2009 to \$80–\$120 in 2010, with similar increases in the prices per ounce and per pound (exhibit 6).

Overdose deaths involving amphetamines (including methamphetamine) spiked in 2010, with 113 amphetamine-involved drug deaths (representing a rate of 3.5 per 100,000), compared with 88 (for a rate of 2.75 per 100,000) in 2009. This was the highest number of overdose deaths involving amphetamines since the peak in 2005, when 113 deaths (the rate being 3.7 per 100,000) were also reported (exhibit 6).

Marijuana

Marijuana indicators continued to be somewhat mixed. Primary treatment admissions decreased slightly from 2009 both in total number ($n=2,570$ in 2010 versus $n=2,839$ in 2009) and proportion of total treatment admissions (19 versus 20 percent in 2010 and 2009, respectively) (exhibits 2 and 3). Similar to 2009, three-quarters of the admissions were male (76.1 percent), and the majority (54.7 percent) were younger than 18. Hispanics were overrepresented among these admissions (48.8

percent). Alcohol was the leading secondary substance of abuse among primary marijuana users (39.5 percent) in 2010, followed by no secondary substance (36.4 percent), methamphetamine (14.8 percent, an increase from 12.6 percent in 2009), and cocaine (3.2 percent).

The proportion of arrestees testing positive for marijuana (exhibit 4) in 2010 was 39 percent for adult males and 29 percent for adult females, slight increases over the prevalence in 2009. Of the drug items analyzed by forensic laboratories in 2010, almost one-half (46.2 percent) were marijuana/cannabis items, a decrease from 51.7 percent in 2009 (exhibit 7). This made marijuana/cannabis the leading item analyzed and identified by San Diego County laboratories, with more than twice as many items as the second leading drug identified, methamphetamine. Changes in the price of marijuana (Mexican) were mixed in 2010. The price per ounce (\$80–\$120) was up from 2009, while the price per pound remained unchanged from 2009 at \$400–\$600 (exhibit 6).

MDMA, Ecstasy

There were relatively few primary treatment admissions for MDMA (3,4-methylenedioxy-methamphetamine) or ecstasy in 2010 ($n=53$) (data not shown). Unlike in 2009, when these admissions were evenly divided between males ($n=28$) and females ($n=26$), in 2010 there were 36 male MDMA admissions. MDMA admissions were mostly among clients younger than 18 ($n=38$). An additional 132 clients cited ecstasy as their secondary drug of abuse, an increase from 113 in 2009. There were 538 items seized and identified as containing MDMA by San Diego County forensic laboratories in 2010 (exhibit 5).

Alcohol

There were 2,896 primary treatment admissions (21.4 percent) for alcohol in 2010 (exhibit 3). Those admitted were predominantly male (66.0 percent, up from 51.5 percent in 2009); White non-Hispanic (60.6 percent, up from 57.3 percent in 2009); and age 35 or older (60.7 percent, a slight increase from 59.8 percent in 2001). Forty-one percent of admissions cited no secondary drug of abuse. Marijuana was the secondary drug in 26.3 percent of cases, followed by methamphetamine (18.6 percent, up from 17.2 percent in 2009) and cocaine/crack (7.7 percent, stable from 7.3 percent in 2009). Few alcohol clients reported secondary abuse of heroin (2.3 percent, stable from 2.0 percent in 2009) or other opiates (1.9 percent, down slightly from 2.3 percent in 2009).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS

There were 14,228 cumulative AIDS cases in San Diego County through December 31, 2009, including 7,006 currently living with AIDS. Thirty-five percent of AIDS cases among females between 1981 and 2009 were attributed to injection drug use, and 21 percent were attributed to sex with an injection drug user (IDU). Focusing on the more recent period, 2005–2009, the proportion of cases among females attributed to injection drug use was lower than in the cumulative time period between 1981 and 2009, with 21 percent attributed directly to injection drug use and 16 percent to sex with an IDU.

There was also evidence of substantial shifts in the demographic makeup of injection-related cases over time. The proportion of AIDS cases attributed to injection drug use among White females declined between 1990–1994 (42 percent) and 2005–2009 (33 percent), while the proportion of cases attributed to injection among Black females decreased from 51 to 16 percent during the same time periods. Similarly, the proportion of cases among Hispanic females attributed to injection drug use decreased from 24 percent to 16 percent in the more recent 2005–2009 time period. It should be noted that these reductions among Black and Hispanic females were offset by substantial increases in cases attributed to heterosexual transmission, which may include sex with IDUs.

Among males, IDUs and men who have sex with men (MSM) and also inject drugs (MSM/IDU) accounted for 7 and 11 percent of cumulative cases, respectively, from 1985 to 2009. The same proportions (7 and 11 percent) were reported for the more recent 2005–2009 period. Black males shoulder a disproportionate burden of AIDS in San Diego County, with 17 and 13 percent of AIDS cases among Black males in 1990–1994 and 2005–2009, respectively, attributed to injection drug use. This compared with only 3 and 6 percent in 1990–1994 and 2005–2009, respectively, among Whites, and 10 and 6 percent among Hispanics. The same is true of cases attributed to MSM/IDU. Sixteen and 10 percent of cases among Black males were attributed to MSM/IDU in 1990–1994 and 2005–2009, respectively, compared with 9 and 13 percent among Whites and 10 and 8 percent among Hispanics in those respective time periods.

HIV

In 2006, the State of California transitioned to names-based reporting of HIV cases, consistent with recommendations from the Centers for Disease Control and Prevention (CDC). Effective April 2006, the State stopped reporting updated statistical information on HIV cases reported before implementation of the names-based system. Accordingly, cumulative HIV case counts now reflect unduplicated HIV case counts reported by name to the California Department of Health Services Office of AIDS beginning April 17, 2006. From April 17, 2006, through December 31, 2009, there were 4,269 cumulative HIV cases in San Diego County, of whom 3,840 (90 percent) were male. Among males, 4 percent of these cases were attributed to injection drug use, and 8 percent to MSM/IDU. Among females, 23 percent of cases were attributed to injection drug use, and 9 percent were attributed to sex with an IDU.

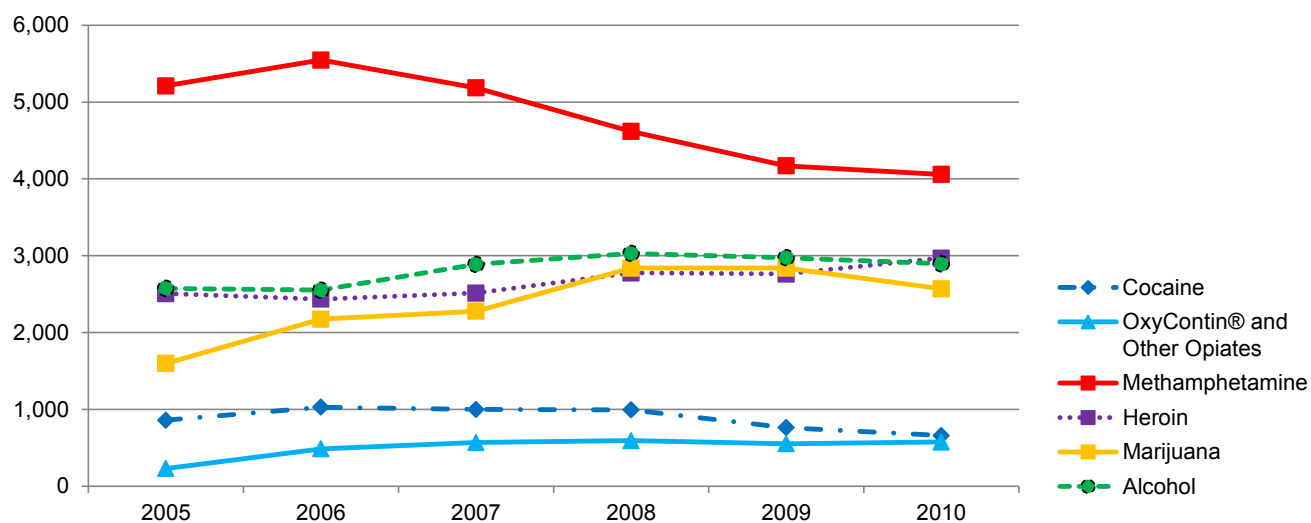
Among male cases, injection drug use accounted for 8.1 percent of cases among Blacks, compared with 3.6 and 3.9 percent of cases among Whites and Hispanics, respectively. Black males also had the highest proportion of cases attributed to MSM/IDU (9.7 percent), compared with 8.5 percent among White males and 5.3 percent among Hispanic males. Among females, the largest proportion of cases attributed to injection drug use was among Whites (30.7 percent), followed by Blacks (24.5 percent) and Hispanics (16.7 percent).

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Exhibit 1. San Diego County Demographics, by Percentage: 2010

Race/Ethnicity	2010 (N=3,224,432)
White	49.2
Black or African-American	5.2
Asian/Pacific Islander	10.8
American Indian	0.5
Other Race	3.7
Hispanic/Latino	30.6
Median Age	35.3
Median Household Income (Current \$)	\$62,771

SOURCE: San Diego Association of Governments Population and Housing Estimates

Exhibit 2. Number of Treatment Admissions by Primary Drug, San Diego County: 2005–2010

SOURCE: California Outcome Measurement System (CalOMS)

Exhibit 3. Characteristics of Clients Admitted to Treatment, by Numbers and Percentage, San Diego County: 2010

	Primary Drug							
	Alcohol (%)	Cocaine/ Crack (%)	Heroin (%)	OxyContin® and Other Opiates (%)	Marijuana (%)	Methamphetamines (%)	All Other (%)	Total (%)
Total Admissions	2,896 (21.4)	660 (4.8)	2,969 (21.4)	576 (4.1)	2,570 (18.5)	4,058 (29.2)	163 (1.2)	13,892 (100.0)
Gender								
Male	1,911 (66.0)	417 (63.2)	2,087 (70.3)	318 (55.2)	1,956 (76.1)	2,178 (53.7)	93 (57.1)	8,960 (64.5)
Female	985 (34.0)	243 (36.8)	885 (29.7)	258 (44.8)	614 (23.9)	1,880 (46.3)	70 (42.9)	4,932 (35.5)
Race/Ethnicity								
White (non-Hispanic)	1,755 (60.6)	130 (19.7)	1,768 (59.5)	454 (78.8)	742 (28.9)	1,975 (48.7)	61 (37.4)	6,885 (49.6)
Black/ (non-Hispanic)	297 (10.3)	414 (62.7)	95 (3.2)	24 (4.2)	342 (13.3)	270 (6.7)	30 (18.4)	1,562 (11.0)
American Indian	59 (2.0)	*	30 (1.0)	*	16 (0.6)	45 (1.1)	*	159 (1.1)
Asian/ Pacific Islander	42 (1.5)	*	34 (1.1)	*	53 (2.1)	202 (5.0)	*	351 (2.5)
Hispanic	355 (22.6)	91 (13.8)	950 (32.0)	56 (9.7)	1,255 (48.8)	1,389 (34.2)	61 (37.4)	4,457 (32.1)
Other Races/ Ethnicities	88 (3.)	17 (2.6)	92 (3.1)	27 (4.7)	162 (6.3)	177 (4.4)	*	568 (4.1)
Age								
≤17	200 (6.9)	15 (2.3)	35 (1.2)	*	1,405 (54.7)	77 (1.9)	58 (35.6)	1,790 (12.9)
18–25	353 (12.2)	49 (7.4)	908 (30.6)	130 (22.6)	538 (20.9)	654 (16.1)	29 (17.8)	2,661 (19.2)
26–34	584 (20.2)	100 (15.2)	932 (31.4)	177 (30.7)	347 (13.5)	1,334 (32.9)	33 (20.2)	3,507 (25.2)
≥35	1,759 (60.7)	496 (75.2)	1,094 (36.8)	269 (46.7)	280 (10.9)	1,993 (49.1)	43 (26.4)	5,934 (42.7)

Note: *Indicates cell size <15 admissions.

SOURCE: California Outcome Measurement System (CalOMS)

Exhibit 3 (continued). Characteristics of Clients Admitted to Treatment, by Numbers and Percentage, San Diego County: 2010

	Primary Drug							
	Alcohol (%) n=2,896	Cocaine/ Crack (%) n=660	Heroin (%) n=2,969	Other Opiates (%) n=576	Marijuana (%) n=2,570	Metham- phetamines (%) n=4,058	All Other (%) n=163	Total (%) N=13,892
Route								
Oral	2,896 (100.0)	* (*)	26 (0.9)	454 (78.8)	27 (1.1)	37 (0.9)	82 (50.3)	3,533 (25.4)
Smoking	* (*)	528 (80.0)	725 (24.4)	45 (7.8)	2,539 (98.8)	3,058 (75.4)	69 (42.3)	6,964 (50.1)
Inhalation	* (*)	100 (15.2)	82 (2.8)	48 (8.3)	* (*)	286 (7.0)	* (*)	529 (3.8)
Injection	* (*)	19 (2.9)	2,132 (71.8)	23 (4.0)	* (*)	676 (16.7)	* (*)	2,853 (20.5)
Unknown/other	* (*)	* (*)	* (*)	* (*)	* (*)	* (*)	* (*)	* (*)
Secondary drug								
None	1,183 (40.8)	184 (27.9)	1,248 (42.0)	262 (45.5)	935 (36.4)	1,424 (35.1)	35 (21.5)	5,271 (37.9)
Alcohol	0 (0.0)	245 (37.1)	231 (7.8)	53 (9.2)	1,014 (39.5)	1,001 (24.7)	33 (20.2)	2,577 (18.6)
Cocaine/Crack	222 (7.7)	0 (0.0)	211 (7.1)	17 (3.0)	76 (3.0)	130 (3.2)	* (*)	665 (4.8)
Heroin	68 (2.3)	* (*)	0 (0.0)	35 (6.1)	24 (0.9)	199 (4.9)	* (*)	345 (2.5)
Other Opiates	56 (1.9)	* (*)	253 (8.5)	78 (13.5)	29 (1.1)	44 (1.1)	* (*)	477 (3.4)
Marijuana	761 (26.3)	123 (18.6)	344 (11.6)	53 (9.2)	0 (0.0)	1,180 (29.1)	46 (28.2)	2,507 (18.0)
Metham- phetamines	539 (18.6)	65 (9.8)	611 (20.6)	32 (5.6)	381 (14.8)	0 (0.0)	19 (11.7)	1,647 (11.9)
All other	67 (2.3)	18 (2.7)	71 (2.4)	46 (8.0)	111 (4.3)	80 (2.0)	* (*)	402 (2.9)

Note: *Indicates cell size <15 admissions.

Source: California Outcome Measurement System (CalOMS)

Exhibit 4. Percent Positive Tests for Illicit Drugs Among Adult and Juvenile Arrestees, San Diego County: 2005–2010

	2005	2006	2007	2008	2009	2010 ¹
Methamphetamine						
Male adults	44	36	24	20	22	25
Female adults	51	47	44	31	39	33
Juveniles	21	10	8	10	6	NA
Cocaine						
Male adults	11	13	11	8	7	6
Female adults	15	21	16	12	11	11
Juveniles	6	5	3	2	1	NA
Heroin/Opiates						
Male adults	5	5	6	6	6	10
Female adults	9	8	8	7	8	10
Juveniles	2	1	1	1	1	NA
Marijuana						
Male adults	34	40	37	36	37	39
Female adults	31	31	29	26	28	29
Juveniles	44	43	40	44	51	NA

¹Preliminary data for 2010; juvenile data not available for this report.

SOURCE: San Diego Association of Governments, Substance Abuse Monitoring Program

Exhibit 5. Number and Percent of Selected Items Analyzed by Forensic Laboratories, San Diego County: 2010

Drug	Number	Percent
Marijuana/Cannabis	9,876	46.2
Methamphetamine	4,585	21.4
Cocaine	1,809	8.5
Heroin	1,180	5.5
Hydrocodone	579	2.7
MDMA	538	2.5
Oxycodone	366	1.7
Morphine	126	0.6
Buprenorphine	124	0.6
Methadone	95	0.4
Codeine	65	0.3
All Other Drugs	2,052	9.6
Total	21,395	100.0

SOURCE: NFLIS, DEA

Exhibit 6. Retail Prices for Selected Drugs, San Diego County: 2006–2010¹

Drug	2006	2007	2008	2009	2010
Cocaine					
One-quarter gram	\$30–\$100	\$50–\$100	\$50–\$100	\$50–\$100	\$25–\$30
Gram	\$60–\$160	\$60–\$150	\$60–\$150	\$60–\$150	\$80–\$100
Ounce	\$500–\$800	\$600–\$1,000	\$600–\$1,000	\$700–\$1,000	\$800–\$1,200
Pound	\$6,500–\$10,000	\$6,000–\$10,000	\$8,000–\$10,000	\$8,000–\$10,000	\$8,000–\$10,000
Heroin (Black Tar)					
One-quarter gram	\$20	\$25–\$40	\$15–\$50	\$15–\$50	\$25–\$35
Gram	\$50–\$100	\$80	\$80–\$100	\$60–\$80	\$80–\$100
Ounce	\$500–\$1,200	\$600	\$600–\$1,200	\$600–\$1,200	\$700–\$1,200
Pound	\$17,000	\$17,000	\$10,000–\$17,000	\$8,000–\$10,000	\$8,000–\$12,000
Marijuana					
One-quarter ounce	\$30–\$50	\$30–\$50	\$40–\$100	\$40–\$100	
Ounce	\$80–\$100	\$80–\$100	\$80–\$150	\$60–\$100	\$80–\$120
Pound	\$250–\$300	\$250–\$300	\$300–\$400	\$400–\$600	\$400–\$600
Methamphetamine					
One-quarter gram	\$20–\$25	\$20–\$25	\$20–\$25	\$20–\$50	\$25–\$40
Gram	\$50–\$100	\$50–\$100	\$75–\$100	\$75–\$100	\$80–\$120
Ounce	\$600–\$1,000	\$750–\$1,000	\$500–\$1,500	\$500–\$1,500	\$750–\$1,200
Pound	\$6,000–\$10,000	\$9,000–\$12,500	\$10,000–\$20,000	\$8,000–\$15,000	\$15,000–\$20,000

¹Data for 2010 come from the July 2010 report.

SOURCE: San Diego Law Enforcement Coordination Center

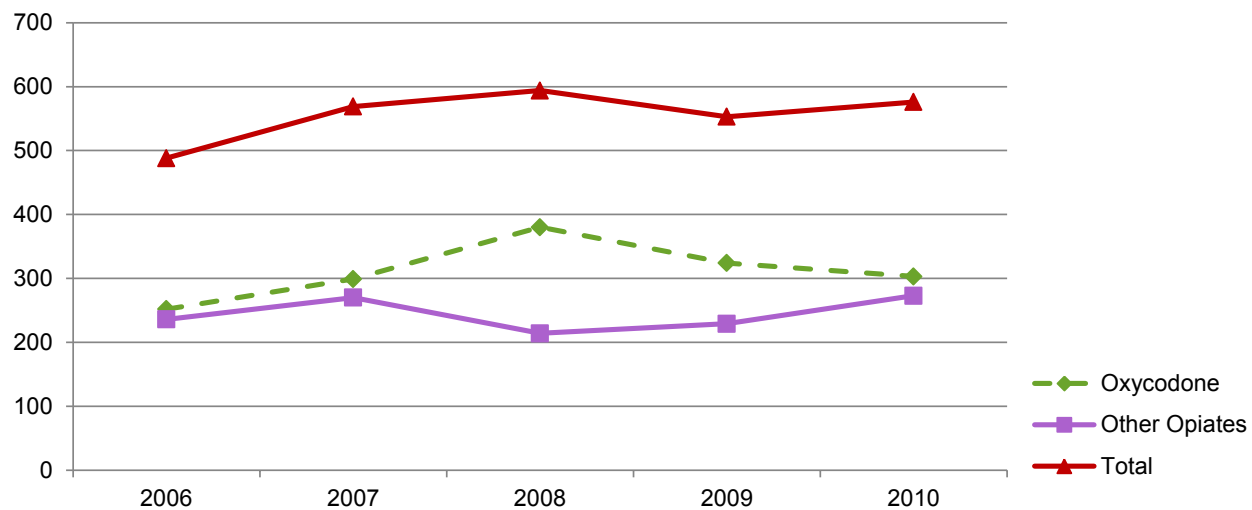
Exhibit 7. Deaths Due to Drug Overdose Involving Amphetamine and/or Heroin/ Morphine, San Diego County: 2001–2010

Year	Amphetamine-Involved Drug Deaths		Heroin/Morphine-Involved Drug Deaths	
	Number	Rate¹	Number	Rate¹
2001	58	2.03	107	3.74
2002	93	3.18	129	4.42
2003	99	3.33	116	3.90
2004	105	3.48	87	2.89
2005	113	3.70	90	2.95
2006	90	2.93	84	2.74
2007	100	3.23	109	3.52
2008	83	2.64	105	3.34
2009	88	2.75	118	3.69
2010	113	3.50	101	3.13

¹Rates per 100,000.

SOURCE: County of San Diego Health and Human Services Agency, Emergency Medical Services Medical Examiner Database

Exhibit 8. Number of Primary Treatment Admissions for Oxycodone and Other Prescription Opiates, San Diego County: 2006–2010



SOURCE: California Outcome Measurement System (CalOMS)

Drug Abuse Patterns and Trends in the San Francisco Bay area: Update June 2011

Alice A. Gleghorn, Ph.D.

ABSTRACT

Heroin remained the prominent primary drug among clients receiving treatment services in San Francisco and among drug items seized and identified by NLFIS laboratories. Other indicators, however, were low and declining (San Francisco juvenile arrests, treatment admissions, and Drug Abuse Warning Network [DAWN] emergency department [ED] visits). Indicators for prescription opiates and opioids (ED visits and primary treatment admissions) were low but increasing. However, there were no indicators of diversion of treatment medications; there were no drug seizures in the city of San Francisco for buprenorphine and methadone, as reported by drug enforcement. Cocaine ranked highest for drug-involved ED visits, but numbers of drugs seized and identified as cocaine and primary treatment admissions decreased. Methamphetamine ED visits increased, reversing an earlier downward trend; methamphetamine accounted for the greatest number of drug items seized and identified by NLFIS laboratories across the bay area. Marijuana-involved ED visits and drug seizures both increased, but arrest rates remained low (adult) or were low and falling (adolescents); primary treatment admissions for marijuana declined slightly. San Francisco numbers of primary treatment admissions for alcohol exceeded those of all other drugs for the first time in many years. Several club drugs (e.g., MDMA [3,4-methylenedioxymethamphetamine] and GHB [gamma hydroxybutyrate]) showed small increases in ED visits. Acquired immune deficiency syndrome (AIDS) incidence and mortality in San Francisco dropped to levels seen at the beginning of the epidemic in the early 1980s.

INTRODUCTION

Area Description

The San Francisco Bay area includes the following five counties: San Francisco, San Mateo, and Marin in the west bay area and Contra Costa and Alameda in the east bay.

The U.S. Census 2010 report estimated the total bay area population at 4,335,400, an increase of 18,400 since 2009, primarily residing in the east bay counties. The area is known for significant ethnic and cultural diversity, with more than one-fifth of the population belonging to Asian-American and Latino heritage groups. African-Americans constituted 9 percent of the total bay area population. San Francisco has long been a center for gay social and political issues, and 15 percent of the population identify as gay men.

The bay area economy includes a significant focus on tourism, but the area is also a leader in the following: the biotechnology industry; financial institutions; Pacific trade; software companies

(Twitter, Wikimedia Foundation, salesforce.com, and Craigslist.org); medical research and education; aerospace research; and sustainable and organic agriculture. The San Francisco Giants' 2010 Baseball World Series victory brought unanticipated economic gains to the city, and the successful bid to host the America's Cup in 2013 is expected to bring substantial revenue through 2013. However, California's budget crisis continued to be unresolved, despite the November 2010 election of former Governor Jerry Brown, and the prospect of a budget with deep cuts to social services became likely as the expiration date for a variety of taxes approached. There were some signs of improvement in the economy of the region. Across the bay area, there was a minimal decrease in unemployment—to 10.0 percent over 12 months reported in March 2011, according to the Bureau of Labor and Statistics, with the west bay reporting unemployment at 8.7 percent.

Data Sources

The sources of data for the drug abuse indicators cited in this report are described below:

- **San Francisco-specific treatment admissions and treatment episode data** were accessed through the San Francisco Department of Public Health (SFPDH) Community Behavioral Health Services Billing Information System for fiscal years (FYs) 2006–2007 through 2009–2010. A new Electronic Health Record and billing system (“Avatar”) was implemented in July 2010. Therefore, future reports may not be directly comparable to the data in this report, as the reporting mechanism for billing will be different. In addition, full data for FY 2010–2011 were not available for this report due to delays resulting from implementing the new system. Additional admissions data for buprenorphine treatment at the Integrated Buprenorphine Intervention Services program (IBIS) were provided by the Outpatient Buprenorphine Induction Clinic (OBIC) at the SFPDH.
- **Emergency department (ED) weighted estimate data** were accessed through the Drug Abuse Warning Network (DAWN), Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). ED visit data were extracted from the Detailed Tables: Metropolitan Area Estimates, Drug-Related Emergency Department Visits for 2004–2009 file for San Francisco located at <https://dawninfo.samhsa.gov/data/default.asp?met=Met>. Data presented include the number of weighted DAWN estimated visits and the percentage of total estimated visits for 2004–2009 and significant changes in visits ($p < .05$) between 2009 versus 2004, 2007, and 2008 (original table production date: 10/05/2010).
- **Overdose death data** were obtained from two sources: The Centers for Disease Control and Prevention (CDC), National Center for Health Statistics Compressed Mortality File 1999–2007–CDC Wonder On-Line Database, compiled from Compressed Mortality File 1999–2007 Series 20 No. 2M, 2010, accessed at http://wonder.cdc.gov/cmfi-cd_10.html, 2/25/2011 ICD10 Codes x40, 42, 44, 45, and California Department of Public Health, Safe and Active Communities Branch, CDPH Vital Statistics, Death Statistical Master Files, <http://epicenter.cdph.ca.gov> on May 4, 2011–Unintentional Poisoning Deaths: San Francisco, 2000–2009.
- **Drug seizure data** were provided by the Drug Enforcement Administration (DEA), National Forensic Laboratory Information System (NFLIS) (retrieved on May 2, 2011), for the five bay area counties in the San Francisco MSA for 2008–2010. Drug seizure data in San Francisco for 2010 were provided by the Drug Enforcement Section of the California Emergency Management Agency (CalEMA). CalEMA funds local multijurisdictional drug task forces in all 58 counties through the

Anti-Drug Abuse (ADA) Enforcement Team Program. Data are provided from FY 2009–2010 statistics collected from ADA projects. These statistics include the drugs seized by the task forces, separated by county.

- **Primary drug data for adult and adolescent felony and misdemeanor arrests** in San Francisco for 2006–2009 were obtained from the California Department of Justice Statistics Web site at http://stats.doj.ca.gov/cjsc_stats/prof09/38/4A.htm.
- **Acquired immune deficiency syndrome (AIDS) surveillance data** were provided by the San Francisco Department of Public Health, Human Immunodeficiency Syndrome (HIV) Epidemiology Section, Quarterly HIV/AIDS Surveillance Report, HIV/AIDS Cases Reported Through March 2011, accessed at <http://www.sfdph.org/dph/files/reports/RptsHIVAIDS/qrpt032011.pdf>.

Overview of Findings

Heroin indicators continued downward trends, although primary heroin treatment admissions constituted the largest proportion of clients receiving substance abuse treatment. Cocaine indicators remained high, but they were mostly decreasing. Methamphetamine indicators were mixed, with increases in estimated methamphetamine-involved ED visits and low and decreasing primary treatment admissions. Drug items seized and identified as containing methamphetamine in the NFLIS system increased in the greater bay area, but drug enforcement seizures in the city of San Francisco were relatively low. Marijuana indicators were mixed, with marijuana-involved ED visits increasing significantly, a large proportion of drugs identified as containing marijuana among the total NFLIS drug items seized and identified, and a low frequency of marijuana-related primary treatment admissions. Admissions for primary alcohol problems ranked first among proportions of primary substance abuse treatment admissions, surpassing heroin and cocaine for the first time in several years. Indicators for prescription opiates remained low, with some increase in numbers of opiate-related primary treatment admissions and in NFLIS drug items identified as containing hydrocodone. There were no indications, however, of diversion of medications used for the treatment of opiate addiction, including buprenorphine and methadone. Overdose death trends have remained stable and high since 2007, with the majority attributed to the category of “other unspecified drugs,” although the proportion due to narcotics and hallucinogens increased in 2009. Club drug use remained low, but estimated MDMA (3,4-methylenedioxymethamphetamine)-involved ED visits and GHB (gamma hydroxybutyrate)-involved ED visits increased significantly over prior years.

DRUG ABUSE TRENDS AND EMERGING PATTERNS

Cocaine

Cocaine ranked first among estimated DAWN ED visits in 2009 in San Francisco, maintaining a stable level compared with 2004, 2007, and 2008 (there were no significant changes). Although cocaine ranked first among numbers of primary treatment admissions in San Francisco during FY 2009–2010, it fell below alcohol to rank second in FY 2010–2011. Among clients who received substance abuse treatment services during FY 2009–2010, cocaine was the third ranked primary drug problem reported, following heroin and alcohol.

Cocaine also ranked third in terms of the number of drug items seized and identified in the five-county bay area, accounting for 18.6 percent of drugs reported by NFLIS in 2010. This represented a decrease from 2008, when cocaine ranked first, with 33.3 percent of the total items seized and identified by NFLIS laboratories. The California Department of Justice reported that 3,621 grams of powder cocaine with a street value of \$325,867 were seized in San Francisco in 2010.

Heroin

San Francisco's association with opiates is long-standing. San Francisco was the first city in the United States to enact antidrug legislation, with a measure banning opium dens in 1875. Indicators of use of opiates, particularly heroin, has remained relatively high across several decades. Until recently, heroin accounted for the majority of publicly funded substance abuse treatment admissions every fiscal year. "Black Tar" heroin from Mexico is the form of heroin available in San Francisco, with injection the primary mode of administration. Therefore, the risk of both HIV and hepatitis C virus (HCV) is high among San Francisco's heroin-using population.

Because of the dominant presence of heroin, San Francisco has taken an aggressive approach to expanding access to opiate treatment over the past 15 years. Beginning with the Treatment On Demand initiative in 1996, the city has significantly expanded publicly funded maintenance treatment at methadone clinics (more than 700 slots added); has initiated novel methadone treatment strategies (e.g., a mobile van, office-based treatment); and has integrated buprenorphine treatment into primary care, mental health, and substance abuse treatment settings. An overdose prevention education program focused on opiate reversals was initiated in 2000. It expanded to include naloxone training and prescription several years later, and in 2010 adopted the use of a nasal spray delivery system, which has substantially increased the use of this overdose intervention.

Heroin indicators have shown gradual declines in recent years. Heroin-involved ED visits have decreased since 2005, with a 49-percent decrease between 2004 and 2009 and a 24-percent decrease from 2008 to 2009. Heroin ranked behind cocaine, marijuana, and methamphetamine in estimated DAWN ED visits in 2009 (exhibit 1). Primary treatment admissions for heroin dropped from the top rank in San Francisco for the first time in FY 2007–2008, and they have continued to decline, ranking third behind alcohol and cocaine in FY 2009–2010 (exhibit 2). However, the majority of clients enrolled in ongoing substance abuse treatment (service episodes) continued to report heroin as a primary drug of abuse (exhibit 3). The IBIS program also enrolls and maintains approximately 200 buprenorphine clients per year. Adult and adolescent arrests for narcotics in San Francisco declined in 2009. NFLIS laboratory data for the bay area counties also showed a continued decline in drug items seized and identified as heroin in 2010, accounting for 4.1 percent of the total, compared with 4.5 percent in 2009 (exhibit 4). The California Department of Justice reported black tar as the most frequently seized drug in San Francisco in 2010, at 19,037 grams, with a street value of \$1.5 million (exhibit 5). Given the prolonged effort to increase access to opiate treatment and reduce heroin addiction in San Francisco, the decline in heroin indicators (other than enrollment in services) may suggest the positive impact of treatment on health and criminal justice indicators.

Increases in the availability of prescription opiates impacts some drug indicators associated with heroin, so it is important to examine other opiates in conjunction with the heroin data. Drug enforcement seizure data for the five bay area counties showed a small proportion of drug items seized and identified as prescription opiates (oxycodone, hydrocodone, and methadone) for FY 2007–2009,

with only hydrocodone showing an increasing trend (from 2.2 to 3.5 percent over 3 years). Drug seizures reported in San Francisco indicated 175 hydromorphone/oxycodone/codeine pills, valued at \$4,120, confiscated in 2010, with no seizures reported of medications prescribed for the treatment of opiate addiction (e.g., methadone and Suboxone®). Estimate methadone-involved ED visits were low and have declined slightly (although not significantly) over the past 2 years. Although there were few clients receiving treatment services who reported other opiates, oxycodone, or non-prescription methadone as their primary drug, these numbers have been increasing (exhibit 6). The number of overdose deaths due to narcotics/hallucinogens declined from 1999 to 2004, but they began to increase in 2005. Although the majority of these accidental deaths were associated with other unspecified drugs, the proportion attributed to narcotics increased from 35 in 2008 to 67 in 2009 (exhibit 7).

Methamphetamine

Estimated methamphetamine-involved ED visits have been fluctuating since 2004, but increased significantly by 9 percent between 2007 and 2009; such visits ranked third following cocaine and marijuana. Primary treatment admissions for methamphetamine in San Francisco remained stable from FYs 2008–2009 to 2009–2010, although there was an overall downward trend over the past 4 years. Treatment admission rates remained lower (around 1,000 clients) relative to admissions for alcohol ($n=3,000$), cocaine ($n=2,700$), and heroin ($n=2,500$) (exhibits 2 and 3).

Throughout the five-county bay area, drug items identified as containing methamphetamine by NFLIS laboratories increased. Methamphetamine was the most frequently reported drug analyzed, accounting for 28.6 percent of the total, compared with 21.7 percent in 2009 (exhibit 4); this continued an upward trend. Relatively little methamphetamine was reported in drug enforcement seizures in San Francisco, with only 236 grams with an estimated street value of \$23,600 reported by the California Department of Justice (exhibit 5).

Marijuana

Marijuana surpassed methamphetamine to rank second in numbers of estimated ED visits in 2009, continuing an upward trend. Marijuana-involved ED visits in 2009 showed a significant 76-percent increase since 2004 and a 32-percent increase over 2007 (exhibit 1). However, treatment admissions and service episodes related to marijuana in San Francisco remained relatively low compared with other drugs (exhibit 2) and decreased slightly. Adult felony arrests for marijuana remained low (at $n=1,000$ per year) relative to narcotics (at $n=1,700$) and stable. Misdemeanor arrests were stable from 2008 but slightly higher than in 2006, and they were less frequent than those for other drugs. Similarly, marijuana felony arrests among juveniles were relatively stable, from 2008 ($n=62$) to 2009 ($n=59$), but they have increased slightly from 2006 levels ($n=34$). Misdemeanor juvenile arrests followed a similar pattern ($n=62$ in 2008, $n=45$ in 2009, and $n=22$ in 2006). Proportions of drug items identified as marijuana by NFLIS laboratories were the second highest analyzed drug across the five bay area counties, at 25.1 percent, but this represented a decreasing trend since 2008 (exhibit 4). In San Francisco, 1,082 plants were seized, with a \$165,917 street value, while 318 pounds of processed marijuana were seized, worth \$577,555 (exhibit 5). Since the implementation of medical marijuana/cannabis legislation in the State of California in 1996, San Francisco County has issued the largest number of medical marijuana/cannabis cards by a wide margin.

Club Drugs

Use of club drugs remained relatively low in the San Francisco area, but there have been some slight increases that require monitoring. Among drug-involved ED visits, MDMA, GHB, PCP (phen-cyclidine), and LSD (lysergic acid diethylamide) visits increased during the 2004 to 2009 time period. MDMA-involved visits increased by 76 percent from 2004 to 2009, and there was a 96-percent increase from 2007 to 2009 (both statistically significant). GHB-involved visits increased significantly by 43 percent from 2007 to 2009.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS and HIV

San Francisco County had a cumulative total of 28,840 AIDS cases through March 2011. The number of new diagnoses and deaths has dropped to levels not seen since the beginning of the epidemic in the early 1980s. Of the total, 7.3 percent ($n=2,116$) were heterosexual injection drug users (IDUs), while 14.6 percent ($n=4,223$) were IDU men who have sex with men.

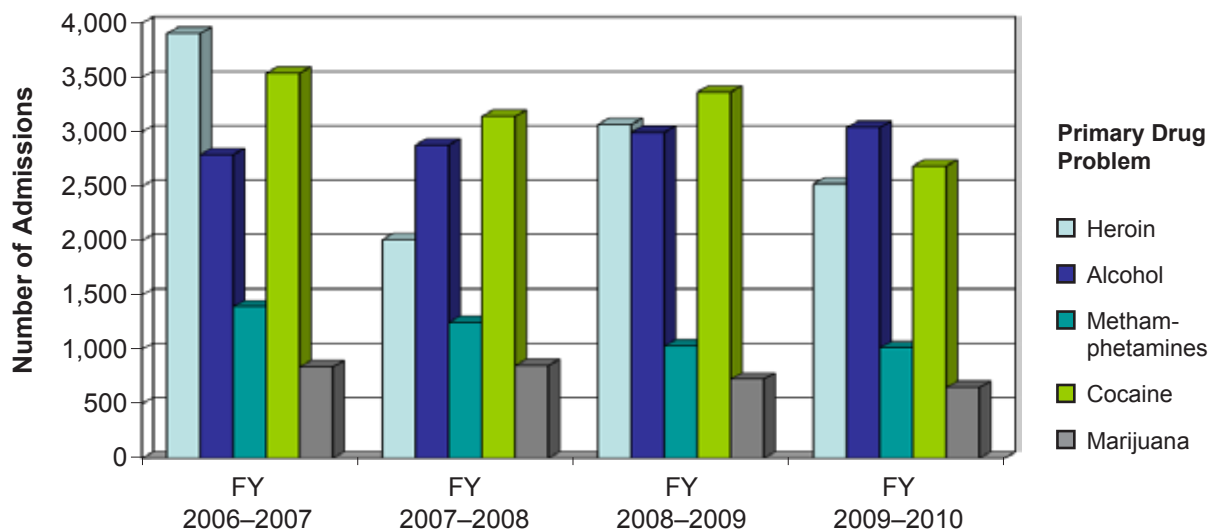
For inquiries regarding this report, contact Alice A. Gleghorn, Ph.D., Alcohol and Drug Administrator, Community Behavioral Health Services, San Francisco Department of Public Health, Room 450, 1380 Howard Street, San Francisco, CA 94103, Phone: 415-255-3722, Fax: 415-255-3529, E-mail: alice.gleghorn@sfdph.org.

Exhibit 1. Estimated Emergency Department Visits Involving Selected Substances, San Francisco Area: 2004–2009

	2004	2005	2006	2007	2008	2009
Cocaine	4,419	6,944	5,773	6,055	4,160	4,149
Marijuana	1,166	2,179	1,566	1,549	1,629	2,049
Methamphetamine	2,149	4,243	2,429	1,794	1,670	1,946
Heroin	2,424	3,138	1,994	1,993	1,616	1,224
MDMA	210	398	286	188	293	369
GHB	----	200	114	188	135	269
Methadone	152	328	204	218	212	179
PCP	93	111	116	159	88	111
LSD	----	----	61	99	90	124
Total	9,292	16,562	11,500	11,449	8,918	9,555

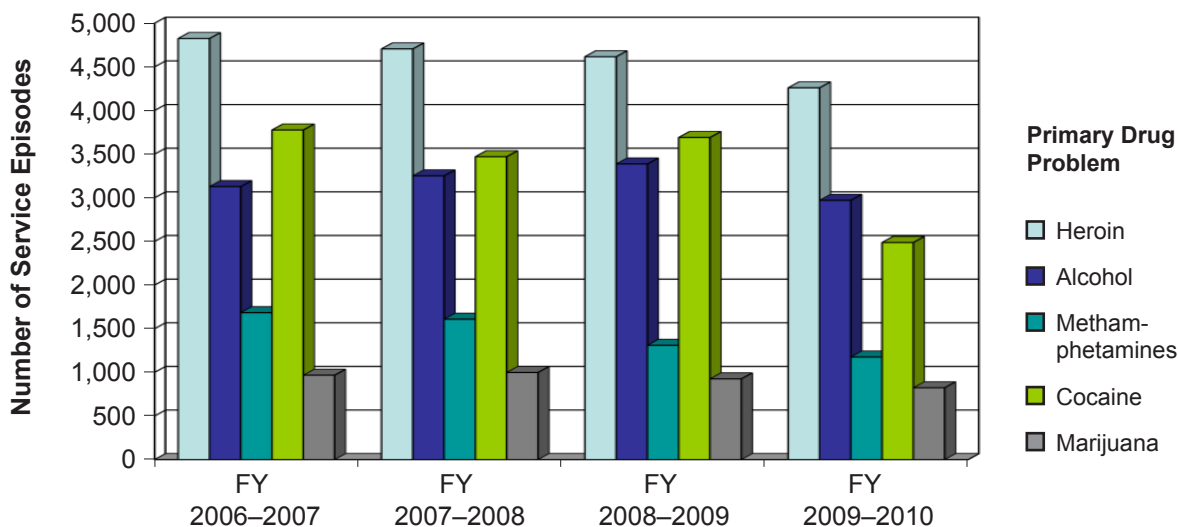
SOURCE: DAWN, CBHSQ, SAMHSA

Exhibit 2. Number of Treatment Admissions, by Primary Drug Problem, San Francisco: FYs 2006–2007 to 2009–2010



SOURCE: Community Behavioral Health Services Billing Information System, San Francisco Department of Public Health

Exhibit 3. Number of Treatment Service Episodes, by Primary Drug Problem, San Francisco: FYs 2006–2007 to FY 2009–2010



SOURCE: Community Behavioral Health Services Billing Information System, San Francisco Department of Public Health

Exhibit 4. Drugs Seized and Identified, as Percentage of the Total, in the Five-County San Francisco Bay Area: 2008–2010

Drug	2008	2009	2010
Cocaine	33.3	24.6	18.6
Marijuana	31.7	27.1	25.1
Methamphetamine	17.3	21.7	28.6
Heroin	6.0	4.5	4.1
MDMA	4.2	4.2	4.3
Oxycodone	2.5	2.7	2.0
Hydrocodone	2.2	2.8	3.5
Methadone	0.9	1.2	1.0

SOURCE: NFLIS, DEA, retrieved on May 2, 2011

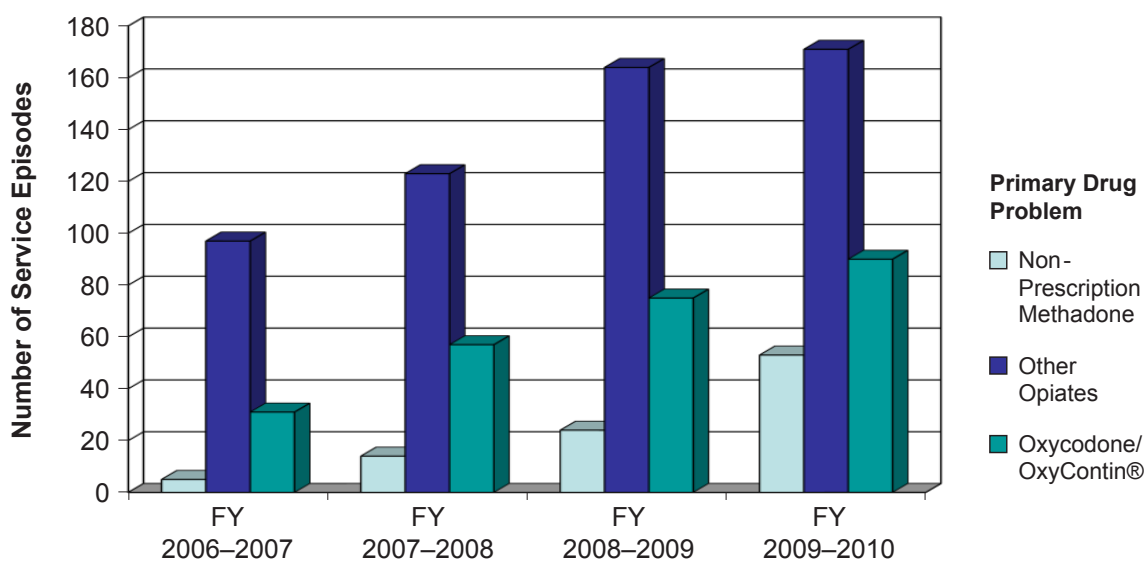
Exhibit 5. Number of Heroin, Marijuana (MJ), Methamphetamine, Cocaine, and Other Drug Seizures, and Street Value of the Drugs, San Francisco: 2010

Drug	Seizures	Street Value
Tar Heroin (g)	19,037	\$1,516,072
MJ Plants	1,082	\$165,917
Processed MJ (lbs)	318	\$577,555
Powder Cocaine (g)	3,621	\$325,867
Methamphetamine Ice (g)	236	\$23,600
Codeine/Oxycodone/ Hydromorphone Pills	175	\$4,120
Suboxone® (Pills)	0	0
Methadone (Pills)	0	0
Vicodin® Pills	0	0
Schedule 2 or 3 Narcotics	0	0

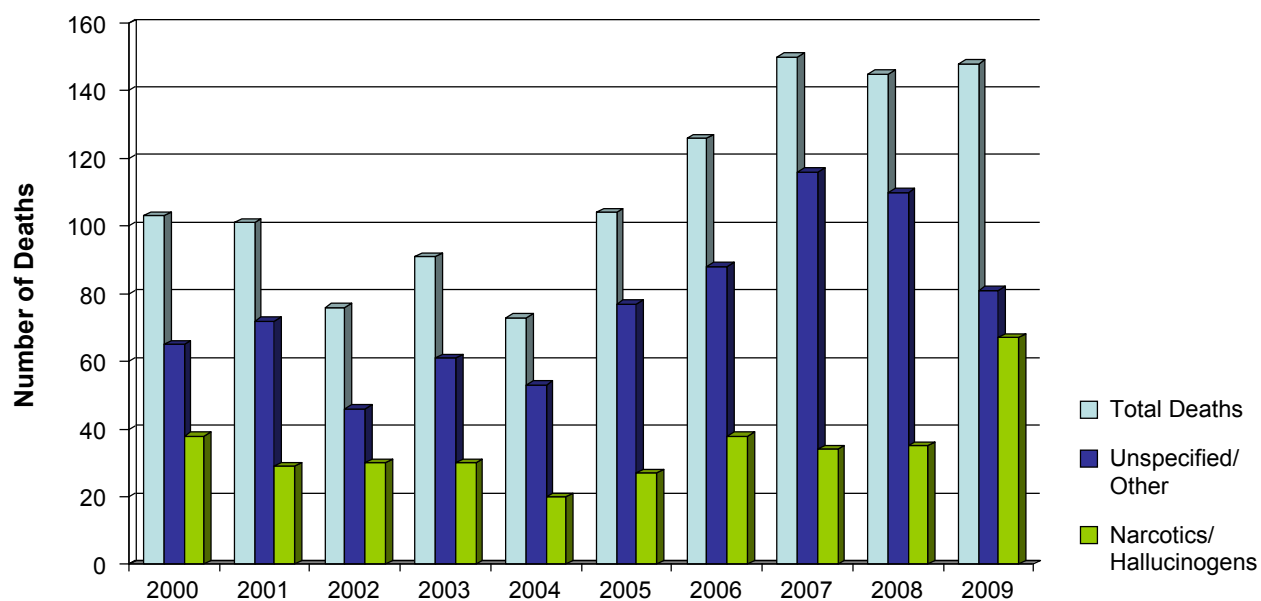
Note: g=grams and lbs=pounds.

SOURCE: California Department of Justice

Exhibit 6. Number of Treatment Service Episodes, by Primary Drug Problem, San Francisco: FYs 2006–2007 to 2009–2010



SOURCE: Community Behavioral Health Services Billing Information System, San Francisco Department of Public Health

Exhibit 7. Number of Unintentional Poisoning Deaths, San Francisco: 2000–2009

SOURCE: California Department of Public Health (CDPH), Safe and Active Communities Branch, CDPH Vital Statistics, Death Statistical Master Files, <http://epicenter.cdph.ca.gov>, May 4, 2011

Drug Abuse Trends in the Seattle/King County Area: 2010

Caleb Banta-Green¹, T. Ron Jackson², Steve Freng³, Michael Hanrahan⁴, Geoff Miller⁵, Steve Reid⁶, John Ohta⁷, Mary Taylor⁸, Richard Harruff⁶, and David Albert⁹

ABSTRACT

Cocaine continued to be a major drug of abuse and contributor to deaths in the Seattle/King County area in 2010. However, cocaine-related treatment admissions and deaths both declined somewhat in 2010, compared with 2009. Levamisole (a potentially life-threatening contaminant) was present in two-thirds of cocaine items seized by police in King County in 2010 and was present in both crack and powder cocaine. Fatal heroin overdoses remained low, at 50 in 2010, the same number as in 2009. They were substantially lower than the 144 heroin-involved overdoses in 1998. The number of people dying in King County from prescription-type opiate overdoses declined for the first time in a decade. In 2010 in King County, 130 fatal overdoses involved prescription-type opiates (most commonly methadone and oxycodone), a decline from 161 deaths in 2009 and the first decline since 1999. Newly available prescription sales data for Washington State through 2010 indicated that sales began leveling off over the last 3 to 4 years for several common, potent pain medicines, including morphine, methadone, and oxycodone, after steady increases in sales since 1997. These same data indicated a sevenfold increase in prescribing of buprenorphine by King County providers (mostly for the treatment of opiate addiction), with an estimate of at least 2,353 annual addiction treatment spaces used for opiate addiction treatment in 2010. While the decline in prescription-type opiate deaths is positive, there are reasons for concern. Numbers of treatment admissions for those addicted to prescription-type opiates continued to increase, and the majority of admissions were young adults age 18–29. The number of young adults in treatment programs for heroin increased by 74 percent from 1999 to 2010. Heroin purity was low, which may have contributed to the lower level of fatal heroin overdoses. Increased education and vigilance on the part of the public will be important to prevent future addiction and overdoses. Information on opiate medication and heroin safety and overdose prevention is available at www.stopoverdose.org and <http://www.doh.wa.gov/hsqa/takeasdirected/default.htm>. Numbers of methamphetamine treatment admissions and deaths have held steady since 2005. While most methamphetamine appeared to originate in Mexico, local, small-scale production continued in 2010. Marijuana remained the most

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common drug of abuse among youth admitted to treatment. Adult treatment admissions (clients older than 18) declined slightly in 2010, although they have tripled since 1999, with increases mostly among males, African-Americans, and Hispanics. “Bath salts,” usually MDPV (3,4-methylenedioxypyrovalerone) or mephedrone, were present at low levels, and serious adverse consequences were reported locally. Synthetic cannabinoid agonists (e.g., Spice/K2) were being used locally, mostly in an exploratory way by youth or by those who are required to get regular drug testing due to court or treatment involvement. They were reported by users to be less desirable than marijuana. MDMA (3,4-methylenedioxymethamphetamine) use and availability persisted as indicated by continuing seizures at the Canadian border, and there was a substantial decrease in the adulterant BZP (1-benzylpiperazine) in 2010. New HIV (human immunodeficiency virus) infections remained fairly low among injection drug users (IDUs), with 4 percent of new infections occurring in this exposure group from 2008 to 2010, and 7 percent of new infections among those with the dual exposure of IDUs and being men who have sex with men. More than 4 million clean syringes were distributed to IDUs in King County in 2010.

INTRODUCTION

Data Sources

The primary sources of information used in this report are listed below:

- **Drug trafficking data** were obtained from the Drug Enforcement Administration (DEA), Seattle Field Division, “Quarterly Trends in the Traffic Reports.” Domestic Monitoring Program (DMP) heroin purchase data (edited versions) were also utilized, and data specific to Seattle were extracted and analyzed. Data were also obtained from the “Threat Assessment Report” produced by the Northwest High Intensity Drug Trafficking Area (NW HIDTA) program, which included survey data from local law enforcement throughout the State of Washington.
- **Opioid sales data** were obtained directly from the Automation of Reports and Consolidated Orders System (ARCOS), DEA, through 2010. Sales data are in grams of active ingredient. For buprenorphine, a conversion to estimated dosage units was made based upon an average dose of 16 milligrams per day among Medicaid patients. Nothing about prescribing among private/self-pay is known, and these are likely to represent approximately 90 percent of buprenorphine treatment. Note that buprenorphine is occasionally prescribed for pain management, but the predominant indication is medication-assisted drug treatment for opioid addicts. An additional estimate was made of “annual treatment” slots, which simply divided the total number of estimated dosage units by 365 to provide an estimate (and sense of scale) of how many clients could be receiving buprenorphine treatment if they received it on every day in the calendar year. King County data were approximated by combining data from the three-digit ZIP code regions beginning with 980 and 981 (exhibit 1).
- **Fatal drug overdose data** were obtained from the King County Medical Examiner (KCME), Public Health – Seattle & King County (PHSKC). The other opiates category indicates pharmaceutical opioids, including pharmaceutical morphine where noted (oxycodone, hydrocodone, methadone, and other opioids); however, codeine is excluded. The heroin/opiate category includes heroin,

morphine (unless noted to be pharmaceutical), and cases in which there was an indication that the death was “heroin related” in the KCME database (exhibit 2).

- **Data on seized drug samples submitted for analysis** were obtained from the National Forensic Laboratory Information System (NFLIS), DEA. Drug testing results for local, State, and Federal law enforcement seizures in King County were reported. A Washington State Patrol Crime Laboratory chemist attended the local CEWG meeting and provided qualitative impressions of drug seizure evidence they tested. These analytical tests are the basis of NFLIS data. The laboratory also created a dataset for cocaine in the fall of 2010 to document the details of levamisole-involved cocaine cases (exhibit 3).
- **Drug treatment data** were provided by Washington State Department of Social and Health Services (DSHS), Division of Behavioral Health and Recovery, Treatment Report and Generation Tool (TARGET), from 1999 through 2010. Treatment modalities included outpatient, intensive inpatient, recovery house, long-term residential, and opiate substitution admissions. Department of Corrections and private-pay admissions for opiate substitution were included. Opioid sales data for buprenorphine, described above, are also a proxy for opioid addiction treatment (exhibit 4).
- **Poison Control Center call data** were provided by the Washington State Poison Center for exposure calls originating in King County from 2004 to 2010 (exhibit 5).
- **Washington State Healthy Youth Survey data** from 2010 for a random sample of King County schools are reported. The total number of surveys included in analyses was 4,015.
- **Data on infectious diseases related to drug use and injection drug use**, including the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), were provided by PHSKC. Data on HIV cases (including exposure related to injection drug use) in Seattle/King County (1982 through 2010) were obtained from the “HIV/AIDS Epidemiology Report.” Data for the number of syringes exchanged/distributed were also provided by PHSKC (exhibits 6 and 7).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine

Drugs analyzed and testing positive for cocaine by NFLIS laboratories decreased for the fourth year in a row. According to law enforcement and prosecutors, this was mostly due to policy changes regarding obtaining evidence and the amount of cocaine needed for certain types of prosecutions. Local police reported cocaine was readily available in Seattle in 2010.

The number of cocaine primary treatment admissions declined for the second year in a row to 1,477, from a peak of 2,425 in 2008. This was a substantial decline and comes close to the number of such admissions ($n=1,244$) in 1999. Compared with 1999, clients admitted to treatment in 2010 were increasingly male, non-White, 40 or older, and on probation/parole. Youth treatment admissions for a primary problem with cocaine remained relatively rare.

Cocaine-involved overdose deaths totaled 45 in 2010, the lowest number in a continual decline from the 111 such deaths in 2006. Approximately one-quarter of decedents with cocaine involved

were female, as has been the case for at least the past decade. The median age of decedents was 48 in 2010, up from approximately 40 a decade ago. About one-quarter of cocaine deaths also involved alcohol, while the most commonly found additional substances were heroin-probable (approximately 33 percent) and/or prescription-type opiates (approximately 35 percent). While the majority of deaths involving cocaine were White, African-Americans continued to be disproportionately overrepresented in cocaine-involved deaths.

Growing concerns about levamisole (an adulterant that can lead to serious immune reactions) nationally led to questions about the presence of levamisole locally. In the fall of 2010, information about levamisole in cocaine seized by law enforcement in King County was systematically documented. In the past, levamisole has been observed in cocaine samples, but not documented, as the State crime laboratory only records illegal and controlled drugs. Of 47 cocaine samples in 2010, 65 percent tested positive for levamisole. Approximately three-quarters of the samples weighed less than 3 grams, indicating relatively small samples that were likely for personal use. The presence of levamisole was consistent across forms of cocaine (salt and base) and appearance (powder and chunky). Levamisole was also identified in residue from cocaine pipes, indicating the hardness of the compound.

Heroin

Heroin-positive drug items identified in NFLIS forensic laboratories have been constant in recent time periods, at approximately 200 per year. This is particularly notable as the numbers for other illicit drugs have decreased substantially in the same period. Statewide data indicated substantial increases in heroin-positive police evidence over the past decade. According to the Northwest HIDTA, approximately 180 kilograms of heroin were seized in 2010 across the State, a large increase since 2008.

Heroin purity was very low, at approximately 3 percent according to DEA DMP street purchases in Seattle in early 2010, a decrease from approximately 13 percent in 2004. Other opiates were also present in heroin (e.g., morphine); however, quantification of these other opiates is not made public, so it is not possible to determine the total "opiate impact" in heroin from the different constituents of opium that may be present. The DEA reported that virtually all heroin available for purchase in the Seattle area was from Mexico and was either black tar heroin or had the appearance of brown powder (though chemical analyses indicated it was the same chemically as black tar).

The number of primary heroin treatment admissions in 2010 totaled 1,683, down slightly from 1999. The major demographic change over the past decade has been the increase in admissions for heroin among clients age 18–29, which increased by 74 percent in absolute numbers from 1999 to 566 in 2010. The average annual caseload for opiate substitution treatment in King County, according to the State's TARGET data system, increased from 2,526 in 2005 to 3,003 in 2010 (public and private pay). This includes heroin and prescription-type opiates. Sales of buprenorphine (which is used mostly for physician office-based opiate substitution treatment) increased in the King County area, with an estimated increase of annual treatment slots from 322 annual treatment slots in 2005 to 2,353 in 2010. The annual estimate was created by dividing the total amount of buprenorphine sold in grams by 16 milligrams (the average daily dose for clients on Medicaid in the State) and 365 days. The proportion of buprenorphine users who used heroin (with or without pharmaceutical opioids) was unknown.

Heroin-probable deaths totaled 50 in 2010, the same number as in 2009, but they were down somewhat from earlier years; in 1998 there were 144 heroin-probable deaths. In 2010, heroin-probable deaths were mostly White and male, as in past years. The median age at the time of death was 43.5, generally similar to recent years. Although 74 percent of these decedents were age 30 or older at the time of death, a consistent group of decedents were younger than 30 as well. The proportion of heroin-probable deaths with no other detectable drugs was 30 percent in 2010, higher than in previous recent years. The most common other drugs detected in heroin-probable deaths were cocaine, in 30 percent of the cases, and alcohol, in 28 percent.

Prescription-Type Opiates

Prescription opiate sales in the King County area showed a continuous increase for hydrocodone (e.g., Vicodin®) until 2009, when it leveled off at close to 10 million doses sold—a nearly three-fold increase since 1997. Methadone sales data for chronic pain management and addiction treatment were only available from 2006 to 2010; they showed slight increases in the past few years. Buprenorphine sales increased sevenfold from 2005 to 2010 and were described in detail above in the heroin section. Oxycodone sales also increased substantially over this time period, although they slowed down for 3 years beginning in 2003 (coincident with it being removed from the State Medicaid formulary), then increased from 2006 onward. OxyContin®, which is the sustained release formulation of oxycodone, was consistently reported as the preferred drug among those seeking a high, although this may have been changing. Prescription-type opiates that are abused may be prescribed to the user, diverted from local prescriptions, and/or obtained through a black market that has many sources, including Canada. This is particularly the case for the traditional form of OxyContin® that is more easily crushed; the new formulation released in 2010 is reportedly much harder to crush and less desirable to those seeking to abuse it.

Prescription-type opiate use “to get high” in the past month was reported by 8 percent of 10th grade students in King County in 2010, similar to the proportions for 2006 and 2008. Analyses of statewide data indicate that use of alcohol, tobacco, marijuana, and other illegal drugs were each strongly and independently associated with past-month use of prescription-type opiates “to get high.” Common sources were reported to be friends, student’s own prescriptions, and taking from their home or another’s without permission. Similar findings were reported for the State as a whole in this student survey.

The number of calls to the Washington State Poison Center about exposures to pharmaceutical opioids in King County remained constant from 2004 to 2010, even as the total number of calls for all substances declined substantially. In 2004, the most common type of opioid specifically identified was hydrocodone; hydrocodone calls declined to 222 by 2010. Over the same time period, oxycodone increased and was the most common opioid in 2010, when there were 294 calls. While methadone increased somewhat, it was much less likely to be identified ($n=86$ calls in 2010). Buprenorphine calls were nonexistent in 2004; there were five calls in 2010, three of which were exposures among children younger than 6. Individuals older than 19 remained the most common age group for calls in which any pharmaceutical opioid was involved in 2010; there was a modest increase in the number that were intentional exposures and a slight decrease in those reported to be unintentional.

Numbers of prescription-type opiates as the primary drug of abuse at the time of treatment admission have increased continually and substantially since 1999 to a total of 919 in 2010. The largest group in treatment (60 percent) was the 18–29 age group, a much larger proportion of young adults than for all treatment admissions (30 percent). Whites constituted the majority of admissions, followed by Native Americans, who represented 7 percent of prescription opiate clients admitted in 2010. These treatment admissions data included little of the opiate substitution treatment using Suboxone® and were a very conservative estimate of the amount of treatment utilization resulting from the abuse of prescription-type opiates (see heroin section for buprenorphine/Suboxone® data).

Prescription-type opiate-involved deaths declined for the first time in more than a decade, from 161 in 2009 to 130 in 2010. The number of cases with methadone declined from 85 in 2009 to 65 in 2010, while oxycodone cases declined from 58 in 2009 to 33 in 2010. Females represented a larger proportion of decedents than for other psychoactive drugs, at 43 percent in 2010. While the median age of prescription-type opiate-involved deaths remained unchanged, at 47 in 2009 and 2010, and was fairly constant over the past decade, the decline in deaths from 2009 to 2010 was entirely among individuals age 31 and older. In 2010, 25 deaths involving prescription-type opiates occurred among individuals age 30 and younger.

Methamphetamine

Most methamphetamine consumed in Washington appeared to originate in Mexico, although small-scale manufacturing persisted. The number of laboratory incidents totaled 92 in 2010, according to the State Department of Ecology, a decrease from 1,890 statewide in 2001.

Methamphetamine treatment admissions for adults totaled 1,218 in 2010, a similar number as the prior 5 years and an increase over the 1999 figure of 361. Youth treatment admissions peaked at 75 in 2004 and declined to 31 in 2010. Although methamphetamine admissions continued to be mostly White, there have been recent increases among non-Whites, most notably among Hispanics. Methamphetamine-involved deaths totaled 15 in 2010, similar to the prior 4 years and down from the peak of 24 in 2005. Among illegal drugs, methamphetamine deaths were the most likely to involve no other drug; 40 percent were methamphetamine only, similar to prior years. Most, 13 of 15, were White, and the majority of deaths were male. The median age at the time of death was 46, similar to recent years and older than in 1999, when methamphetamine deaths first began to increase.

Marijuana

Items seized and identified in NFLIS laboratories as containing marijuana/cannabis decreased four-fold in 2010, compared with the prior 3 years, when there were approximately 800 drug items annually seized by law enforcement and identified as containing marijuana/cannabis. Local law enforcement and prosecutors did not point to any single reason for this decline, although the ambiguous and conflicting laws and policies on marijuana at various jurisdictional levels have led to a very complicated legal landscape. According to Federal law enforcement, indoor grow operations were pervasive in western Washington, and outdoor grow operations were pervasive in eastern Washington. In 2010, a total of 293,442 marijuana plants were seized in Washington, down from 572,485 in 2009 but a substantial increase compared with a decade ago. In King County in 2010, 12,263 plants were seized from indoor grow operations, compared with 93,873 seized in outdoor grow operations in Klickitat County in eastern Washington.

Past-month marijuana use was reported by 18 percent of 10th grade students in King County in 2010, a similar proportion as reported such use biennially since 2004. The majority of all students (approximately 60 percent) reported that marijuana was “easy to get.”

Youth (18 and younger) treatment admissions for marijuana as the primary drug totaled 985 in 2010, similar to the level in 1999. However, in 1999, youth represented 63 percent of primary marijuana treatment admissions, while in 2010, they represented 39 percent of such admissions. The increase in adult marijuana admissions was seen across the age span from young adults to clients older than 60. The number of White clients decreased slightly from 1999 to 2010, while there were substantial increases in marijuana admissions among African-Americans, Hispanics, and clients identifying multiple races. Increases were similar regardless of current probation/parole status, suggesting this was not a major reason for the overall increase in adult admissions from 620 to 1,512 during this timeframe.

Other Drugs of Abuse

Treatment admissions for hallucinogens as the primary drug were uncommon, although they increased from 16 in 1999 to 60 in 2010. In 1999, most admissions were clients 21 and younger, while in 2010, one-half were 30 or older. MDMA (3,4-methylenedioxymethamphetamine) persisted in Washington State, and in 2010, BZP (1-benzylpiperazine) decreased dramatically as a component detected in drugs purported to be or that had the appearance of MDMA. Washington State Poison Center calls for hallucinogenic amphetamines (a category that includes MDMA) remained fairly low in 2010, with 21 calls from King County. MDMA continued to be seized at the State’s northern border coming in from Canada, where it is manufactured.

In 1999, there were just three treatment admissions for which PCP (phencyclidine) was noted as the primary drug of abuse. In 2010, there were 54 admissions for PCP; 30 were African-American; and 33 were age 18–29. Exposure to PCP was reported by five callers to the Washington State Poison Center in 2010.

Benzodiazepines are commonly used with heroin and prescription-type opiates, and the combination can increase the risk of overdose and death. Benzodiazepines are also commonly prescribed as an antianxiety medication for those with chronic pain conditions who may also be prescribed potent opioid medicines such as morphine, methadone, and oxycodone.

Concerns at the national level about “Bath Salts,” MDPV (3, 4-methylenedioxypyrovalerone) or mephedrone, and a large number of synthetic cannabinoid agonists (e.g., Spice/K2), led to inquiries by local researchers about use and impacts in early 2011. In the first quarter of 2011 for Washington State, there were 17 exposure calls to the Washington State Poison Center for “bath salts,” and 4 MDPV-positive tests in urinalysis conducted by Sterling Reference Laboratories. A high profile murder/suicide in 2011 in western Washington was found to involve MDPV. Treatment providers, however, reported very little use of “bath salts” among clients. Overall, it appeared from available data sources that bath salts were used at low levels, but they can have substantial adverse impacts.

Synthetic cannabinoid agonists have been detected by the Washington State Patrol crime laboratory in law enforcement evidence. Use of these compounds seemed limited to exploratory use among adolescents and those who are in programs (treatment or court-involved) that require regular drug

testing. Most users apparently prefer the effects of marijuana, which is cheaper than the synthetic cannabinoids and widely available.

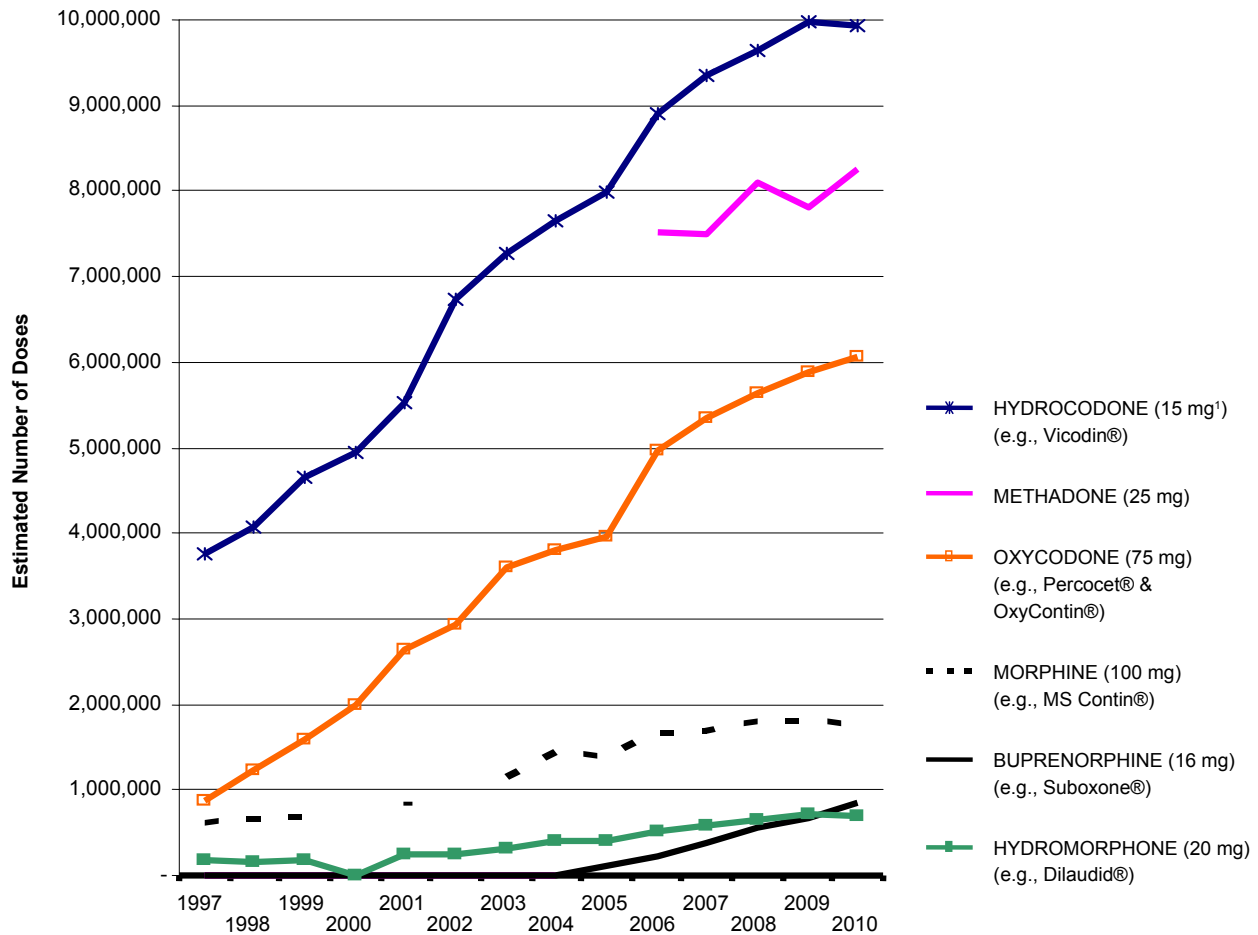
INFECTIOUS DISEASES RELATED TO DRUG USE

HIV

The most common exposure category for HIV infections in King County continued to be men who have sex with men (MSM); they constituted three-quarters of new infections from 2008 to 2010. MSM who also injected drugs represented 7 percent of new infections in 2008–2010, similar to prior years. Those who reported injection drug use only as a risk category made up 4 percent of new infections in 2008–2010; this represented a slight decrease in the proportion, compared with 2002–2004. Public Health–Seattle & King County has a long history of operating and supporting syringe exchange programs. In 2010, more than 4 million syringes were exchanged, twice the volume in 2007.

For inquiries concerning this report, contact Caleb Banta-Green, M.S.W., M.P.H, Ph.D., Research Scientist, Alcohol and Drug Abuse Institute, University of Washington, 1107 N.E. 45th Street, Suite 120, Seattle, WA 98105, Phone: 206–685–3919, Fax: 206–543–5473, E-mail: calebbg@u.washington.edu

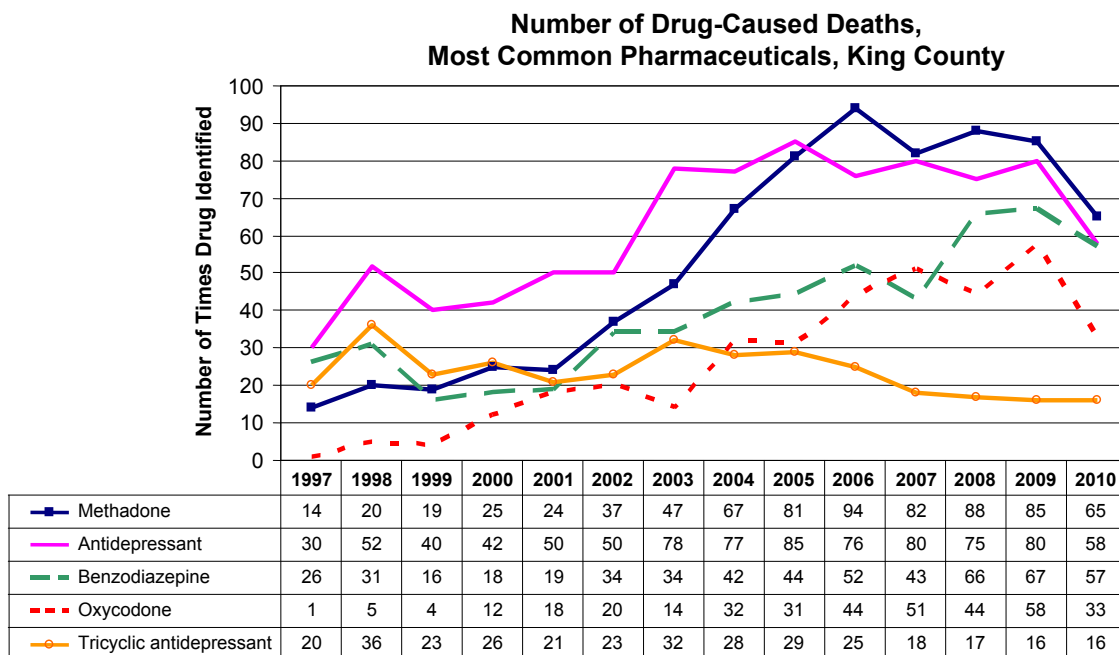
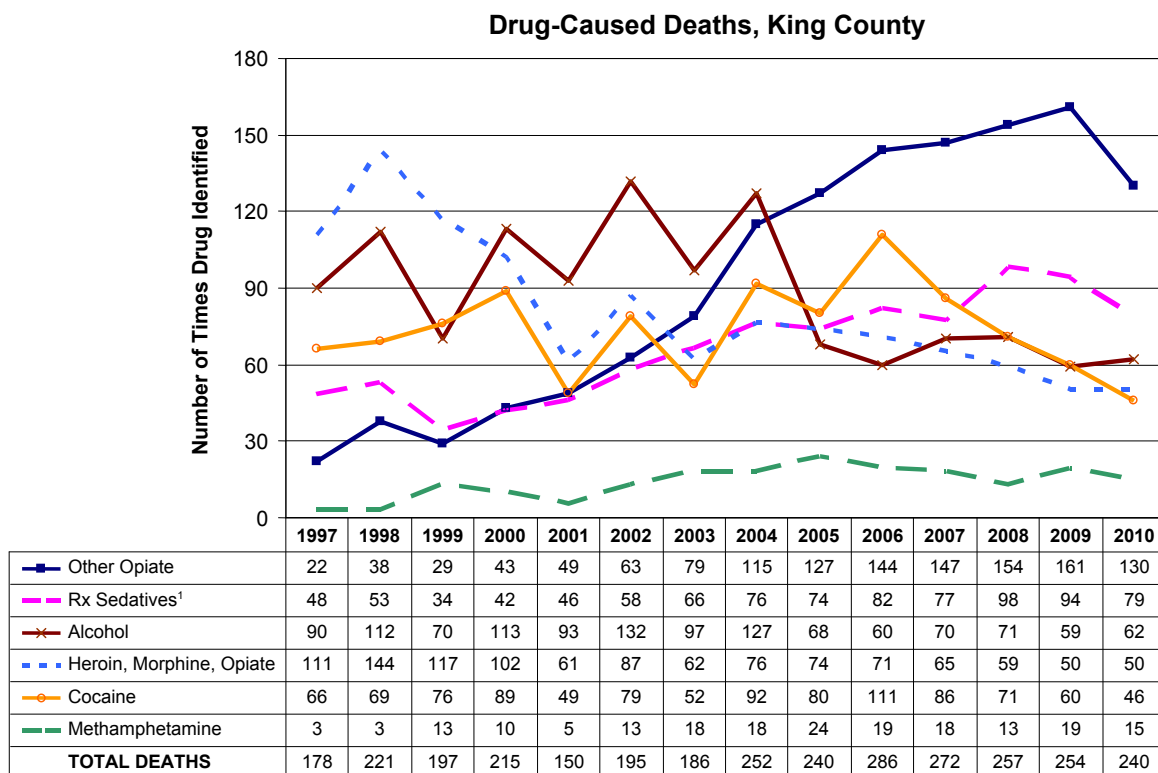
Exhibit 1: Estimated Number of Doses Sold per Year to Hospitals and Pharmacies, in the King County Area (Seattle) (ZIP Codes 980xx and 981xx): 1997–2010



¹mg=milligram.

Notes: Historical methadone data available online through 2006 were not utilized, as they have been reported by DEA to be problematic and are inconsistent with data extracted in 2011. Morphine data were unavailable for 2 years (2000 and 2002).

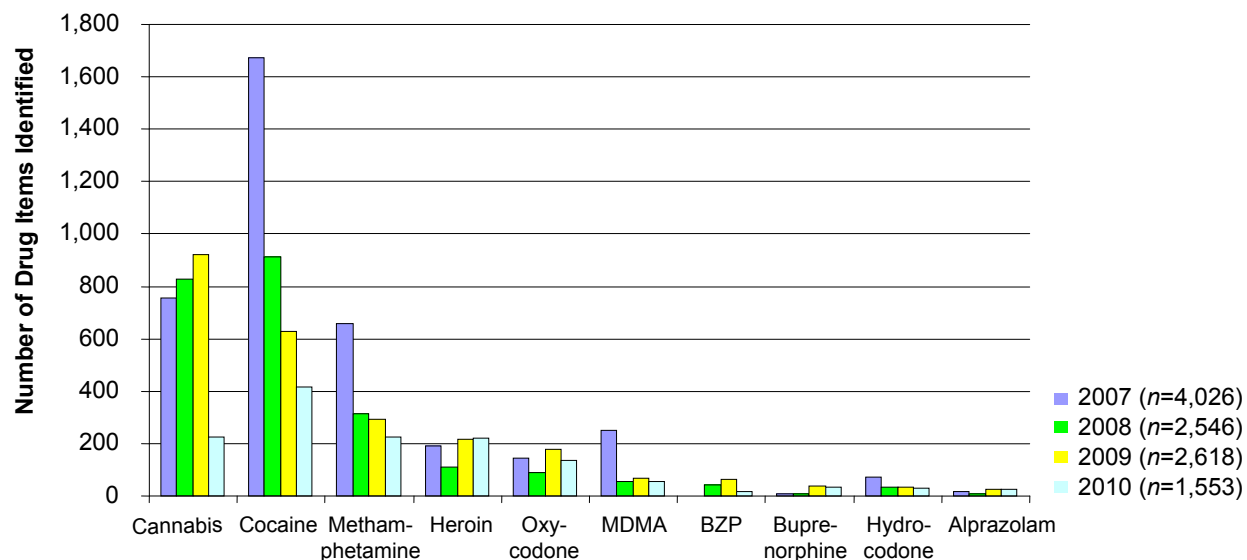
SOURCES: ARCOS, DEA; defined daily doses obtained from http://www.whocc.no/atc_ddd_index/

Exhibit 2: Number of Drug-Caused Deaths, in King County (Seattle Area): 1997–2010

¹Benzodiazepines, barbiturates, tricyclic antidepressants, muscle relaxants, and GHB (gamma hydroxybutyrate).

SOURCES: Public Health - Seattle & King County; King County Medical Examiner

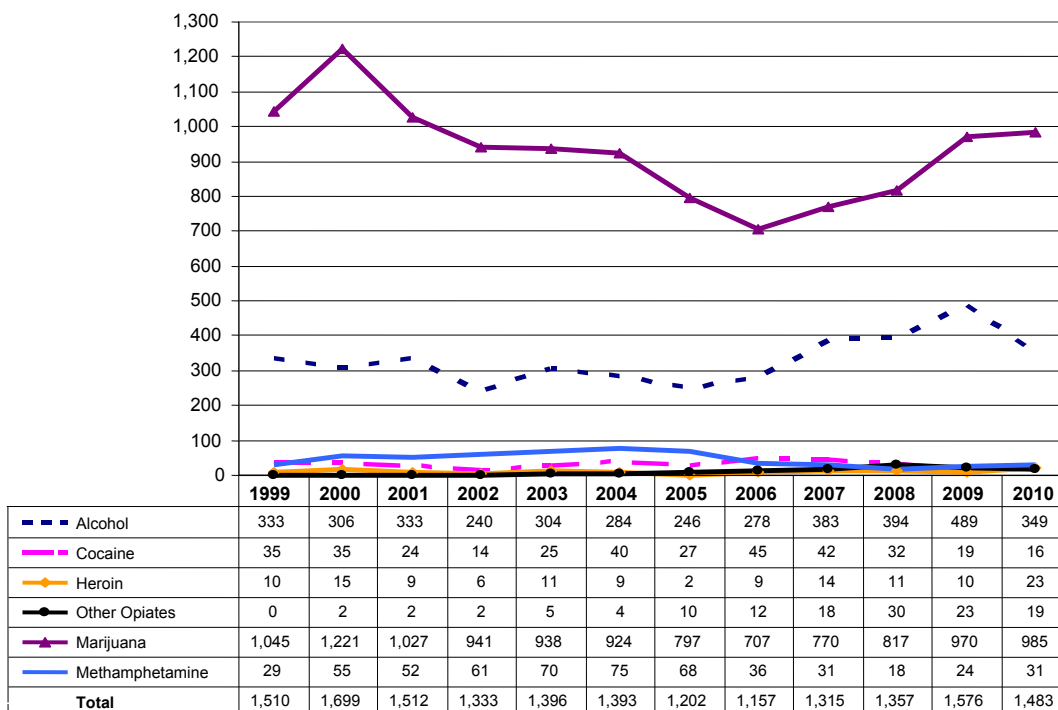
Exhibit 3: Number of Drug Items Seized by Law Enforcement, Results of Forensic Laboratory Chemical Analysis, in King County (Seattle Area): 2007–2010



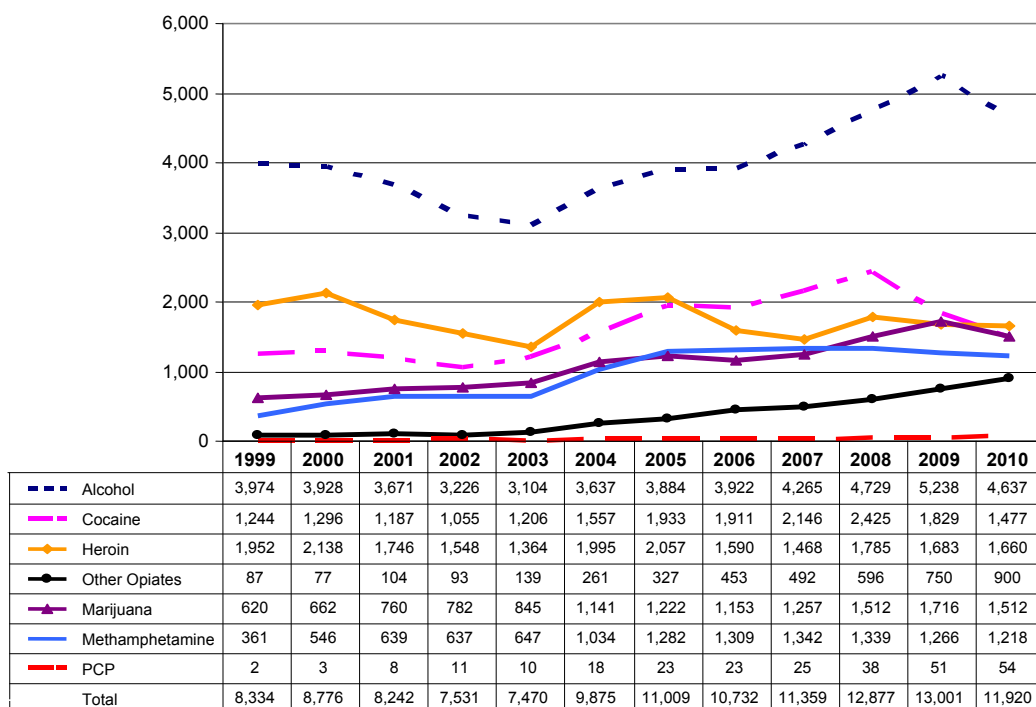
SOURCE: NFLIS, DEA

Exhibit 4: Number of Drug Treatment Admissions for Selected Drugs, Youth and Adults, King County (Seattle): 1999–2010

Number of Youth Treatment Admissions, King County WA



Number of Adult Treatment Admits, King County WA

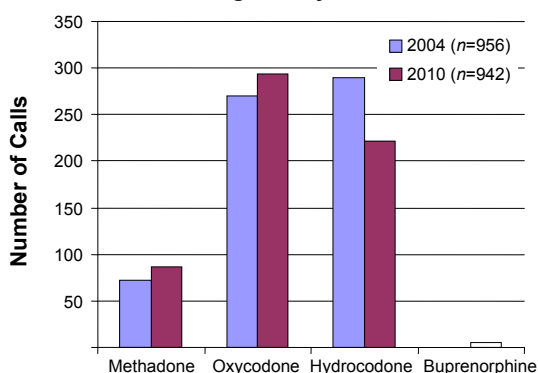


SOURCE: Washington State Department of Social and Health Services, Division of Behavioral Health and Recovery

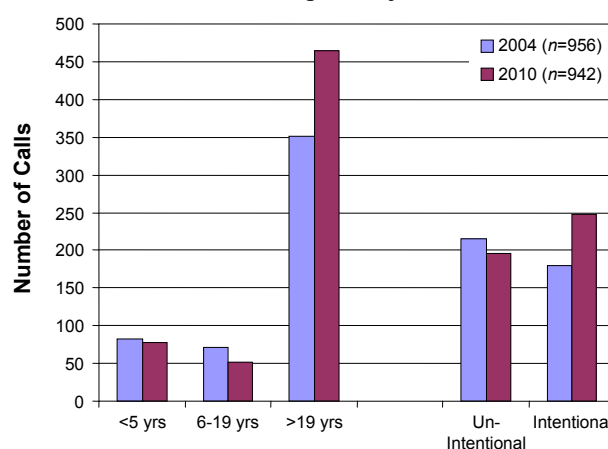
Exhibit 5: Number of Drug Exposure Calls to the Washington State Poison Center, Originating From King County (Seattle): 2010

Psychoactive Drug Exposure Calls Originating from King County	
Substance	Number of Exposures
Ethanol: Beverage	388
All Rx-Type Opioids	942
Benzodiazepine	541
DXM Total	396
Muscle Relaxants	206
Amphetamine	106
Methylphenidate	81
Barbiturates	24
Ketamine and Analogs	5
Marijuana/THC	56
Cocaine	39
Methamphetamine	24
Hallucinogenic amphetamine	21
Heroin	20
Mushrooms Hallucinogenic	11
GHB and Analog/Precursor	9
Nitrous Oxide	6
Phencyclidine	5
Amyl/Butyl Nitrite	1
LSD	1
Mescaline/Peyote	1
TOTAL CALLS	24,111

**Number of Poison Center Calls—Rx-Type Opioids
King County WA**



**Number of Poison Center Calls—Rx-Type Opioids
King County WA**



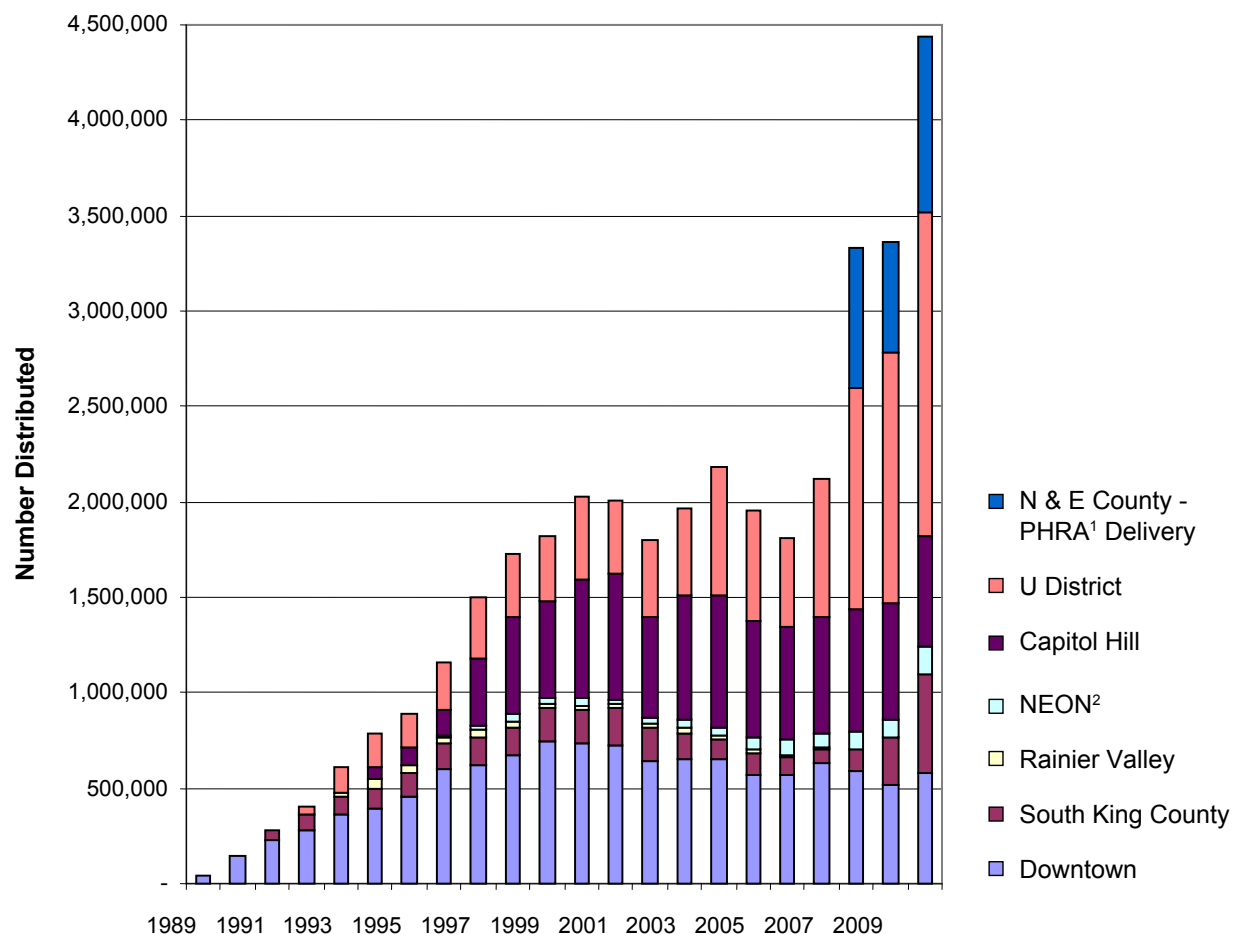
SOURCE: Washington State Poison Center

Exhibit 6: Demographic Characteristics, by Number and Percentage of the Total, of Residents With HIV Diagnosis, by Date of Diagnosis, King County (Seattle): 1982–2010¹

	1982–2001		2002–2004		2005–2007		2008–2010		Trend ² 2002–2010
	No.	%	No.	%	No.	%	No.	%	
TOTAL	8,427	100	1,055	100	957	100	917	100	
HIV Exposure Category									
Men who have sex with men (MSM)	6,225	76	679	70	588	71	597	76	up
Injection drug user (IDU)	482	6	67	7	40	5	32	4	down
MSM-IDU	860	11	87	9	87	11	53	7	
Heterosexual contact ³	473	6	142	15	107	13	97	12	
Blood product exposure	96	1	1	0	1	0	1	0	
Perinatal exposure	27	0	0	0	1	0	6	1	
<i>SUBTOTAL-known risk</i>	8,163		976		824		786		
Undetermined/other ⁴	264	3	79	7	133	14	131	14	N/A
Sex & Race/Ethnicity⁵									
<i>Male</i>	7,861	93	935	89	843	88	797	87	
White	6,250	74	597	57	520	54	501	55	
Black	782	9	160	15	133	14	97	11	down
Hispanic	527	6	110	10	119	12	124	14	up
Other	302	4	68	6	71	7	75	8	up
<i>Female</i>	566	7	120	11	114	12	120	13	
White	261	3	31	3	31	3	34	4	
Black	211	3	68	6	63	7	66	7	
Hispanic	40	0	8	1	6	1	14	2	
Other	54	1	13	1	14	1	6	1	
Race/Ethnicity⁶									
White	6,511	77	628	60	551	58	535	58	
Black	993	12	228	22	196	20	163	18	down
Hispanic	567	7	118	11	125	13	138	15	up
Asian & Pacific Islander	153	2	34	3	56	6	54	6	up
Native American or Alaskan Native	102	1	21	2	8	1	5	1	down
Multiple Race	100	1	26	2	21	2	22	2	
<i>SUBTOTAL-known race & ethnicity</i>	8,426	100	1,055	100	957	100	917	100	
UnknownRace	1	0	0	0	0	0	0	0	N/A
Place of Birth									
U.S. or Territories	7,538	(92)	818	(79)	686	(76)	648	(74)	down
Outside U.S.	670	(8)	222	(21)	215	(24)	226	(26)	up
<i>SUBTOTAL-known birthplace</i>	8,208	(100)	1,040	(100)	901	(100)	874	(100)	
Birthplace unknown	219	3	15	1	56	6	43	5	N/A
Age at diagnosis of HIV									
0–19 years	144	2	9	1	11	1	33	4	up
20–29 years	2,203	26	220	21	242	25	253	28	up
30–39 years	3,785	45	457	43	348	36	276	30	down
40–49 years	1,730	21	278	26	247	26	220	24	
50–59 years	463	5	76	7	80	8	112	12	up
60+ years	102	1	15	1	29	3	23	3	
Residence									
Seattle	7,226	86	801	76	698	73	639	70	down
King Co. Outside Seattle	1,201	14	254	24	259	27	278	30	up

¹Reported through 12/31/2010.²Due to delays in reporting, data from recent years are incomplete.³Chi-square statistical trends in proportions ($p < .05$) were calculated for cases with known characteristics for the periods 2002–2004, 2005–2007, and 2008–2010.⁴Includes presumed heterosexual cases (females who deny injection drug use but have sex with men not known to be HIV infected).⁵Includes persons for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to followup), persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.⁶All race and ethnicity categories are mutually exclusive; Asian, Native Hawaiian, and other Pacific Islanders were grouped due to small cell sizes.

SOURCE: Public Health – Seattle & King County

Exhibit 7: Number of Syringes Distributed, by Location, in King County (Seattle): 1989–2010

¹PHRA=People's Harm Reduction Alliance.

²NEON=Needle Exchange and Sex Education Outreach Network.

SOURCE: Public Health – Seattle & King County

Substance Abuse Trends in Texas: June 2011

Jane C. Maxwell, Ph.D.¹

ABSTRACT

This report updates indicators of drug abuse in Texas since the June 2010 report and describes trends by calendar year from 1987 to 2011. Important changes to drug patterns in Texas included increases in heroin use indicators by a younger population. This was first noticed with the “cheese heroin” situation in Dallas, but heroin indicators among young persons is increasing statewide, with the proportion of persons in their twenties increasing from 35 percent of all heroin admissions in 2005 to 42 percent in 2010. The primary types of heroin in Texas are Mexican black tar and powdered brown. Cocaine indicators have decreased with an aging cohort of users. There is no explanation for these changes other than the possible influence of trafficking wars in Mexico; the demand for cocaine in Europe; production being down in the Andes; and the addition of levamisole, which could dilute the cocaine purity. No shortages of methamphetamine have been reported, and indicators were beginning to move upward. Local “cooking” of using over-the-counter pseudoephedrine with the “one pot” or “shake and bake” method continued to be common in the production of small amounts. However, 69 percent of the methamphetamine was determined to be coming from Mexico, where the P2P method has been modified to produce a product that has a potency of 77 percent and a purity of 89 percent per milligram pure across the United States and 94 percent per milligram pure in Texas. Interviews with methamphetamine users entering treatment continued to show the extent of their mental and physical impairments and their need for intensive and extended treatment. The pain pill problem continued to increase with the spread of the “Houston Cocktail,” a combination of carisoprodol, alprazolam, and hydrocodone. The indicators for hydrocodone were 10 times greater than for oxycodone, and buprenorphine indicators were increasing, although at a lower level than other opioid drugs. The marketing of soft drinks that imitate the codeine cough syrup pattern, such as “Lean” and “Drank,” was a growing concern, and “relaxation” brownies containing melatonin were being sold in some stores in the State. Marijuana indicators remained mixed, with notable severity of problems among noncoerced marijuana treatment admissions. Hashish use was reported in some areas, according to survey data. Marijuana homologs, such as “Spice,” were a growing problem, with 464 human exposure calls to poison centers in 2010 and an additional 211 through May 22, 2011. Alprazolam was the primary benzodiazepine that was misused, followed by clonazepam. Ecstasy indicators have varied over time, with no clear pattern of change except the spread from the Rave scene to the street based on survey data. BZP (1-benzylpiperazine) and TFMPP (1-(3-trifluoromethylphenyl)piperazine) indicators were increasing. In 2010, there were 528 BZP and 138 TFMPP exhibits in Texas Department of Public Safety (DPS) National Forensic Laboratory Information System (NFLIS) data, compared with 19 BZP and 2 TFMPP NFLIS exhibits in 2007. Survey data indicated that

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dextromethorphan was a problem among young teenagers. GHB (gamma hydroxybutyrate) levels remained relatively low, but the drug continued to be mentioned in combination with methamphetamine. Ketamine indicators were lower in 2010 compared with 2009, as were indicators for LSD (lysergic acid diethylamide) and other hallucinogens. Mephedrone exposure calls to Texas poison centers increased from 20 in 2010 to 110 through May 22, 2011. PCP (phencyclidine) indicators increased, and exposures to inhalants continued, but with more calls for misuse of air fresheners or dusting sprays than for exposure to automotive products, spray paint, or gases. Patterns of drug use indicators varied along the border, with alcohol and marijuana being the primary drug problems in El Paso, heroin and marijuana in Laredo, and marijuana and alcohol on the lower border. In comparison to nonborder treatment admissions, a higher percentage of border admissions reported problems with alcohol, powder cocaine, marijuana, and heroin. Nonborder clients were more likely to report problems with other opiates, methamphetamine, and crack cocaine. The case rates for syphilis, chlamydia, and gonorrhea have increased, with STD (sexually transmitted disease) rates much higher for young females. The majority of AIDS (acquired immunodeficiency syndrome) cases continued to be people of color. The proportion due to injection drug use continued to decrease, but the proportion of men who have sex with men was increasing.

INTRODUCTION

Area Description

The population of Texas in 2010 was 25,145,561, with 45 percent White, 11 percent Black, 38 percent Hispanic, and 5 percent “Other.” Illicit drugs continued to enter from Mexico through cities such as El Paso, Laredo, McAllen, and Brownsville, as well as through smaller towns along the border. The drugs then move northward for distribution through Dallas/Fort Worth and Houston. In addition, drugs move eastward from San Diego through Lubbock and from El Paso to Amarillo and Dallas/Fort Worth.

Data Sources

This report updates the June 2010 CEWG report. To compare the June 2011 report with earlier periods, please access <http://www.utexas.edu/research/cswr/gcattc/drugtrends.html>.

Data for this report include the following sources:

- **Student substance use data** for 2010 came from reports on the Texas School Survey of Substance Abuse: Grades 7–12, 2010, and the Texas School Survey of Substance Abuse: Grades 4–6, 2010, which were authored by L.Y. Liu and published by the Department of State Health Services (DSHS). For 2009, the data for high school students in grades 9–12 came from the Youth Risk Behavior Surveillance Survey (YRBS)—United States, 2009, MMWR Surveillance System, downloaded June 3, 2010 at <http://apps.nccd.cdc.gov/youthonline/App/Results.aspx?LID=TX>.
- **Data on drug use** by Texans age 12 and older came from the Substance Abuse and Mental Health Services Administration’s (SAMHSA) National Surveys on Drug Use and Health (NSDUH). The statewide estimates are from the 2007–2008 NSDUH, and the estimates for the Dallas and Houston metropolitan areas are based on the 2005–2006 surveys.

- **Poison control center data** came from the Texas Poison Center Network, DSHS, for 1998 through 2010, with updates on marijuana/cannabis homologs and mephedrone through May 22, 2011. Analysis was provided by Mathias Forrester, epidemiologist with the Texas Poison Center Network, who distributes biweekly papers on “Mephedrone and Methylenedioxypyrovalerone (Bath Salts) Reported to the Texas Poison Center Network” and “Marijuana Homologs Reported to the Texas Poison Center Network.” Analysis was also by J.C. Maxwell.
- **Treatment data** were provided by DSHS’s data system on clients admitted to treatment in DSHS-funded facilities from January 1, 1987, through December 31, 2010. In 2010, DSHS changed the reporting requirements, and some programs which had previously reported are now excluded, so the total number of admissions decreased. For most drugs, characteristics of clients entering with a primary problem with the drug are discussed, but in the case of club drugs, information is provided on any client with a primary, secondary, or tertiary problem with that drug. Analysis was by the author. Treatment admission client characteristic detail is available in an appendix to this report, found at http://www.utexas.edu/research/cswr/gcattc/documents/2011_000.pdf.
- **Information on methamphetamine use** came from interviews with recent users entering treatment, an ongoing study by the author (NIDA R21 DA025029). Information on impaired drivers entering treatment was drawn from Maxwell, J.C. & Freeman, J. E. (2007), “Gender Differences in DUI Offenders in Treatment in Texas,” *Traffic Injury Prevention*, 8:353-360 and from Maxwell, J.C., Freeman, J.E., & Davey, J.D., “Too Young to Drink but Old Enough to Drive Under the Influence: A Study of Underage Offenders as Seen in Substance Abuse Treatment in Texas,” *Drug and Alcohol Dependence*, 104, 1-2, 107-112. Information on marijuana admissions to treatment are from Copeland, J. & Maxwell, J. C. (2007), “Cannabis treatment outcomes among legally coerced and non-coerced adults,” *BioMed Central Public Health*, 7:111-118.
- **Information on drug-involved deaths** through 2010 came from death certificates and computer runs from the Bureau of Vital Statistics, DSHS; analysis was by the author. The information on cocaine, heroin, methadone, other opiates, synthetic narcotics, benzodiazepines, and psychostimulants for 1999–2010 came from multiple cause data tapes provided by DSHS on May 25, 2011. Data through 2009 are complete; 2010 death data are provisional because some cases have not been finalized. Hard copies of death certificates were last available to the author in 2007, so deaths involving some specific drugs are no longer updated in this report.
- **Information on drugs identified by laboratory tests** was from the Texas Department of Public Safety (DPS), which reported results from toxicological analyses of substances for 1998 through December 2010 to the National Forensic Laboratory Information System (NFLIS) of the Drug Enforcement Administration (DEA) and from DEA toxicologists. Analysis was by the author on data downloaded from NFLIS on April 24, 2011.
- **Price, trafficking, distribution, and supply information** was gathered from the July–December 2010 reports on trends in trafficking from the Dallas, El Paso, and Houston Field Divisions (FDs) of the DEA.
- **Purity data** were provided by the DEA. The purity of cocaine and methamphetamine came from the System to Retrieve Information from Drug Evidence (STRIDE) for Texas, and the purity data for heroin came from the DEA Domestic Monitor Program (DMP).

- **Reports by users and street outreach workers** on drug trends for the first three quarters of fiscal year (FY) 2011 were reported to DSHS by workers at local HIV (human immunodeficiency virus) counseling and testing programs across the State.
- **Sexually transmitted disease (STD) and acquired immunodeficiency syndrome (AIDS) data** were provided by DSHS. The STD data are through 2010, and the AIDS data are for 2009.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine indicators have decreased (exhibit 1), with an aging cohort of users. There is no explanation for changes other than the possible influence of trafficking wars in Mexico; the demand for cocaine in Europe; production declines in the Andes; and the addition of levamisole, which could dilute the cocaine purity. New terms for powder cocaine include “soft,” “snow seal,” and “her,” with new terms for crack cocaine including “hard,” “cookie,” and “biscuit.”

The Texas School Survey of Substance Abuse: Grades 7–12, 2010, reported that lifetime use of powder and crack cocaine had dropped from a high of 9 percent in 1998 to 5 percent in 2010, while past-month use dropped from 4 percent in 1998 to 2 percent in 2010. Five percent of students in nonborder counties had ever used powder or crack/cocaine, and 2 percent had used it in the past month. In comparison, students in schools on the Texas border reported higher levels of cocaine use: 8 percent lifetime use and 4 percent past-month use (exhibit 2). The 2009 YRBS reported that 8.5 percent of Texas high school students had ever used cocaine, compared with 12.6, 11.9, and 13.0 percent in 2007, 2005, and 2001, respectively, for the period 2007–2008. The NSDUH reported that 2.0 percent of the Texas population age 12 and older had used cocaine in the past year, below the national rate of 2.2 percent.

Texas Poison Center Network calls involving the use of cocaine increased from 497 in 1998 to 1,363 in 2007 and then decreased to 792 in 2009 and 753 in 2010 (exhibit 1). Sixty percent of the cocaine-related cases in 2010 were male.

Cocaine (both crack and powder) represented 14 percent of all admissions to DSHS-funded treatment programs in 2010, down from 35 percent in 1995. Among all cocaine admissions, cocaine inhalers were the youngest, most likely to be Hispanic, and to be involved in the criminal justice system (exhibit 3). Cocaine injectors were older than inhalers but younger than crack smokers; they were the most likely to be White. The term “lag” (exhibit 3) refers to the period from first consistent or regular use of a drug to the date of admission to treatment. Powder cocaine inhalers averaged 11 years between first regular use and entrance to treatment, while injectors averaged 18 years of use before they entered treatment.

Exhibit 4 shows the changes in treatment admissions clients between 1993 and 2010 by route of administration and race/ethnicity. The proportion of Blacks among crack cocaine admissions fell from 75 percent in 1993 to 54 percent in 2010, while the proportion of Whites increased from 20 percent in 1993 to 33 percent in 2010. Hispanic crack admissions rose from 5 percent to 12 percent in the same time period.

The number of deaths statewide in which cocaine was mentioned increased from 321 in 1999 to 778 in 2006, before dropping to 447 in 2010 (exhibit 5). The average age of the decedents was increasing, from 35 in 1992 to 43 in 2009 and 46 in 2010. In 2010, 34 percent of cocaine decedents were White, 28 percent were Hispanic, and 34 percent were Black. The majority (74 percent) were male.

Exhibit 1 shows that the proportion of drug items seized and identified as cocaine by the DPS laboratories was decreasing. In 1998, cocaine accounted for 40 percent of all items examined, compared with 20 percent in 2010. The purity of cocaine in Texas has also decreased, from 82 percent in 2005, to 74 percent in 2009, and 64 percent in 2010. The DEA laboratory has been finding levamisole (phenyltetrahydroimidazothiazole) ("PIT") in cocaine exhibits for a number of years, and the decrease in purity may reflect increased use of PIT as filler to increase the quantity of cocaine.

The Dallas DEA FD reported an increase in cocaine loads from Mexico being routed directly to the Dallas area for distribution to the Midwest and eastern United States. Cocaine availability was reported as high and stable. Retail distribution in the area was by Mexican drug trafficking organizations and Black and Hispanic street gangs.

The El Paso DEA FD reported that cocaine was readily available in El Paso in 2010. The severe shortages of 2008 and 2009 had diminished, and availability was returning to normal levels, although prices were high. The cartel violence had become entrenched in Ciudad Juarez, and smuggling cells adapted to the environment. In the Midland-Odessa area, crack cocaine use and distribution were the primary concern of law enforcement agencies. Distributors have been known to purchase powder cocaine in the area and then convert it to crack for distribution throughout North Texas and Oklahoma.

The Houston DEA FD reported the availability of powder and crack cocaine was high and stable in 2010. Cocaine continued to transit through the FD to northern and eastern cities as well as for local consumption. Law enforcement actions included multiple arrests and seizures of multiple kilograms of cocaine. The drug was largely transported by Mexican and Colombian drug trafficking organizations operating in the area, with retail distribution by Hispanic and Black street gangs. Crack cocaine was not usually transported into the Houston area but was produced locally for distribution.

The price of cocaine has risen slightly. A gram of powder cocaine that cost \$50–\$80 in Dallas in 2008 cost \$60–\$90 in 2010 in that city. An ounce in 2010 cost \$450–\$1,200 in Dallas, \$600–\$1,000 in El Paso, and \$350–\$450 in Austin. Across the State, a rock of crack cost \$10–\$50 in 2010.

Alcohol

Alcohol is the primary drug of abuse in Texas. In 2010, 62 percent of Texas secondary school students (grades 7–12) had ever used alcohol, and 29 percent had consumed alcohol in the last month. Of particular concern is heavy consumption of alcohol, or binge drinking, which is defined as drinking five or more drinks at one time. In 2010, 12 percent of all secondary students said that when they drank, they usually drank five or more (or drinks) beers at one time, and 12 percent reported binge drinking of liquor, which has remained relatively stable since 1992 (exhibit 6). Among students in grades 4–6 in 2010, 22 percent had ever drunk alcohol, and 14 percent had drunk alcohol in the

past school year. Eleven percent of fourth graders had used alcohol in the school year, compared with 19 percent of sixth graders.

The 2009 YRBS reported that 76 percent of Texas high school students in grades 9–12 had ever drunk alcohol; 45 percent had drunk alcohol in the past month; and 26 percent had drunk five or more drinks in a row in the last month. In comparison, in 2001, 81 percent had ever drunk alcohol; 49 percent had used alcohol in the last month; and 31 percent had drunk five or more drinks at a time. In 2009, 24 percent of girls and 27 percent of boys reported binge drinking, as compared with 28 percent of girls and 30 percent of boys in 2007.

The 2007–2008 NSDUH estimated that 47 percent of all Texans age 12 and older had drunk alcohol in the past month, below the national average of 51 percent, while 23 percent had drunk five or more drinks on at least one day (binge drinking) in the past month, the same as the national average of 23 percent. Among underage Texas drinkers (age 12 to 20), 25 percent reported past-month alcohol use, compared with 28 percent nationally, and 16 percent of Texas underage youths reported past-month binge drinking, compared with 19 percent nationally. Almost 7 percent of Texans age 12 and older were found to be alcohol dependent or abusers in the past year, compared with 7.4 percent of the U.S. population.

In 2010, 30 percent of all clients admitted to publicly funded treatment programs had a primary problem with alcohol. The characteristics of alcohol admissions have changed over the years. In 1988, 82 percent of the clients were male, compared with 68 percent in 2010. The average age increased from 33 to 38 years. During this time, alcohol clients were becoming more likely to be polydrug users: the proportion reporting no secondary drug problem dropped from 67 to 36 percent, and the proportion with a problem with cocaine (powder or crack) increased from 7 to 22 percent. Consuming cocaine and alcohol at the same time produces cocaethylene, which intensifies cocaine's euphoric effects.

Heroin

Heroin indicators remained varied (exhibit 7), but there were indications of growing heroin problems among teenagers and young adults in 2010. This was first noticed with the “cheese heroin” situation in Dallas, but heroin use indicators by youth were increasing statewide, with the proportion of persons in their twenties increasing from 35 percent of all heroin admissions in 2005 to 42 percent in 2010. The primary types of heroin in Texas were Mexican black tar and powdered brown.

The proportion of Texas secondary students reporting lifetime use of heroin dropped from 2.4 percent in 1998 to 1.4 percent in 2010. The 2009 YRBS found 2.1 percent of Texas high school students reported having ever used heroin, as compared with 2.4 percent in 2007 and 3.0 percent in 2005 and 2001.

Calls to the Texas Poison Center Network involving confirmed exposures to heroin ranged from 181 in 1998 to a high of 296 in 2000, but they dropped to 222 in 2010 (exhibit 7).

Heroin was the primary drug of abuse for 10 percent of clients admitted to treatment in 2010 (exhibit 7), compared with 12 percent in 1995. The characteristics of these addicts vary by route of administration, as exhibit 8 illustrates. Most heroin addicts entering treatment inject the drug, but the

proportion inhaling heroin increased from 4 percent of all heroin admissions in 1996 to 16 percent in 2010. During that time, the average age of inhalers decreased from 30 to 27.

While the number of individuals who inhale heroin was small, the lag period between first use and seeking treatment for this group was 7 years, compared with 13 years for injectors. This shorter lag period means that, contrary to the street rumors that “sniffing or inhaling is not addictive,” inhalers can become dependent on heroin and enter treatment sooner while still inhaling. Alternatively, they will shift to injecting—increasing their risk of hepatitis C and HIV infection, becoming more impaired, and entering treatment later.

Of the 2010 primary heroin admissions, 33 percent reported no second substance problem, and 18 percent reported a problem with powder cocaine (which shows the tendency to “speedball,” or use heroin and cocaine sequentially). Thirteen percent reported a second problem with marijuana, 11 percent with alcohol, 7 percent with other opiates, and 5 percent with crack cocaine.

The increase in the proportion of young persons entering treatment for dependence on heroin was a concern. The proportion of heroin clients in their twenties increased from 35 percent in 2005 to 42 percent in 2010, while the proportion of older admissions decreased correspondingly (exhibit 9). The proportion of teenagers entering treatment remained low, but given the lag between first use and dependence, many of the admissions in their twenties began heroin use as teenagers. In addition, as age increased, users shifted route of administration, with 87 percent of clients age 40 and older reporting injecting the drug.

The race/ethnicity of the primary heroin treatment admissions has also changed, with the proportion of Whites increasing to 51 percent in 2010 from previous years and the proportion of Hispanics decreasing to 38 percent (exhibit 10).

“Cheese heroin,” a mixture of Tylenol PM® and heroin (heroin combined with diphenhydramine and acetaminophen), continued to be a problem in Dallas, and heroin inhaling was increasing across Texas. Diphenhydramine has traditionally been used as a “cut” to turn tar into inhalable powder. Cases of “cheese heroin” have been reported in other counties in the Dallas/Fort Worth area, but the term “cheese heroin” was rarely reported elsewhere in the State, although indicators of heroin use by teenagers and persons in their twenties continued to increase statewide.

In 2010, 256 deaths in Texas involved heroin (exhibit 11). Fifty-two percent of these decedents were White; 41 percent were Hispanic; and 5 percent were Black. Eighty percent were male. The average age declined from 40 in 2008 to 35 in 2010. Of the deaths involving heroin in 2010, 54 percent involved only heroin, with 25 percent also involving cocaine (with or without other drugs); 11 percent of the heroin deaths also involved benzodiazepines (with or without other drugs).

Exhibit 7 shows that the proportion of items identified as heroin by DPS laboratories has remained low, at 1–2 percent over the years. The El Paso DEA FD reported that black tar heroin availability was low and stable in 2010, with users crossing into Ciudad Juarez to obtain their supply. The Houston FD reported moderate availability, with street-level availability increasing; black tar, Mexican brown, and some South American heroin were available. The Dallas FD reported that black tar and Mexican brown heroin were available. While user amounts of white heroin were available, wholesale quantities of the South American heroin transited the area to the northeastern United States.

The predominant form of heroin in Texas is black tar, which has a dark, gummy, oily texture that can be diluted with water and injected. Exhibit 12 shows the decline in price over the years. Depending on the location, black tar heroin was sold on the street in 2010 for \$5–\$20 per paper, balloon, or capsule; \$40–\$120 per gram; \$700–\$1,600 per ounce; and \$32,000–\$48,000 per kilogram.

Mexican brown heroin, which is black tar heroin that has been cut with lactose, diphenhydramine, or another substance, and then turned into a powder to inject or inhale, cost \$10–\$20 per cap in 2010. A gram cost between \$200 and \$240 in El Paso. An ounce cost \$1,200–\$1,500 in San Antonio.

Colombian white heroin is rarely seen on the streets in Texas, but there are sporadic and recurring reports of wholesale quantities of South American white heroin transiting through Texas to the northeastern United States. A kilogram of South American white heroin in Houston ranged between \$42,000 and \$60,000. In addition, there continued to be anecdotal reports of Southwest Asian heroin being brought back into Texas from troops returning from Afghanistan, and Dallas DEA reports that a gram of opium cost between \$23 and \$50 in 2010.

Exhibit 13 shows the purity and price of heroin purchased by the DEA in four Texas cities under the DMP from 1995 to 2010. Heroin was more pure at the border in El Paso and decreased in purity but increased in price as it moved north, since it was “cut” with other products as it passed through the chain of dealers.

Other Opiates

The “other opiates” group excludes heroin but includes opiates such as methadone; codeine; hydrocodone (Vicodin®, Tussionex®); oxycodone (OxyContin®, Percodan®, Percocet-5®, Tylox®); buprenorphine (Suboxone® and Subutex®); d-propoxyphene (Darvon®); hydromorphone (Dilaudid®); morphine; meperidine (Demerol®); and opium.

The pain pill problem continued to increase in Texas in 2010 with the spread of the “Houston Cocktail” consisting of carisoprodol, alprazolam, and hydrocodone. The 2010 indicators for hydrocodone were 10 times greater than for oxycodone, and buprenorphine indicators were increasing, although at a lower level than other opioid drugs. The marketing of soft drinks that imitate the codeine cough syrup pattern, such as “Lean” and “Drank,” was a growing concern, and “relaxation” brownies containing melatonin were being sold in some stores. The indicators for poison control exposure calls, overdose deaths, and items identified by DPS laboratories were 10 times higher for hydrocodone, which is Schedule III, than for oxycodone, which is Schedule II (exhibit 14).

The 2010 Texas secondary school survey queried about use of other opiates “to get high,” and reported that 5 percent had ever used hydrocodone; 12 percent reported ever having consumed codeine cough syrup “to get high;” and 3 percent had ever used oxycodone in that manner. The 2007–2008 NSDUH reported that 4.4 percent of Texans age 12 and older had used pain relievers nonmedically in the past year (as compared with 4.9 percent nationally).

Seven percent of all clients who entered publicly funded treatment during 2010 used opiates other than heroin, compared with 1 percent in 1995. Of the 2010 admissions, 132 used illegal methadone and 4,446 used other opiate drugs (exhibit 14). Those who reported a primary problem with other opiates differed from those who reported a problem with heroin. The former were much more likely

to be female (57 percent) and White (79 percent). Clients with problems with illicit methadone were also more likely than heroin admissions to be female (48 percent); 73 percent were White; and 16 percent were Hispanic. Some 36 percent had no secondary drug problem. Of those who did have other problems, 17 percent had problems with other opiates; 14 percent had problems with alcohol; 11 percent had problems with sedatives; and 8 percent had problems with heroin.

Exhibit 14 shows the number of deaths involving methadone, “other opiates,” and “other synthetic narcotics.” These are the International Classification of Diseases (ICD) categories that are used to show the causes of death, and other than “methadone,” they do not provide data on the specific opiate drug involved. Because data were available from copies of the death certificates prior to 2008, those numbers are included in exhibit 14 to show which of these drugs have posed larger problems. In 2010, 14 percent of all deaths involving methadone were for methadone only; 29 percent also involved benzodiazepines; 12 percent involved other opiates or synthetic narcotics; and 6 percent also involved heroin. The average age of these decedents was 39. Nearly two-thirds (65 percent) were male; 76 percent were White; 17 percent were Hispanic; and 6 percent were Black.

There were also 539 deaths involving other opioids (exhibit 14), of which 47 percent involved no other drug, and 41 percent also involved benzodiazepines. Of the deaths involving other opioids, 82 percent of decedents were White; 10 percent were Hispanic; and 6 percent were Black. The average age of decedents was 43; 55 percent were male.

Drinking codeine cough syrup with promethazine mixed with a soda, Karo® syrup, and flavored with Jolly Rancher® candies has been a problem in parts of Texas, especially around Houston, since 1999. Its popularity has been linked with the emergence of Hip Hop music, and the combination is often referred to as “Sippin’ on Syrup” or “Purple Rain.” In 2010, soft drinks in bottles and purple cans which imitate the mixture were available in convenience stores, including three named “Drank®,” “Sippin’ Syrup®,” and “Lean®.” These contain valerian roots, melatonin, and rose hips, which are reported to produce a “downer” or “sleepy” effect. Comments on the cans include “slow your roll,” “slow motion potion,” and “euphoric thoughts, extended relaxation, experience calmness.” Another version with alcohol is named “Sizzurp®” and is marketed in purple glass bottles that contain cognac, vodka, and fruit flavoring. Promethazine or phenergan cough syrup with codeine sold for \$20 an ounce in Tyler and San Antonio in 2010. Promethazine and codeine cough syrup continued to be trafficked and abused in the Houston area.

In 2010, hydrocodone sold for \$4–\$5 per pill in Dallas, \$1–\$5 in El Paso, and \$5–\$7 in Houston. OxyContin® cost \$1 per milligram in Dallas and Houston and \$10 per tablet in San Antonio. In Fort Worth in 2010, Dilaudid® sold for \$40–\$60. A 10-milligram methadone tablet cost \$7–\$10 in Fort Worth, \$2–\$5 in El Paso, and \$5–\$10 in San Antonio.

In the Dallas DEA FD, hydrocodone, alprazolam, and promethazine with codeine were the most commonly diverted drugs. Other popular drugs were carisoprodol, diazepam, Adderall®, methadone, and oxycodone. Online pharmacies or Web sites were affiliating with local pharmacies to fill and ship prescriptions. There has also been an increase in the number of individuals who are “doctor shopping” for hydrocodone, alprazolam, and codeine. In addition, the Dallas DEA FD identified Sibutramine, a Schedule IV controlled substance that is used as an appetite suppressant, in shipments from China. Steroids also were reported to be coming from China and Thailand.

The Houston DEA FD reported that hydrocodone was one of the most commonly abused drugs, and that codeine cough syrup continued to be abused. In Houston, prescriptions for the “Houston Cocktail” or “Holy Trinity” (alprazolam, hydrocodone, and carisoprodol) sold for \$825–\$950 in 2010, and six doctors at Houston area “pain clinics” wrote between 23,907 and 43,328 prescriptions for those drugs in a 15-month period. The DEA reported that from 2006 to 2008, of 1,533 deaths, 1,020 involved pharmaceutical drugs, and in 2009, of 467 deaths in Harris County (Houston), 78 percent contained pharmaceutical drugs. The primary source in the Houston DEA FD was through prescriptions obtained from “rogue pain management clinics” operating in Houston and South Texas. In the last half of 2010, 20 practitioners and pharmacists surrendered their DEA registration numbers. These clinics operate on a “cash only” basis, with the individual paying \$80–\$120 for an office visit in which they receive a 30-day supply of controlled drugs. Homeless individuals often participate in this practice, turning the prescriptions over to diversion crews who pay the “patients” in cash. Practitioners in some of these clinics attempt to avoid detection by writing one prescription with two of the “Cocktail” drugs and two noncontrolled medications, and then issuing a second prescription with the third cocktail drug and another non-controlled substance. Prescription fraud continued, with faxed-in prescriptions and the use of drive-through pharmacies, which avoid camera detection. There have also been increasing instances of mail courier theft in which pharmaceuticals are intercepted in transit.

The El Paso DEA FD reported hydrocodone, methadone, morphine, oxycodone, and Percocet® were available in 2010, and there were increased seizures of these drugs. In addition, Mexican pharmacies on the border sell medications over-the-counter that require prescriptions in the United States. These pharmacies continued to be popular sources of pain medications for El Paso residents.

The number of exhibits of opioids examined by the DPS laboratories has increased over time, with some variations between years. Methadone peaked in 2007, while hydrocodone and oxycodone peaked in 2010 (exhibit 14).

Depressants

The depressant category includes three groups of drugs: barbiturates, such as phenobarbital and secobarbital (Seconal®); nonbarbiturate sedatives, such as methaqualone, over-the-counter sleeping aids, chloral hydrate, and tranquilizers; and benzodiazepines, such as diazepam (Valium®), alprazolam (Xanax®), flunitrazepam (Rohypnol®), clonazepam (Klonopin® or Rivotril®), flurazepam (Dalmane®), lorazepam (Ativan®), and chlordiazepoxide (Librium® and Librax®). Rohypnol® is discussed separately in the Club Drugs section of this report.

The 2010 Texas secondary school survey reported lifetime use of downers was 6 percent, and past-month use was 2 percent. Approximately 1.4 percent of the clients entering DSHS-funded treatment in 2010 reported a primary problem with barbiturates, sedatives, or tranquilizers. Of these, 853 had problems with benzodiazepines; 286 had problems with sedatives; and 29 had problems with barbiturates. Among clients with problems with benzodiazepines, 63 percent were female; 64 percent were White; 19 percent were Hispanic; and 14 percent were Black. They were users of multiple drugs. Only 13 percent reported no other problem substance, compared with 28 percent of users of all other drugs. Of the benzodiazepine clients, 25 percent reported a secondary problem with marijuana, 17 percent with alcohol, 9 percent with other opiate drugs, and 8 percent with powder cocaine.

Exhibit 15 shows the increases in deaths due to benzodiazepines, from 55 in 1999 to 375 in 2010. Of those benzodiazepine-related deaths, the average age was 41; 56 percent were male; 80 percent were White; 12 percent were Hispanic; and 5 percent were Black.

Alprazolam, clonazepam, and diazepam were among the 11 most commonly identified substances, according to the 2010 DPS laboratory reports, although none of them represented more than 5 percent of all drug items examined in a year (exhibit 15).

In 2010, alprazolam tablets sold for \$4–\$5 in San Antonio; \$10 in El Paso; \$2–\$4 in Dallas; \$2–\$3 in Houston; and \$3–\$5 in Fort Worth. Alprazolam use has increased in Houston, and it was the most common pill mentioned in San Antonio, according to street outreach workers. It is one of the three ingredients (along with hydrocodone and carisoprodol) that form the “Houston Cocktail” or “Holy Trinity.”

Stimulants

Amphetamine-type substances come in different forms and with different names. “Speed” (“meth,” “crank”) is a powdered methamphetamine that is sold in grams or ounces. It can be snorted or injected. “Pills” can be pharmaceutical grade stimulants, such as dextroamphetamine, Dexedrine®, Adderall®, Concerta®, Vyvanse®, Ritalin® (methylphenidate), or phentermine, or they can be methamphetamine powder that has been pressed into tablets and sold as amphetamines, such as “Yaba,” or ecstasy. Stimulant pills can be taken orally, crushed for inhalation, or dissolved in water for injection.

No shortages of methamphetamine have been reported, and indicators were beginning to move upward in recent reporting periods. Local “cooking” of ice using over-the-counter pseudoephedrine with the “one pot” or “shake and bake” method continued to be a common method for producing small amounts of methamphetamine, but 69 percent of the methamphetamine in the United States was coming from Mexico. There, the P2P method of cooking has been modified to produce a product that has a potency of 77 percent and a purity of 89 percent per milligram pure across the United States and a purity of 94 percent per milligram pure in Texas. Ice, also known as “Crystal,” or “Tina,” or “Shards,” is methamphetamine that has been “washed” in a solvent to remove impurities. It has longer-lasting physical effects than other forms of methamphetamine and purity levels above 80 percent. Ice can be smoked in a glass pipe, “chased” on aluminum foil, mixed with marijuana and smoked through a “bong,” or mixed with water and injected.

The Texas secondary school survey reported that lifetime use of stimulants, or “uppers,” was 5 percent, and past-month use was 2 percent in 2010. Three percent of students surveyed responded positively to a separate question regarding lifetime use of methamphetamine, and 1 percent reported past-month methamphetamine use. The 2009 YRBS reported lifetime use of methamphetamine by Texas high school students was 4 percent, compared with 7 percent in both 2007 and 2005.

As exhibit 16 shows, all methamphetamine indicators except purity have decreased since 2005, when the precursor regulations were implemented. There were 336 calls to the Texas Poison Center Network involving exposure to methamphetamine in 2006, 315 in 2007, 298 in 2008, 190 in 2009, and 160 in 2010 (exhibit 16).

Methamphetamine/amphetamine admissions to treatment programs increased from 3 percent of all admissions in 1995 to 11 percent in 2007. They dropped to 8 percent in 2009 and then rose slightly to 9 percent of admissions in 2010. The average age of clients admitted for a primary problem with these stimulants increased from 26 in 1985 to 33 in 2010 (exhibit 17). The proportion of White clients rose from 80 percent in 1995 to 87 percent in 2010. Unlike the other drug categories, more than one-half (56 percent) of the clients entering treatment were female. Clients with a primary problem with methamphetamine reported secondary problems with marijuana (32 percent), alcohol (23 percent), and powder cocaine (9 percent). Eighteen percent reported no secondary substance abuse problem. GHB (gamma hydroxybutyrate) was also mentioned; of those clients who came to treatment with a problem with GHB, 57 percent reported that methamphetamine was their primary problem. In addition, methamphetamine dealers in the Dallas area were reported to also be selling GHB. Interviews with methamphetamine users entering treatment continued to show the extent of their mental and physical impairments and their need for intensive and extended treatment.

Users of amphetamines or methamphetamine tend to differ depending on their route of administration, as exhibit 17 shows. Methamphetamine injectors were more likely to be homeless and not employed fulltime. Smoking ice peaked in 2007, at 53 percent (exhibit 18). Since the precursor bans, the availability of the different forms of methamphetamine changed; the percentage smoking ice decreased slightly and the proportion injecting increased in 2009. However, in 2010, smoking increased to 52 percent, which is an indication that the supply of ice had increased.

Exhibit 16 shows the number of deaths for amphetamines or methamphetamine. There were 128 in 2006, 114 in 2007, 111 in 2008, 134 in 2009, and 157 in 2010. Of the decedents in 2010, 71 percent were male; 83 percent were White; 15 percent were Hispanic; and 1 percent were Black. Their average age was 40.

Methamphetamine and amphetamine together represented 16 percent of all items analyzed by DPS laboratories in 2000. They reached a peak of 25 percent in 2005, before dropping to 14 percent in 2009, and then increasing slightly to 15 percent in 2010 (exhibit 16). Only 0.7 percent of these drug items were amphetamine.

The National Clandestine Laboratory Database reported that 132 methamphetamine laboratories were seized in Texas in 2006 followed by 79 in 2007, 112 in 2008, 10 in 2009, and 26 in 2010. There are a number of recipes for making methamphetamine in local laboratories. The most common method using pseudoephedrine was the “Birch” or “cold method,” which uses ephedrine, red phosphorus, and iodine crystals. This recipe produces d-methamphetamine (dextromethamphetamine). Another method, the “Nazi method” includes ephedrine or pseudoephedrine, lithium, and anhydrous ammonia. The most commonly diverted pills are 60-milligram pseudoephedrine tablets such as Sudafed®, Walpheds®, Xtreme Relief, MiniThins, Zolzina®, Two-Way, and Ephedrine Release.

Although Texas law requires purchasers of pseudoephedrine products to register when they buy the product, not all the registries are computerized. Some methamphetamine “cooks” are returning to “smurfing” to obtain pseudoephedrine by paying other people, including the homeless, to purchase the product from every available outlet.

Another method of producing methamphetamine is the “one pot” or “shake and bake” method. All the necessary chemicals are placed in a single container such as a 2-liter soda bottle or Coleman

fuel can. The container is turned upside down or shaken to start the chemical reaction. Some recipes use dry ammonia nitrite and cough syrup rather than liquid anhydrous ammonia and pseudoephedrine pills.

The process used to produce most of the methamphetamine that was found in Texas in 2010 was an older process. Prior to precursor regulations in the 1980s, most illicit laboratories in Texas used the “P2P method,” which is based on 1-phenyl-2-propanone. According to the DEA, the P2P method is the primary method now used to produce ice or Shards in Mexico, where the precursor chemicals for P2P are still available. In the fourth quarter of 2010, 69 percent of the U.S. samples examined started with P2P, with only 9 percent of the samples from the phosphorus-iodine method. The Mexican P2P process produces a combination of d-methamphetamine and l-methamphetamine (levomethamphetamine). The l-isomer does not possess the same addiction potential of d-methamphetamine. Methamphetamine with only the d-isomer would be 100 percent potent, and methamphetamine with only the l-isomer would have 0 percent potency. In the fourth quarter of 2010, DEA’s Special Testing and Research Laboratory reported that the potency of the items examined was 77 percent, and the purity was 89 percent.

Ice can be cut with MSM (methylsulfonylmethane). MSM is available in 5-gallon quantities at local feed stores, and it is added to the ice and heated. In Tulsa, MSM cost \$17.95 per pound. The mixture of ice and MSM is spread out to dry like peanut brittle and then crushed up to look like a pure ice mixture. The typical first cut of a pound of methamphetamine with MSM can yield 2 pounds of medium-purity methamphetamine that retains the same crystalline appearance. In addition, DEA reported powdered Shards of ice were being smuggled into Texas and then recrystallized prior to sale. In the fourth quarter of 2010, 35 percent of the DEA samples contained MSM.

The Dallas DEA FD reported methamphetamine was more readily available in 2010 than in the prior 6 months. The amount of methamphetamine seized and the number of exhibits both increased during the second half of the year. At the wholesale level, distribution was by Mexican drug trafficking organizations, particularly La Familia Michoacana, with retail distribution by Mexican and independent organizations. The Dallas FD reported that more local clandestine laboratories had been encountered. The Houston DEA FD reported high and stable availability of both Mexican- and United States-produced methamphetamine. Ice is more prominent than powder, but clandestine laboratories producing 1 to 2 ounces continued to operate in rural farm areas. The “shake and bake” method using 2-liter soda bottles continued. Quantities of 1 pound or more are usually stored in plastic food and storage containers, while small portions are packaged in small plastic baggies.

The El Paso DEA FD reported Mexican methamphetamine was being transshipped through the area, while local users relied on small clandestine laboratories in rural areas using “smurfers” to obtain the pseudoephedrine. The laboratory seizures have declined because of the increased availability of the Mexican product.

In 2010, a pound of powder methamphetamine sold for \$12,000 in Dallas. A pound of ice sold for \$22,500–\$25,000 in San Antonio and \$16,500–\$19,000 in Dallas. An ounce of ice sold for \$1,200–\$1,600 in the Dallas Field Division, a change from \$1,350–\$1,500 in 2009. In Fort Worth, a box of 60-milligram, 36-count pseudoephedrine pills sold for \$18, and in Houston, a bottle with 24 tablets cost \$25.

Marijuana

Marijuana indicators remained mixed, with severity of problems among noncoerced marijuana treatment admissions notable. Hashish use by youth was being reported in some areas, and marijuana homologs such as “Spice” were a growing problem.

Marijuana indicators have varied over the years (exhibit 19). Among Texas students in 2010 in grades 4–6, 1.9 percent had ever used marijuana, with 1.4 percent reporting use in the past school year. Among Texas secondary students (grades 7–12), 26 percent had ever tried marijuana, and 11 percent had used in the past month. Past-month use increased in grades 8 through 12 between 2008 and 2010 (exhibit 20). The 2010 survey found that of those youths who used marijuana, 63 percent smoked “blunts” at least one-half of the time, compared with 58 percent who smoked “joints” at least one-half of the time. The relationship between tobacco use, marijuana use, and cigars was also seen in the finding that of those youths who had ever used tobacco and never used marijuana, 5 percent had ever used cigars. In comparison, of those who had ever used tobacco and ever used marijuana, 77 percent had ever used cigars. In 2009, the YRBS reported that 37 percent of Texas high school students in grades 9–12 had ever smoked marijuana, as compared with 38 percent in 2007, 42 percent in 2005, and 41 percent in 2001. The 2007–2008 NSDUH estimated that 8 percent of Texans age 12 and older had used marijuana in the past year (compared with 10 percent nationally), with 4 percent using in the past month (compared with 6 percent nationally).

The Texas Poison Center Network reported 133 calls of exposure to marijuana in 1998, compared with 448 calls in 2009 and 693 in 2010 (exhibit 19). Marijuana was identified in 33 percent of all the exhibits analyzed by DPS laboratories in 2000, but in only 22 percent in 2010 (exhibit 19).

Marijuana was the primary problem for 27 percent of admissions to treatment programs in 2010, compared with 8 percent in 1995. While 27 percent of marijuana admissions in 2010 reported no second substance abuse problem, 38 percent had a problem with alcohol, and 10 percent had a problem with powder cocaine. The average age of marijuana clients was 23. Approximately 32 percent were Hispanic; 32 percent were White; and 33 percent were Black. Sixty-six percent had been referred from the criminal justice system. An earlier study of marijuana admissions found that those who were referred from the criminal justice system were more likely to complete treatment, compared with noncoerced clients. Referred clients were more likely to have received less intensive forms of treatment and to have not used marijuana in the month prior to 90-day post-discharge follow-up. This study concluded that more public health information is needed on marijuana dependence, and there is a need for increased availability of early and brief interventions in a variety of primary health care settings to reduce the late presentations of the more severely impaired voluntary clients (Copeland & Maxwell, 2007).

The El Paso DEA FD reported that marijuana was the controlled substance most frequently seized, often at Border Patrol checkpoints. It was readily available, but most of the marijuana passing through the El Paso area was destined for other cities in the United States. Large quantities were routinely seized in the area, but there was little marijuana cultivation in the area. In the Dallas/Fort Worth area, large-scale amounts of imported Mexican marijuana, domestically cultivated plants, and indoor grow operations provided large amounts of high-quality marijuana/cannabis. The Dallas DEA FD office reported an increased number of seizures of domestic outdoor cultivated marijuana, which may be due to a demand for the higher quality produced in domestic grows. While Mexican

marijuana sold for \$350–\$700 per pound, locally grown marijuana sold for \$400–\$800. Marketing the locally grown marijuana avoids transportation costs, border violence, and risk of detection at the border. The Houston DEA FD reported Mexican marijuana was the primary type of marijuana there. There were more marijuana seizures than in the previous year; it was smuggled in through the Rio Grande Valley area. Hydroponic and indoor grow houses operated by Asian and White males were also present in the Houston area. Marijuana was also transported into the Houston area from Canada and Washington State.

In 2010, hydroponic marijuana sold for \$3,500–\$5,000 per pound in Houston and \$3,000–\$6,000 in Dallas. The average price for a pound of Mexican marijuana was \$50–\$75 in Matamoros (Mexico), \$400–\$500 in Houston, and \$80–\$300 in El Paso. Sinsemilla sold for \$300–\$500 per pound in Houston. Exhibit 21 shows the overall decline in the price of a pound of marijuana since 1992, with the tightening of the range of prices in 2009 and 2010.

Club Drugs and Hallucinogens

Exhibit 22 shows the demographic characteristics of clients entering DSHS-funded treatment programs statewide with a problem with a club drug. The row “Primary Drug=Club Drug” shows the percentage of clients citing a primary problem with the club drug shown at the top of the column. The rows under the heading “Other Primary Drug” show the percentage of clients who had a primary problem with another drug, such as marijuana, but who had a secondary or tertiary problem with one of the club drugs shown at the top of the table. The treatment data include a broader category of “Hallucinogens,” which consists of LSD (lysergic acid diethylamide), DMT (dimethyltryptamine), STP (phencyclidine and 2,5-Dimethoxy-4-methylamphetamine), mescaline, psilocybin, and peyote.

Among the clients shown in exhibit 21, the GHB clients were the most likely to be White and the oldest; PCP (phencyclidine) clients were the most likely to be Black; and Rohypnol® clients were the most likely to be Hispanic and the youngest. Users of hallucinogens, ecstasy, and Rohypnol® were more likely to have primary problems with marijuana. Users of GHB tended to have a primary problem with methamphetamine (37 percent), and the primary problem for users of PCP was PCP.

BZP (1-Benzylpiperazine) and TFMPP (1-(3-trifluoromethylphenyl)piperazine)

BZP has pharmacological effects that are qualitatively similar to those of amphetamine. It is a Schedule I drug that is often taken in combination with TFMPP, a noncontrolled substance, in order to enhance its effects as a substitute for MDMA. It is generally taken orally but can be smoked or inhaled. Piperazines are a broad class of chemicals, which include several stimulants (such as BZP and TFMPP) as well as antivertigo agents (cyclizine, meclizine) and other drugs (e.g., sildenafil/Viagra®).

The Texas DPS laboratories analyzed 19 BZP exhibits and 2 TFMPP exhibits in 2007, 312 BZP and 66 TFMPP exhibits in 2008, 436 BZP and 87 TFMPP exhibits in 2009, and 528 BZP and 138 TFMPP exhibits in 2010.

DXM (Dextromethorphan)

The most popular DXM products are Robitussin-DM®, Tussin®, and Coricidin Cough and Cold Tablets HBP®, which can be purchased as over-the-counter drugs and can produce hallucinogenic effects if taken in large quantities. Coricidin HBP® pills are known as “Triple C” or “Skittles.”

The 2010 Texas school survey reported that 5 percent of secondary students indicated they had ever used DXM, and 2 percent had used in the past year. The Texas Poison Control Center Network reported the number of abuse and misuse cases involving DXM rose from 99 in 1998 to 511 in 2010. The average age of these cases was 21. The number of cases involving abuse or misuse of Coricidin HBP® was 288 in 2006, 483 in 2007, 158 in 2008, 126 in 2009, and 146 in 2010. The average age in 2010 was 18, which shows that youth can easily access and misuse this substance. DPS laboratories analyzed 10 substances in 2005 that were DXM items, compared with 12 in 2006, 5 in 2007, 9 in 2008, 0 in 2009, and 20 in 2010.

Ecstasy (MDMA, MDA)

The 2010 Texas secondary school survey reported that lifetime ecstasy use dropped from a high of 9 percent in 2002 to 5 percent in 2008, but it increased to 7 percent in 2010, while past-year use was 2 and 3 percent in 2008 and 2010, respectively. The YRBS reported that 9 percent of students had ever used ecstasy in 2009, compared with 10 percent in 2007 and 8 percent in 2005. The Texas Poison Centers reported 292 calls involving misuse or abuse of ecstasy in 2006, compared with 215 in 2007, 253 in 2008, 310 in 2009, and 272 in 2010 (exhibit 23). In 2010, the average age of these cases was 21.

Exhibit 24 shows that ecstasy has spread outside the White rave scene and into the Hispanic and Black communities, as evidenced by the fact that only 39 percent of treatment clients in Texas 2010 were White. Ecstasy is often used in combination with other drugs, and the increase in use and abuse of the drug is demonstrated in the increases in the numbers of clients seeking treatment who report a primary, secondary, or tertiary problem with ecstasy (exhibit 22). The most common combination was ecstasy use with marijuana.

DPS laboratories identified MDMA (3,4-methylenedioxymethamphetamine) in 1,173 exhibits in 2006, 1,077 exhibits in 2007, 1,011 exhibits in 2008, 703 exhibits in 2009, and 640 exhibits in 2010 (exhibit 23). MDA (3,4-methylenedioxyamphetamine) was identified in 80 exhibits in 2006, 43 in 2007, 63 in 2008, 7 in 2009, and 11 in 2010.

The Dallas DEA FD reported the primary source of ecstasy in that area was Canada, trafficked by Asian drug trafficking organizations using younger White, Black, and Hispanic males. The mid-level distributors were reported to be quick to establish new sources, and the availability of the drug (or counterfeits) was expected to remain readily available.

According to the Houston DEA FD, ecstasy availability was moderate and stable, with Asian and Caucasian traffickers controlling distribution of this drug, which came from Canada and Europe. The El Paso DEA FD reported an increase in RAVE parties using ecstasy, and due to the violence in Ciudad Juarez, young adults were staying on the United States side to party rather than participate in the night life across the border. The drug was brought in from Ciudad Juarez in 200–800-pill

batches. In 2010, single dosage units of ecstasy sold for \$5–\$20 in Houston, \$6 in McAllen, and \$20–\$25 in Dallas.

GHB, GBL (Gamma Butyrate Lactone), and 1,4-BD (1-4-Butanediol)

The numbers of cases of misuse or abuse of GHB or its precursors reported to the Texas Poison Center Network were 43 in 2006, 56 in 2007, 49 in 2008, 46 in 2009, and 55 in 2010. The average age of the abusers in 2010 was 28.

In 2010, clients admitted to DSHS-funded treatment who used GHB tended to be older (average age was 32) and were more likely to be White (90 percent) (exhibit 22). GHB users were more likely to have used the so-called “hard-core” drugs; 37 percent had a primary problem with amphetamines or methamphetamine. Because of the sleep-inducing properties of GHB, users will use methamphetamine to stay awake while they are “high” on GHB, or they use GHB to “come down” from their use of methamphetamine. Others report methamphetamine dealers also sell GHB in combination.

The Dallas DEA FD reported GHB was manufactured in 5- to 10-gallon quantities that sold in 2010 for \$600–\$1,100 per gallon by White males in the Dallas area who were also involved in the sale of methamphetamine. There were 89 items identified by DPS laboratories as being GHB in 2006, compared with 56 in 2007, 57 in 2008, 36 in 2009, and 39 in 2010. There were nine items identified as GBL in 2006, compared with none in 2007, three in 2008, and none in 2009 or 2010. There were no items identified as 1,4-BD in 2006, 2007, or 2008; one was identified in 2009; and none was identified in 2010.

Ketamine

Three cases of misuse or abuse of ketamine were reported to Texas Poison Control Centers in 2006, compared with one each in 2007, 2008, and 2009; there were three in 2010. In 2010, there were 11 admissions to treatment with a primary, secondary, or tertiary problem with ketamine. The average age was 26; 73 percent were male; 64 percent were White; 27 percent were Hispanic; and 9 percent were Black (exhibit 22). None had a primary problem with ketamine, but 27 percent had a primary problem with methamphetamine, and 18 percent had a primary problem with crack cocaine.

In 2006, 140 substances were identified as ketamine by DPS laboratories. There were 154 items identified in 2007, 76 in 2008, 56 in 2009, and 31 in 2010. The Dallas DEA FD reported that veterinarians and employees of pet clinics were diverting the drug for distribution or personal use. Ketamine cost \$2,200–\$2,500 per liter in Fort Worth in 2010. In Tyler, a vial cost \$65, and a dose sold for \$20 per pill or gram. A dose sold for \$20–\$40 in Lubbock and \$15–\$20 in San Antonio for 0.2 grams.

LSD and Other Hallucinogens

The Texas secondary school survey showed that use of hallucinogens (defined as LSD, PCP, or mushrooms) continued to decrease. Lifetime use peaked at 7.4 percent in 1996 and dropped to 4.6 percent in 2010. Past-month use dropped from a peak of 2.5 percent in 1998 to 1.5 percent in 2010.

The Texas Poison Center Network reported 33 mentions of abuse or misuse of LSD in 2006, compared with 31 in 2007, 17 in 2008, 26 in 2009, and 18 in 2010. There were also 96 cases of intentional misuse or abuse of hallucinogenic mushrooms reported in 2006, 125 in 2007, 93 in 2008, 96 in 2009, and 85 in 2010. The average ages in 2010 were 26 for the LSD cases and 23 for the mushroom cases.

Of the hallucinogen treatment admissions in 2010, the average age was 28; 65 percent were male; 48 percent were White; 14 percent were Hispanic; and 36 percent were Black. Sixty-five percent were referred from the criminal justice system, and their primary drugs of abuse were marijuana or alcohol (exhibit 22).

DPS laboratories identified 1 substance as LSD in 2006, 29 in 2007, 19 in 2008, 33 in 2009, and 30 in 2010. The Dallas DEA FD reported LSD was obtained from out-of-State sources and was available in blotter paper and liquid form. Psilocybin mushrooms came from out-of-State sources, primarily from the Pacific Northwest and Florida. Mushroom spores are sent in kits with instructions to the purchaser on how to prepare and cultivate the mushrooms. A dosage unit of LSD in 2010 sold for \$1–\$10 in Dallas, \$7 in Lubbock, and \$8–\$12 in San Antonio. Psilocybin mushrooms sold for \$10–\$14 per gram in Lubbock.

PCP

The Texas Poison Center Network reported cases of “Fry,” “Amp,” “Water,” “Wet,” “Wack,” “PCP,” or formaldehyde. Often, marijuana joints are dipped in formaldehyde that contains PCP, or PCP is sprinkled on the joint or cigarette. The number of poison cases involving PCP declined from 290 in 2008 to 118 in 2009 and 141 in 2010 (exhibit 25).

Exhibit 25 shows an increase in the number of clients entering treatment statewide with a primary problem with PCP from 487 in 2008 to 626 in 2009. A decrease was observed to 455 in 2010. Of the clients in 2010, 84 percent were Black; 55 percent were male; and 63 percent were involved in the criminal justice system. While 52 percent reported a primary problem with PCP, another 23 percent reported a primary problem with marijuana, which demonstrates the link between these two drugs (exhibit 22).

DPS laboratories identified 195 substances as PCP in 2009 and 205 in 2010 (exhibit 25). According to the DEA, PCP cost \$5 per dipped cigarette, \$45–\$80 for an ounce retail, and a gallon cost \$700–\$1,200 in San Antonio. The Dallas DEA FD reported that PCP was obtained from sources in southern California and was shipped to the Dallas area in gallon containers and then distributed primarily to Black users.

Rohypnol®

Rohypnol® is a benzodiazepine that was never approved for use in the United States. The drug is legal in Mexico, but since 1996, it has been illegal to bring it into the United States. Rohypnol® continued to be a problem along the Texas–Mexico border. The 2010 secondary school survey found that students from the border area were about three times more likely to report lifetime Rohypnol® use than those living elsewhere in the State (6 versus 2 percent lifetime, and 2 versus 1 percent current use). Use in both the border and nonborder areas has declined since its peak in 1998.

The numbers of confirmed exposures to Rohypnol® reported to the Texas Poison Control Centers were 10 in 2006, 11 in 2007, 12 in 2008, and 23 in 2009 and 2010. The number of youths and adults admitted into treatment with a primary, secondary, or tertiary problem with Rohypnol® has varied: 278 in 2006, 272 in 2007, 207 in 2008, 287 in 2009, and 163 in 2010. In 2010, clients abusing Rohypnol® were the youngest of the club drug clients (age 16), and they were mostly Hispanic (98 percent), reflecting the availability and use of this drug along the border. Seventy-four percent were involved with the criminal justice system. Seventy-one percent reported a primary problem with marijuana (exhibit 22).

DPS laboratory exhibits for flunitrazepam numbered nine in 2006, one in 2007, none in 2008, three in 2009, and one in 2010. Rohypnol® sold for \$2–\$4 per pill in San Antonio in 2008.

Marijuana Homologs (Synthetic Marijuana)

Marijuana/cannabis homologs are herbal products that contain synthetic compounds, such as JWH-018, JWH-073, CP-47, 497, and HU-210, that mimic the primary psychoactive ingredient in marijuana, tetrahydrocannabinol (THC). There are at least 184 different chemical combinations, and the standard THC-detection tests do not yet include the ability to identify all these compounds. These products are sold under a wide variety of names, including K2, summit, spice, spice gold, spice silver, spice diamond, genie, zohai, space, skunk, yucatan fire, halo, black mamba, damiana, drolle, blaze, and red X dawn. They are available through the Internet and in specialized stores and are marketed as herbal incense. When smoked, they give users a marijuana-like high. On March 1, 2011, the DEA placed five of the synthetic cannabinoids on Schedule I for 1 year, and on April 22, 2011, Texas also made these substances Schedule I.

Symptoms associated with use of the marijuana homologs include tachycardia, respiratory issues, agitation, confusion, drowsiness, hallucinations, delusions, nausea and vomiting, ocular problems, and other problems. The substances may also produce withdrawal and dependence in users. In 2010, the Texas Poison Center Network received 464 calls involving human exposures to the substances, and through May 22, 2011, there had been 211 calls. Of all the calls in 2010 and 2011, the age range was between 12 and 67; 41 percent were younger than 20; 74 percent were male; and 88 percent had either misused or abused the substance.

The Texas DPS laboratories in 2010 identified 34 exhibits containing JWH-018 (1-pentyl-3-(1-naphthoyl)indole), 1 exhibit containing JWH-19 (1-hexyl-3-(naphthalen-1-oyl)indole), and 3 exhibits containing JWH-250 (1-pentyl-3-(2-methoxyphenylacetyl)indole).

Mephedrone

Mephedrone (4-methylmethcathinone or 4-MMC) is a designer substance of the phenethylamine class and a cathinone derivative from the khat plant. Its pharmacology and structure are similar to MDMA and amphetamine. MDPV (3,4-methylenedioxypyrovalerone) is another cathinone derivative with effects similar to cocaine and amphetamine. These drugs are usually supplied as a white, crystalline powder, although they also are available in tablet form and sold over the Internet and through “head shops,” convenience stores, gas stations, and truck stops, and are often labeled as “bath salts,” “plant food,” or “insect repellent.” They are sold under a variety of names, such as Ivory Wave, Ocean, Charge +, White Lightning, Scarface, Hurricane Charlie, Red Dove, Cloud 9, White

Dove, White Knight, White Ivory, Blue Silk, Zoom, Bloom, Lunar Wave, Vanilla Sky, Purple Wave, and Tranquility. Their street names include “Bubbles,” “Snow,” “Bath Salts,” “M-cat,” and “Meow Meow.” They are usually ingested or inhaled, and they are reported to produce euphoria, increased energy, empathy, talkativeness, intensification of sensory experiences, and sexual arousal.

The Texas Poison Control Center Network reported 20 human exposures to mephedrone in 2010 and 118 in 2011 through May 22. Ages ranged from 16 to 57, with 17 percent younger than 20. Seventy-four percent were male; 89 percent intended to abuse or misuse the drug; and common symptoms include tachycardia, hypertension, agitation, confusion, and hallucinations. The DPS laboratories in 2010 analyzed 3 exhibits identified as 4-MMC and 63 as MDPV.

Other Abused Substances

Inhalants

The 2010 Texas elementary school survey found that 11 percent of students in grades 4–6 had ever used inhalants, and 8 percent had used in the school year. The 2010 secondary school survey found that 17 percent of students in grades 7–12 had ever used inhalants, and 6 percent had used in the past month. Inhalant use exhibits a peculiar age pattern not observed with any other substance. The prevalence of lifetime and past-month inhalant use was higher in the lower grades and lower in the upper grades. This decrease in inhalant use as students age may be partially related to the fact that inhalant users drop out of school early and are not in school in later grades to respond to school-based surveys. In addition, the Texas school surveys have consistently found that eighth graders reported use of more kinds of inhalants than any other grade, which may be a factor that exacerbates the damaging effects of inhalants and leads to dropping out of school. The 2009 YRBS reported that 11.9 percent of Texas high school students had ever used inhalants, compared with 12.9 percent in 2007, 13.2 percent in 2005, and 13.9 percent in 2001.

Of the calls to the Texas Poison Center Network in 2010 that involved human exposure to the inhalation of chemicals, there were 77 calls for misuse of air fresheners or dusting sprays containing tetrafluoroethane or difluoroethane (61 percent were male, and the average age was 20); 36 calls for exposure to automotive products, such as carburetor cleaner, transmission fluid, and gasoline (81 percent were male, and the average age was 29); 32 calls for abuse or misuse of spray paint or toluene (69 percent were male, and the average age was 30); 8 calls for helium gas (38 percent were male, and the average age was 14); 5 calls for deodorant or body spray (80 percent were male, and the average age was 15); 4 calls involving nitrous oxide (100 percent were male, with an average age of 27); 4 for “huffing” (100 percent were male, and the average age was 14); and 3 for amyl nitrate or “Poppers,” (66 percent were male, with an average age of 22).

Inhalant abusers represented 0.1 percent of the admissions to treatment programs in 2010. The clients tended to be male (58 percent), with an average age of 24. Sixty percent were involved with the criminal justice system; the average education was 10.7 years; and 5 percent were homeless. Of the inhalant abusers, 14 percent reported no secondary drug problem; 52 percent had a second problem with marijuana; and 17 percent had a second problem with alcohol.

Steroids

The Texas school survey reported that 1.4 percent of all secondary students surveyed in 2010 had ever used steroids, and 0.5 percent had used steroids during the month before the survey. The 2009 YRBS found lifetime use among Texas high school students was 2.9 percent, with use prevalence being 3.5 and 2.3 percent among male and female students, respectively. In 2007, overall steroid use was 3.9 percent, at 4.8 percent among boys and 3.0 percent among girls.

The DPS data for Texas reported that testosterone was the steroid most likely to be identified in forensic testing, although it constituted 0.1 percent of all the items tested in 2010. The Dallas DEA FD reported that Mexico was the source for anabolic steroids, and China was the source of human growth hormone.

Carisoprodol (Soma®)

Texas poison control centers confirmed that exposure cases of intentional misuse or abuse of the muscle relaxant carisoprodol (Soma®) increased from 83 in 1998 to 428 in 2009, then decreased slightly to 374 in 2010; the average age of these cases in 2010 was 35.

DPS laboratory exhibits identified as carisoprodol have fluctuated in the past 5 years. The numbers of such drug items were 558 in 2006, 700 in 2007, 471 in 2008, 552 in 2009, and 747 in 2010. According to the Dallas DEA FD, Soma® and Soma® with codeine sold for \$2–\$5 per tablet. Carisoprodol is one of the most popular drugs in the illicit drug market in the Dallas/Fort Worth area and is part of the combination with hydrocodone and alprazolam that is known as the “Houston Cocktail” or “Holy Trinity.”

Drug Abuse Patterns on the Texas–Mexico Border

The 2010 Texas Secondary School Survey reported that students living in counties along the Texas border were more likely to report lifetime use of a number of drugs than residents of nonborder counties, including tobacco (33 percent border versus 30 percent nonborder), powder cocaine (8 percent border versus 4 percent nonborder), ecstasy (11 percent border and 6 percent nonborder), and Rohypnol® (6 percent border versus 2 percent nonborder). Nonborder students were more likely to report use of marijuana (27 versus 25 percent border). The results for other substances were similar: alcohol (63 percent nonborder versus 62 percent border), alprazolam (5 percent nonborder versus 4 percent border), methamphetamine (3 percent nonborder versus 3 percent border), crack cocaine (2 percent nonborder versus 2 percent border), and heroin (1 percent nonborder and 2 percent border). When asked which substances were very easy to obtain, border students were more likely to report Rohypnol® (10 percent) than nonborder students (6 percent), while nonborder students were more likely to report use of tobacco (36 percent) compared with 32 percent of border students, alcohol (43 percent nonborder versus 38 percent border), and marijuana (26 percent nonborder versus 24 percent border). Both groups reported powder cocaine equally easy to obtain (11 percent), as was crack cocaine (8 percent).

Different patterns were also seen in border and nonborder admissions to DSHS-funded treatment in 2010. Border clients were more likely to report problems with alcohol (33 versus 30 percent nonborder), powder cocaine (14 versus 5 percent), marijuana (33 versus 26 percent), and heroin

(11 versus 10 percent). Nonborder clients were more likely to report problems with other opiates (8 versus 2 percent border), methamphetamine (7 versus 0.4 percent), and crack cocaine (14 versus 6 percent). In addition to differences in primary problems, nonborder clients were less likely to be male (59 versus 65 percent), more likely to be homeless (11 versus 3 percent), and more likely to be injectors (13 versus 10 percent).

Over several years, the drug use problems have changed on the border and in the nonborder areas. Exhibit 26 shows the increase in treatment admissions for use of marijuana, the decrease over time in heroin admissions, and the low levels of admissions for use of crack cocaine and methamphetamine on the border. In comparison, in the nonborder areas, the treatment admissions for use of crack cocaine have decreased over time, while those for marijuana have steadily increased. Admissions for methamphetamine peaked in 2005 and have decreased since (exhibit 27).

The drug problem also differs in cities along the border. The primary problems at treatment admission in El Paso in 2010 were alcohol (39 percent), marijuana (29 percent), powder cocaine (13 percent), and heroin (10 percent). In Laredo, 28 percent of the admissions were for heroin, 27 percent for marijuana, 15 percent for powder cocaine, and 19 percent for alcohol. In the McAllen/Brownsville area, 41 percent of primary treatment admissions were for marijuana, 39 percent for alcohol, 12 percent for powder cocaine, and 7 percent for heroin. These variations were due both to historical funding decisions (the largest methadone program in El Paso is not State-funded and does not report treatment data, and there is an adolescent residential program in Laredo) and to trafficking patterns.

The DPS laboratory in El Paso in 2010 reported that approximately 44 percent of the items examined were marijuana, followed by cocaine (24 percent) and heroin (1.3 percent). In Laredo, 49 percent of the items analyzed were marijuana; 26 percent were cocaine; and 7 percent were heroin. In McAllen, 49 percent of the items analyzed were cocaine, with 19 percent identified as marijuana and 3 percent as methamphetamine.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

The Texas DSHS estimated in 2010 that 1.8 percent of Texans were infected with hepatitis C virus (HCV). The number of acute HCV cases has fluctuated from 57 in 2006, to 71 in 2007, to 59 in 2008, to 36 in 2009, and to 35 in 2010.

The case rate for syphilis increased from 2.9 per 100,000 in 2003 to 4.9 per 100,000 in 2010. The respective case rate for chlamydia increased from 309.9 to 467.3 per 100,000 in 2003 and 2010. The case rate for gonorrhea increased from 110.0 to 124.0 per 100,000 in 2003 to 2010, respectively. Exhibit 28 shows the case rates by age group. The case rates for all three diseases were higher for females, and it is not until they reach 45 and older that their case rates for these diseases drop below that of males.

With the recent problems in the economy, HIV/AIDS outreach workers have reported increases in the numbers of people engaging in sex work to support themselves and their families or to obtain drugs. This is resulting in increases in STDs. In addition, outreach workers were reporting increasing numbers of cases of syphilis and untreated HCV and HIV cases. They also reported the use of Viagra® in Austin by males in their twenties and thirties and those who have sex with other men. In

Houston, illegal homeless immigrants were found to be turning to prostitution because they did not have legal documentation to work.

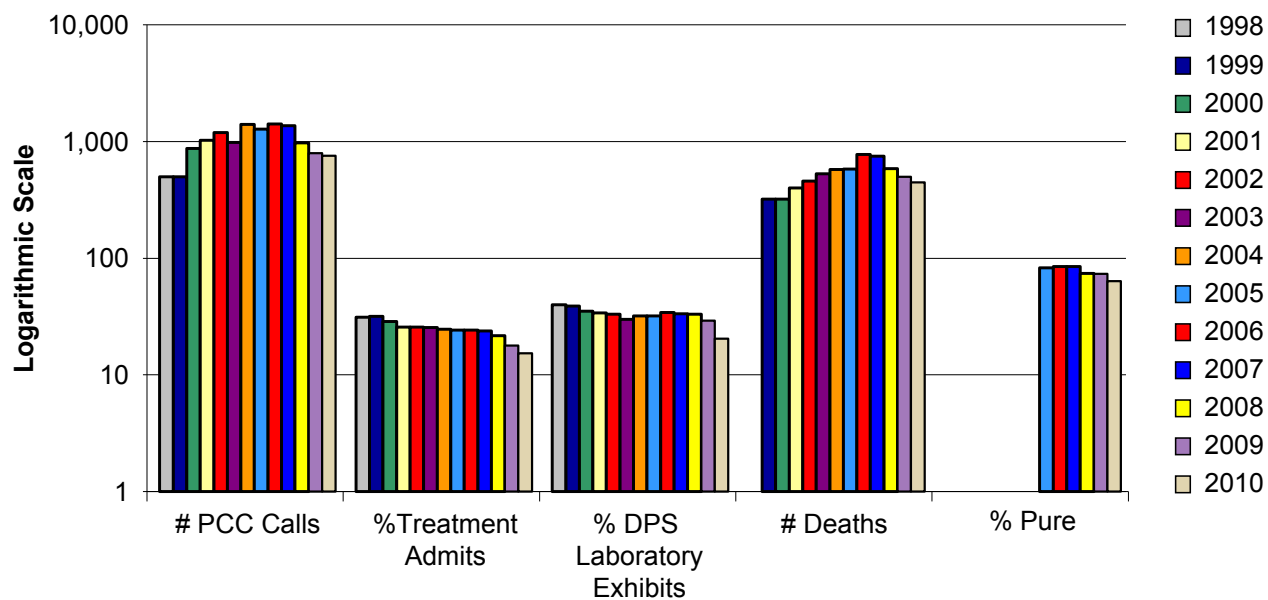
HIV/AIDS Cases

The proportion of AIDS cases among men who have sex with men (MSM) decreased from 81 percent in 1987 to 54 percent in 2009 (exhibit 29). Of the 2009 cases, 28 percent reported heterosexual mode of exposure, and 12 percent were injection drug users (IDUs). The proportions of cases involving IDUs or IDUs/MSM have decreased over time.

Persons infected with HIV or AIDS were increasingly likely to be people of color. Among AIDS cases in 2009, 42 percent were Black; 27 percent were White; and 31 percent were Hispanic (exhibit 30). The rate of Blacks living with HIV/AIDS was over 4 times the rate for Whites and 5 times the rate for Hispanics. The rate of new HIV diagnoses in Black females was 8 to 16 times higher than rates in Hispanic and White females, respectively. The proportion of IDUs entering DSHS-funded treatment programs decreased from 32 percent in 1988 to 12 percent in 2010.

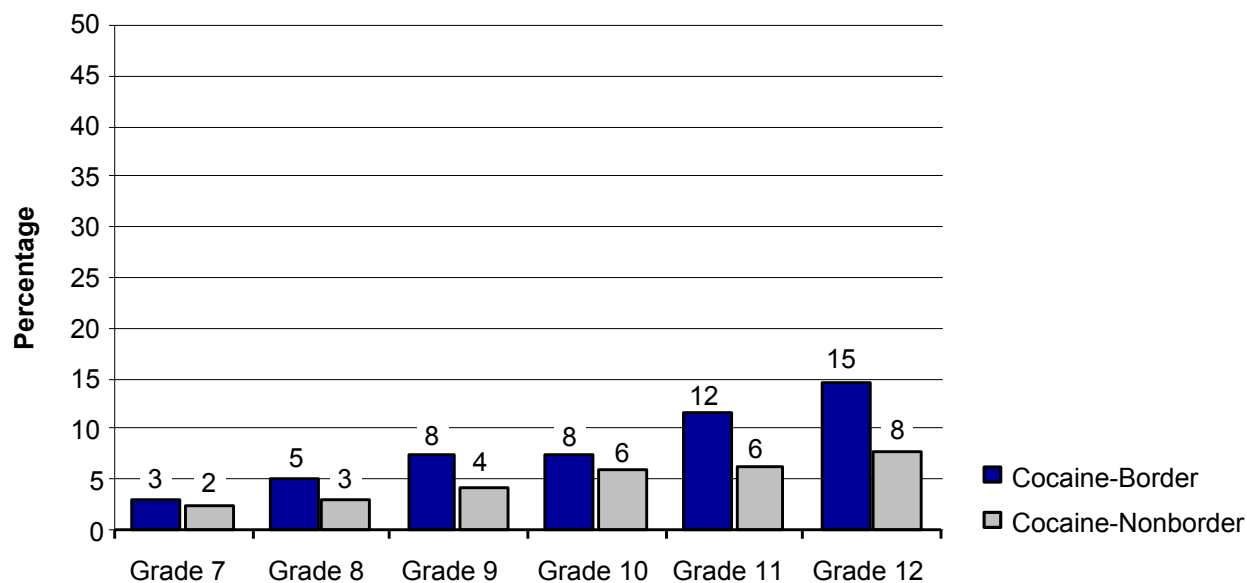
For inquiries regarding this report, contact Jane C. Maxwell, Ph.D., Senior Research Scientist, Addiction Research Institute, Center for Social and Behavioral Research, The University of Texas at Austin, Suite 335, 1717 West 6th Street, Austin, TX 78703, Phone: 512-232-0610, Fax: 512-232-0617, E-mail: jcmaxwell@utexas.edu.

Exhibit 1. Texas Poison Control Calls, Treatment Admissions, Laboratory Exhibits, Deaths, and Purity for Cocaine: 1998–2010



SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics; DMP, DEA

Exhibit 2. Percentage of Border and Nonborder Texas Secondary Students Who Had Ever Used Powder or Crack Cocaine, by Grade: 2010



SOURCE: Texas Department of State Health Services (DSHS)

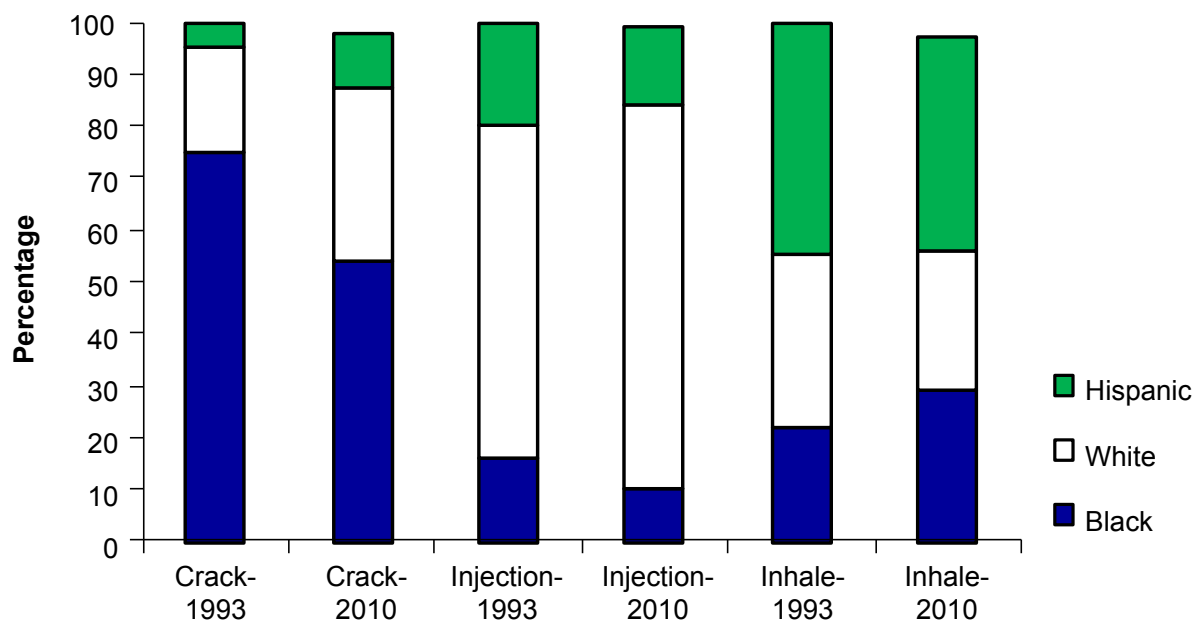
Exhibit 3. Characteristics of Clients Admitted to TDSHS-Funded Treatment with a Primary Problem with Cocaine, by Route of Administration: 2010

	Crack Cocaine Smoke	Powder Cocaine Inject	Powder Cocaine Inhale	Cocaine All ¹
# Admissions	6,015	405	3,440	10,053
% of Cocaine Admits	60	4	34	100
Lag-1st Use to Tmt-Yrs.	15	18	11	14
Average Age	40	39	32	37
% Male	48	56	53	50
% Black	54	10	30	45
% White	33	74	27	33
% Hispanic	12	14	42	21
% CJ Involved	47	55	66	54
% Employed Full Time	7	10	22	12
% Homeless	16	15	4	13

¹Total includes clients with "other" routes of administration.

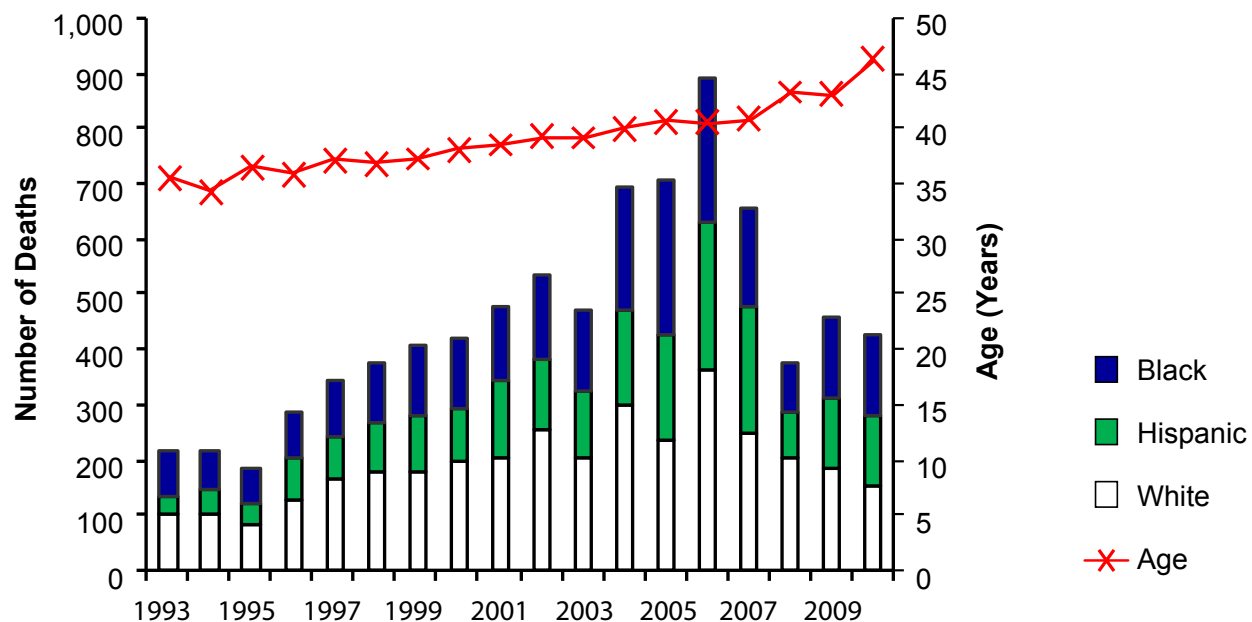
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 4. Routes of Administration of Cocaine, by Race/Ethnicity, From DSHS Treatment Admissions: 1993 and 2010



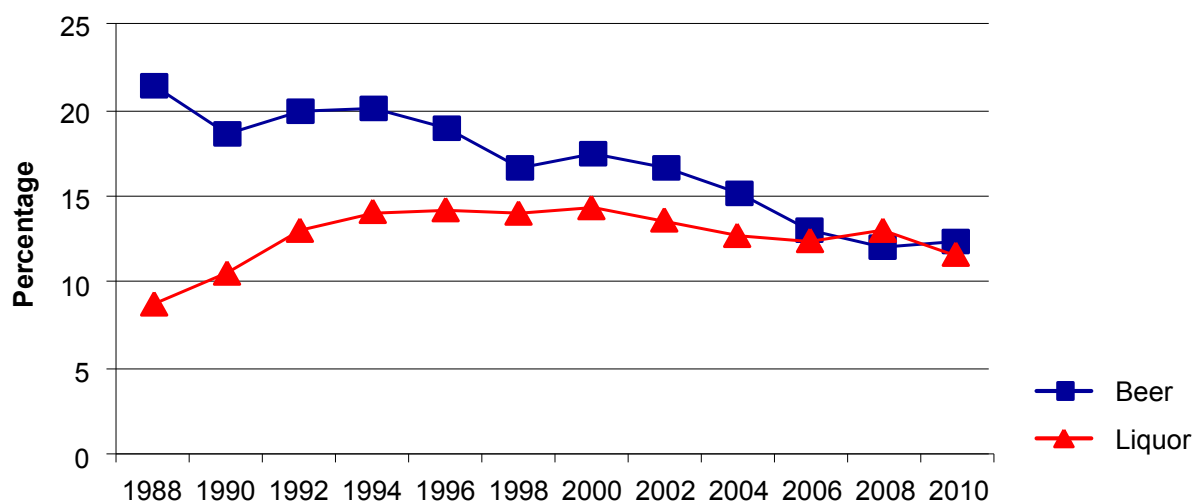
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 5. Age and Race/Ethnicity of Persons Dying with a Mention of Cocaine in Texas: 1993–2010



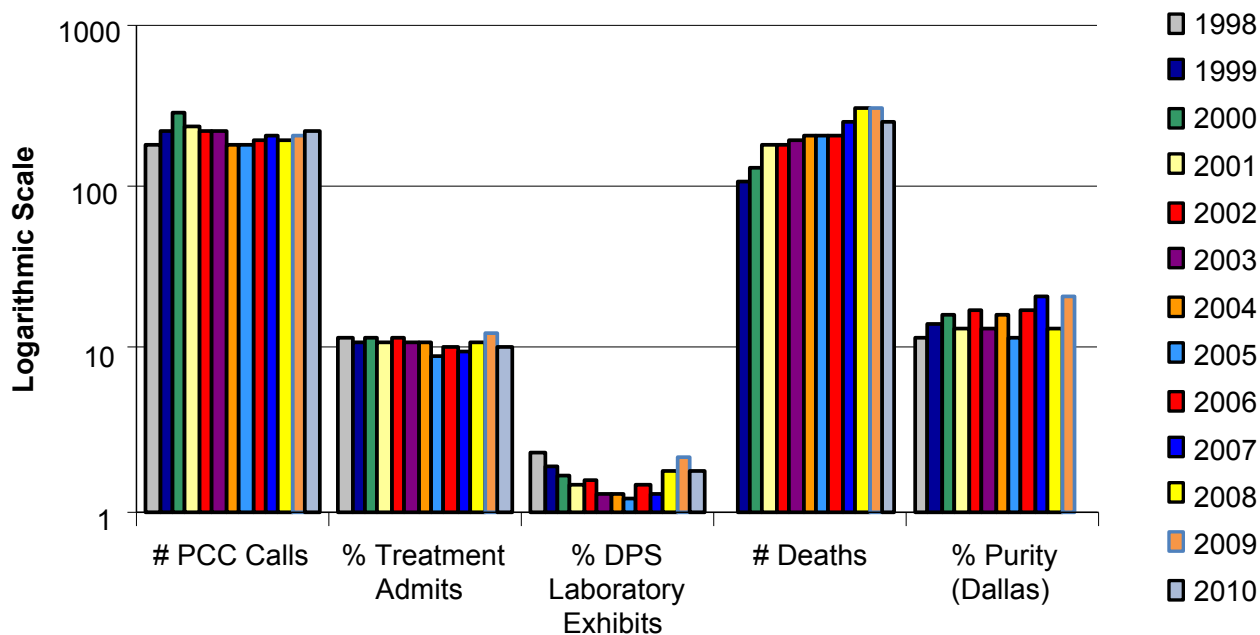
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 6. Percentage of Texas Secondary Students Who Reported They Normally Consumed Five or More Drinks at One Time, by Specific Alcoholic Beverage: 1988–2010



SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 7. Texas Poison Control Calls, Treatment Admissions, DPS Laboratory Exhibits, and Deaths for Heroin: 1998–2010



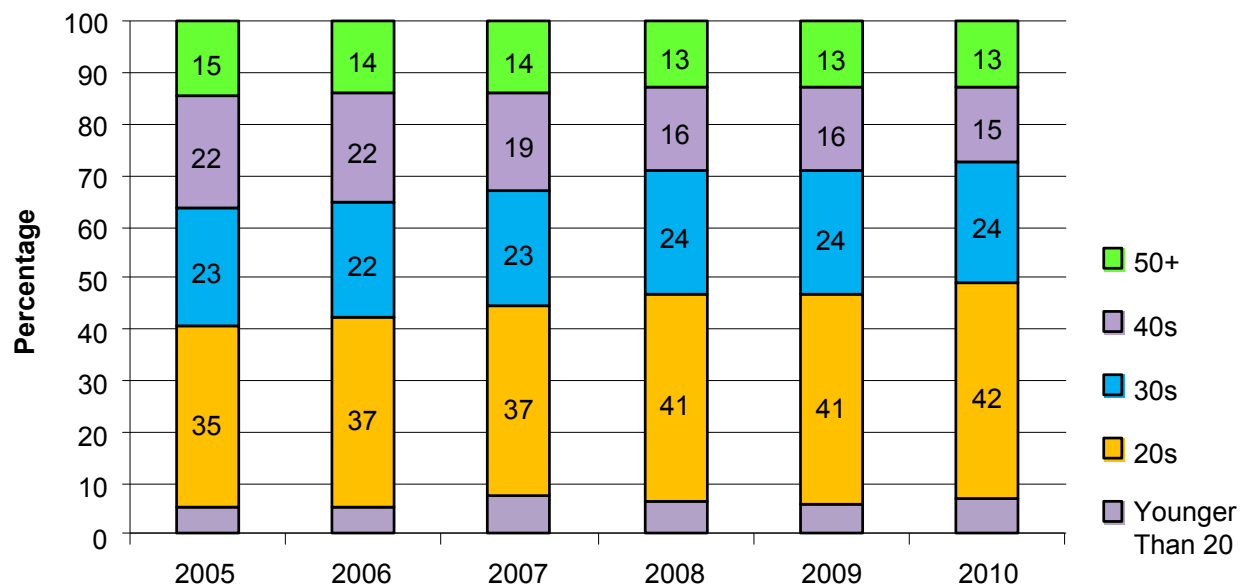
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics; DMP, DEA

Exhibit 8. Characteristics of Clients Admitted to DSHS-Funded Treatment with a Primary Problem with Heroin, by Route of Administration: 2010

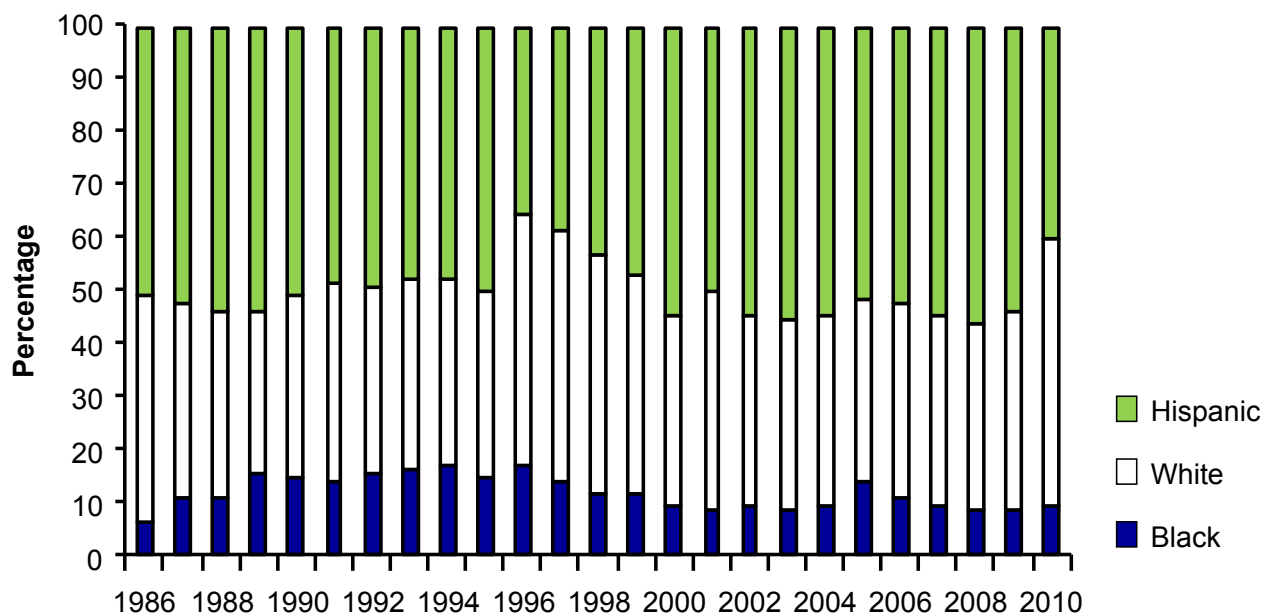
	Inject	Inhale	Smoke	All ¹
# Admissions	5,355	1,082	73	6,652
% of Heroin Admits	81	16	1	100
Lag-1st Use to Tmt-Yrs.	13	7	7	12
Average Age	34	27	30	33
% Male	61	54	56	60
% Black	7	22	8	9
% White	53	35	42	51
% Hispanic	35	30	38	38
% CJ Involved	34	45	40	36
% Employed Full Time	5	5	4	5
% Homeless	17	9	11	16

¹Total includes clients with other routes of administration.

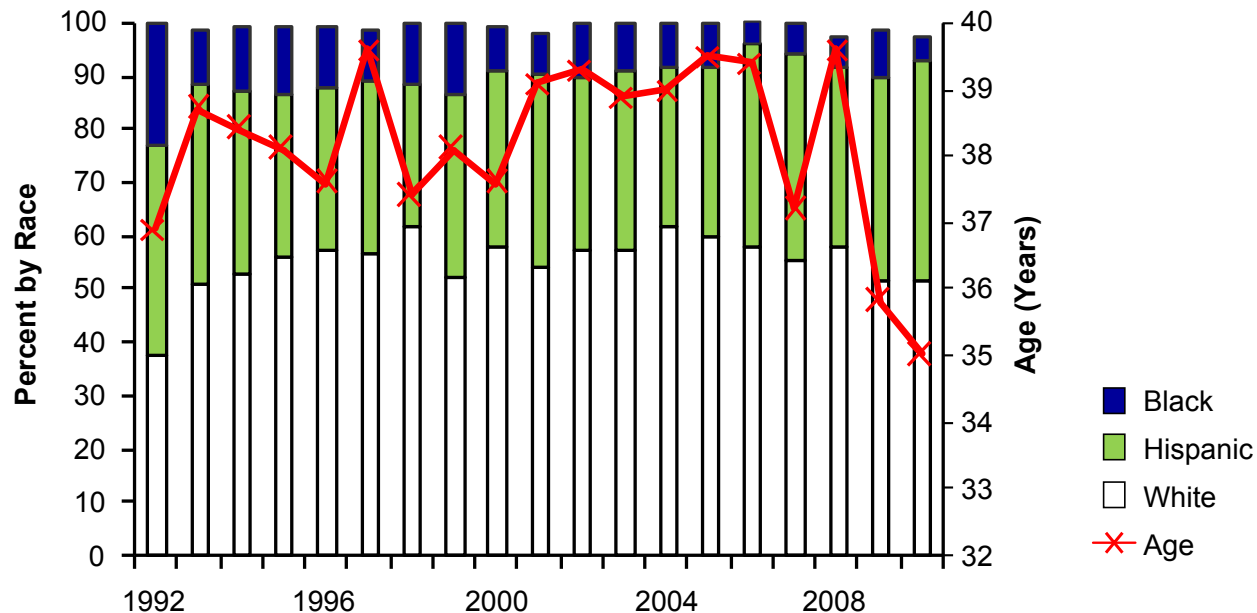
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 9. Texas Heroin Admissions to Treatment, by Age Group: 2005–2010

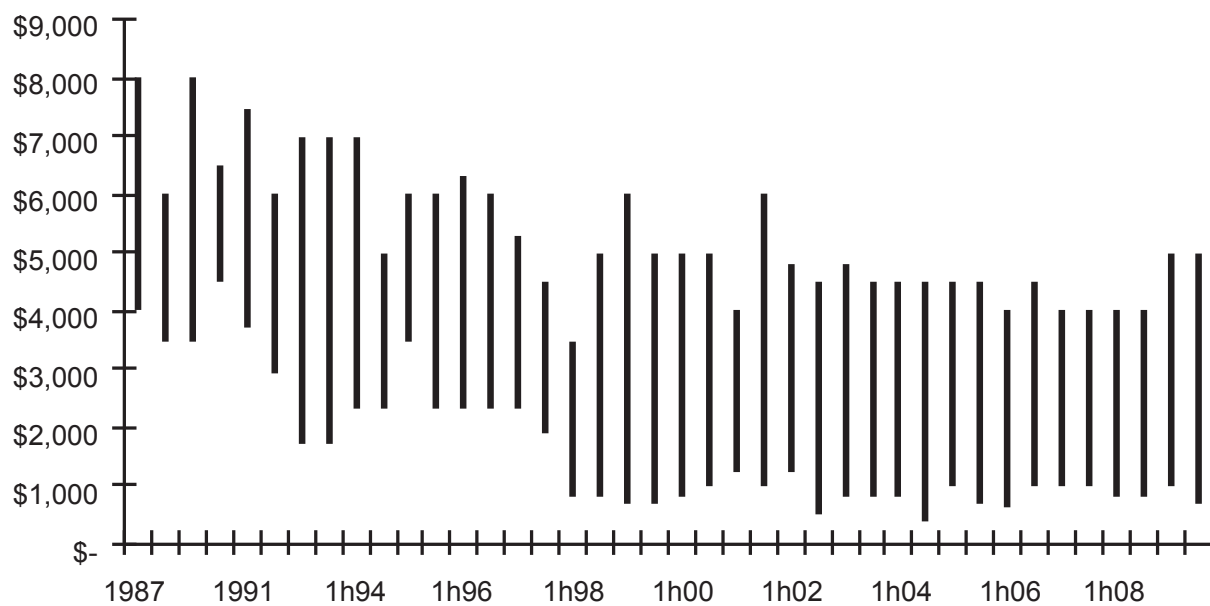
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 10. Percent of Heroin Admissions to DSHS-Funded Treatment, by Race/Ethnicity: 1986–2010

SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 11. Age and Race/Ethnicity of Persons Dying with a Mention of Heroin in Texas: 1992–2010

SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 12. Price of an Ounce of Mexican Black Tar Heroin in Texas, as Reported by the DEA: 1987–2010¹¹Prices reported by half-year since 1993.

SOURCE: DMP, DEA

Exhibit 13. Price and Purity of Heroin Purchased in Dallas, El Paso, Houston, and San Antonio by the DEA: 1995–2009

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Dallas Purity (%)	6.8	3.5	7.0	11.8	14.0	16.0	13.4	17.2	13.3	16.3	11.6	17.7	20.6	13.5	21.6
Price/Milligram Pure	\$2.34	\$6.66	\$4.16	\$1.06	\$1.01	\$0.69	\$1.36	\$0.75	\$0.98	\$0.90	\$1.11	\$1.10	\$1.09	\$0.93	\$0.91
El Paso Purity (%)					56.7	50.8	41.8	40.3	44.7	50.5	44.7	44.8	39.8	41.1	30.5
Price/Milligram Pure					\$0.49	\$0.34	\$0.44	\$0.27	\$0.40	\$0.27	\$0.40	\$0.33	\$0.49	\$0.61	\$0.69
Houston Purity (%)	16.0	26.1	16.3	34.8	17.4	18.2	11.3	28.2	27.4	24.8	24.4	18.1	7.0	6.2	6.0
Price/Milligram Pure	\$1.36	\$2.15	\$2.20	\$2.43	\$1.24	\$1.14	\$1.51	\$0.64	\$0.45	\$0.44	\$1.11	\$1.90	\$1.66	\$3.05	\$3.42
San Antonio Purity (%)									8.2	6.4	11.2	17.4	7.1	7.6	8.7
Price/Milligram Pure									\$1.97	\$2.24	\$0.56	\$0.79	\$1.88	\$1.42	\$1.03

SOURCE: DMP, DEA

Exhibit 14. Indicators of Abuse of Opiates in Texas: 1998–2010

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Poison Control Center Cases of Abuse and Misuse													
Buprenorphine							12	27	33	61	82	110	148
Fentanyl			9	2	3	11	17	10	36	28	31	143	108
Hydrocodone	192	264	286	339	429	414	516	505	657	703	723	748	837
Methadone	17	15	30	27	50	41	69	69	73	91	141	129	131
Oxycodone	12	26	22	34	68	64	77	50	68	67	81	74	101
DSHS Treatment Admissions¹													
Methadone ²	55	69	44	52	75	86	63	91	101	113	160	145	132
"Other Opiates" ²	553	815	890	1,386	2,084	2,794	3,433	3,482	3,903	4,529	5,221	5,844	4,446
Deaths with Mention of Substance (DSHS)													
Other Opioids		122	168	224	313	370	369	402	577	572	535	555	539
Synthetic Narcotics		52	52	80	120	80	94	93	113	142	120	171	159
Methadone		27	62	89	141	161	164	205	222	224	198	183	178
Fentanyl ³	8	5	4	7	22	10	32	30	43	49			
Hydrocodone ³	5	25	52	107	168	140	201	269	400	360			
Oxycodone ³	1	8	20	40	56	60	66	62	81	65			
Drug Exhibits Identified by DPS Laboratories (NFLIS)													
Fentanyl	0	3	1	7	4	2	14	7	14	10	10	12	7
Hydrocodone	52	479	629	771	747	1,212	1,598	1,789	2,324	2,812	2,177	2,346	3,060
Methadone	1	19	22	42	58	70	130	133	169	209	181	193	172
Oxycodone	10	36	72	115	106	174	270	237	264	244	258	278	292
Buprenorphine					6	2	4	5	8	15	24	59	90

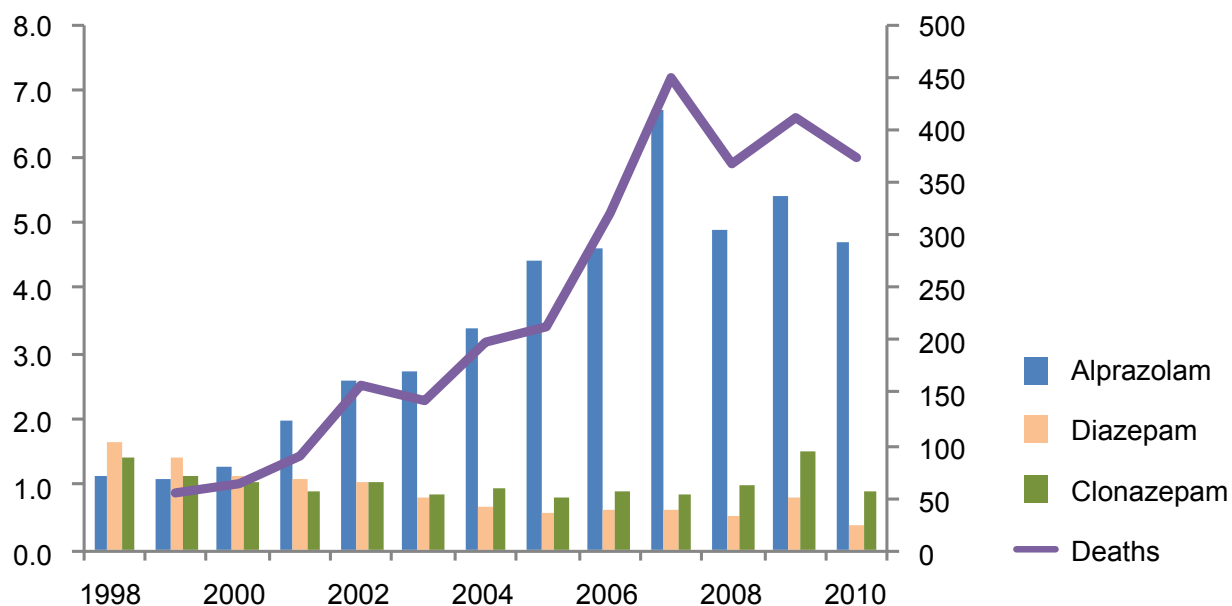
¹The DSHS treatment data collection changed in 2010 with fewer clients being reported for all drugs after 2009.

²"Other Opiates" refers to those other than heroin.

³2007 cases were incomplete, and numbers for these drugs in 2008 are not available.

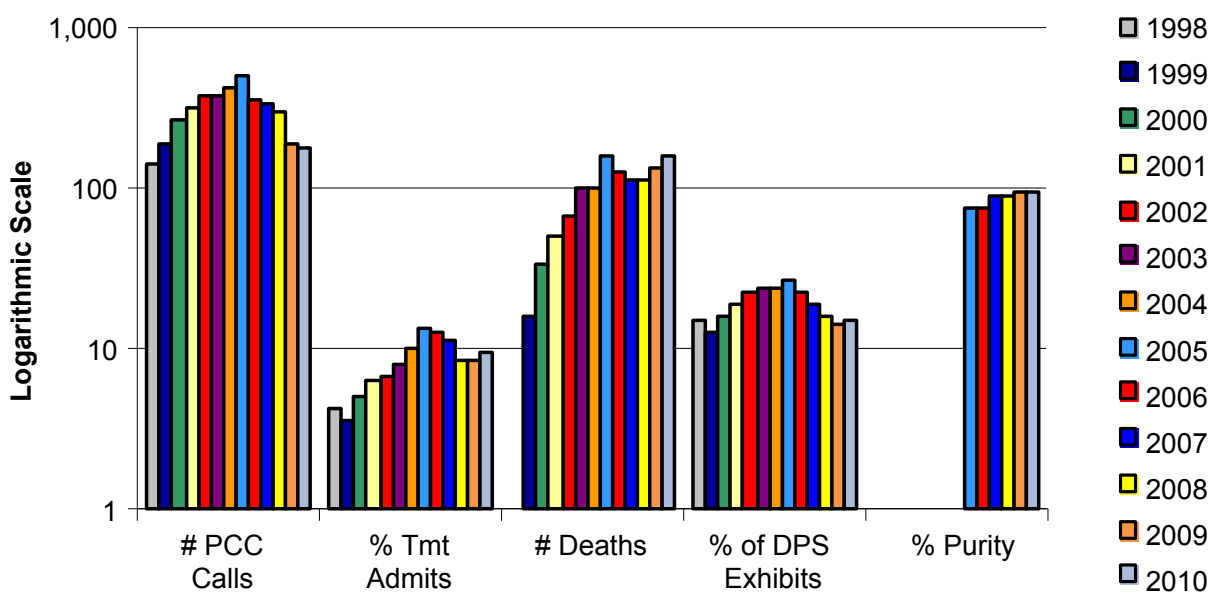
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics

Exhibit 15. Benzodiazepines as Percent of All Items Identified by DPS Laboratories in Texas and Number of Deaths: 1998–2010



SOURCES: Texas Department of Public Safety and NFLIS, DEA

Exhibit 16. Texas Poison Control Calls, Treatment Admissions, Laboratory Exhibits, Deaths, and Purity for Methamphetamine: 1998–2010



SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics; DMP, DEA

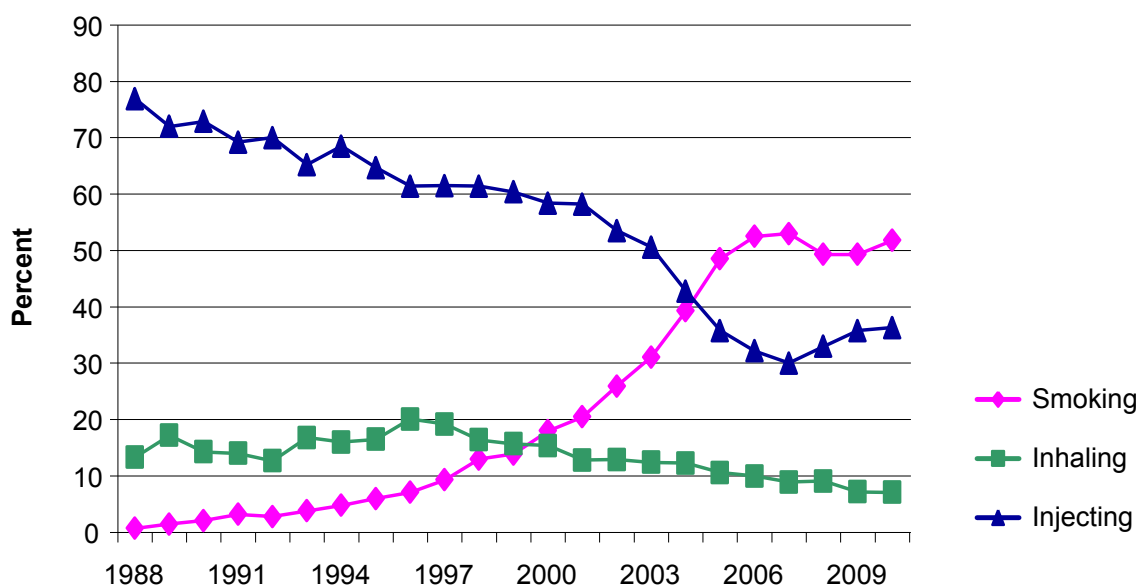
Exhibit 17. Characteristics of Clients Admitted to DSHS-Funded Treatment with a Primary Problem of Amphetamines or Methamphetamines, by Route of Administration: 2010

	Inject	Inhale	Smoke	Oral	All ¹
# Admissions	2,161	425	3,083	229	5,954
% of Stimulant Admits	36	7	52	4	100
Lag-1st Use to Tmt-Yrs.	15	13	11	12	12
Average Age-Yrs.	33	35	32	32	33
% Male	48	45	41	37	44
% Black	1	2	3	3	2
% White	92	85	83	85	87
% Hispanic	4	7	11	9	9
% CJ Involved	57	63	58	59	57
% Employed Full Time	10	21	16	18	14
% Homeless	15	4	7	4	10

¹Total includes clients with "other" routes of administration

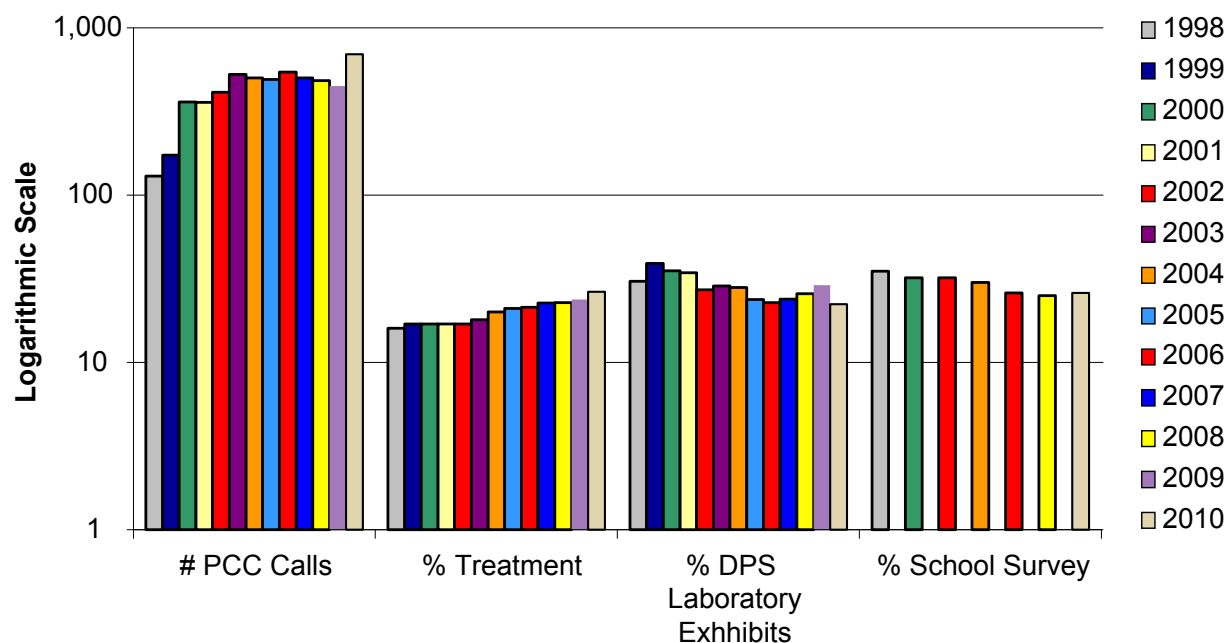
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 18. Route of Administration of Methamphetamine by Clients Admitted to DSHS-Funded Programs: 1988–2010



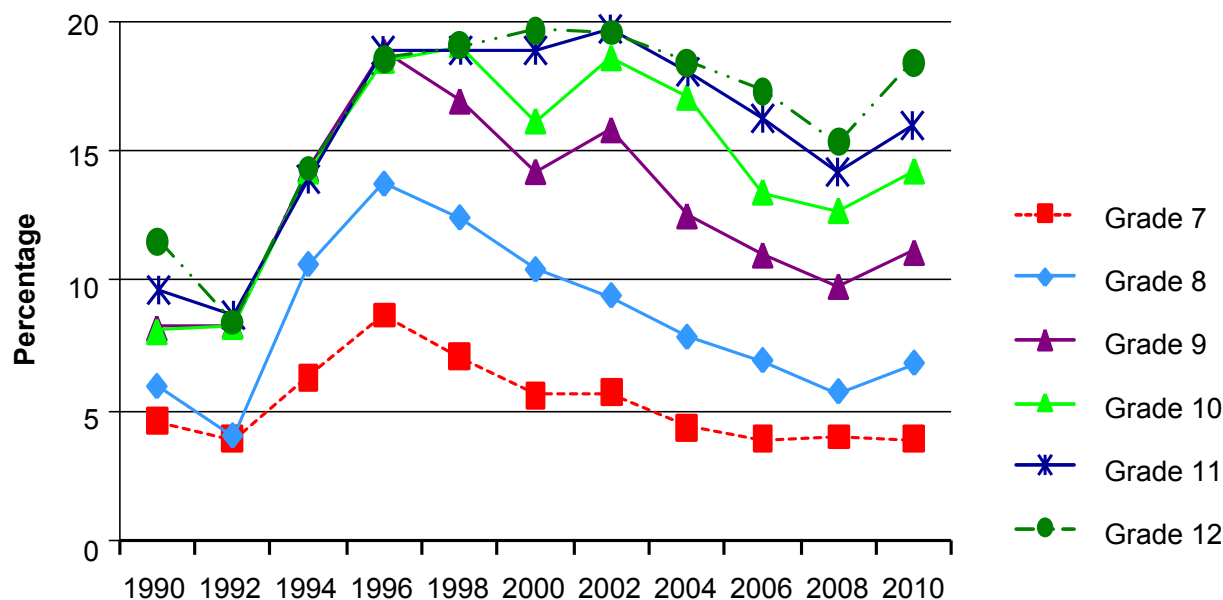
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 19. Texas Poison Control Calls, Treatment Admissions, School Survey, and DPS Laboratory Exhibits for Marijuana: 1998–2010



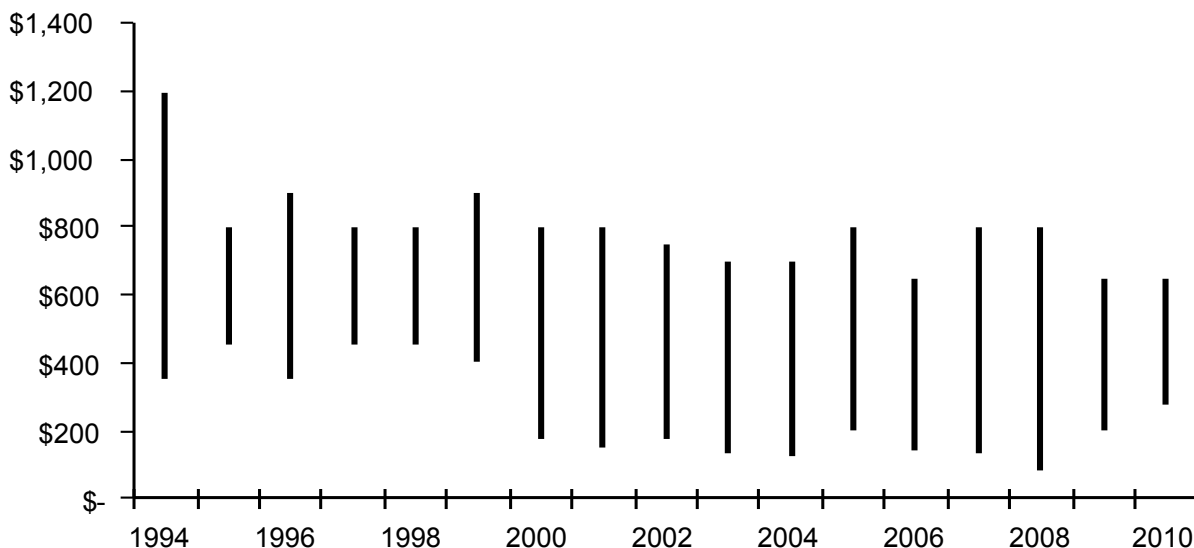
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas School Survey of Substance Abuse 2010, published by the Texas Department of State Health Services (DSHS)

Exhibit 20. Percentage of Texas Secondary Students Who Had Used Marijuana in the Past Month, by Grade: 1990–2010



SOURCE: Texas Department of State Health Services (DSHS)

**Exhibit 21. Price of a Pound of Commercial Grade Marijuana in Texas, as Reported by the DEA:
1994–2010**



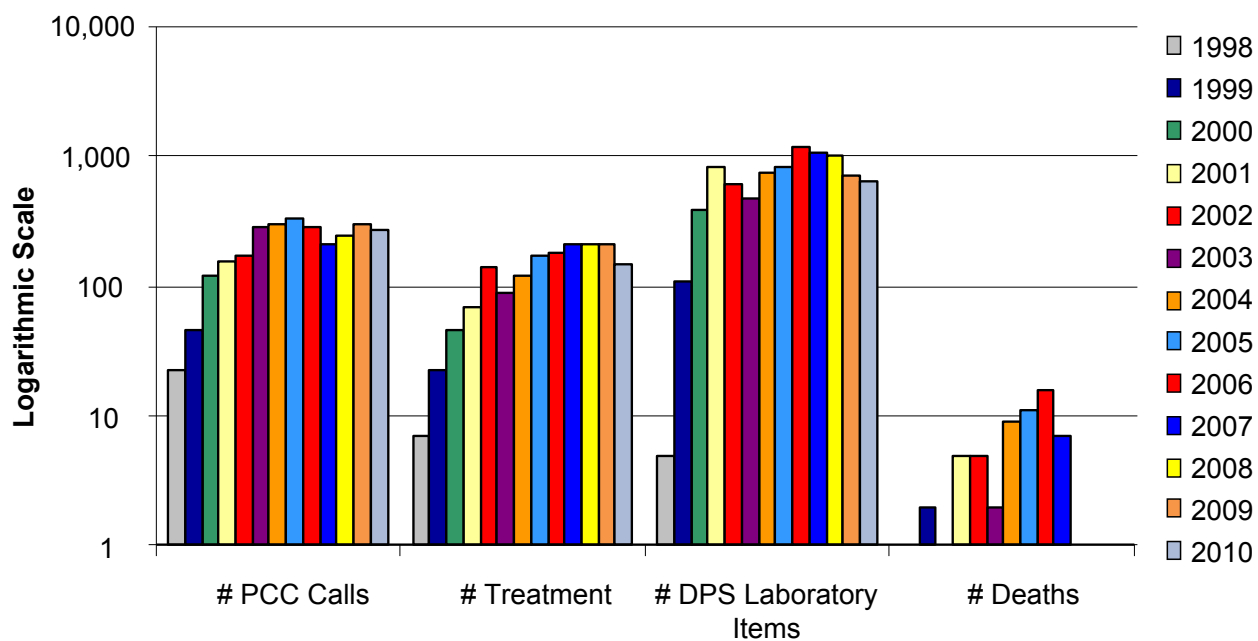
SOURCE: DEA

Exhibit 22. Characteristics of Clients Admitted to DSHS-Funded Treatment with a Primary, Secondary, or Tertiary Problem with Club Drugs: 2010

Club Drug	GHB	Hallucinogens	Ecstasy	PCP	Rohypnol®	Ketamine
# Admissions	91	440	947	882	163	11
Average Age (Years)	32	28	23	29	16	26
% Male	54	65	60	55	71	73
% Black	4	36	34	84	0	9
% White	90	48	39	9	1	64
% Hispanic	4	14	25	6	98	27
% Criminal Justice Involved	52	65	76	63	74	55
% Primary Drug=Club Drug	13	23	14	52	0	0
Other Primary Drug						
% Marijuana	2	35	53	23	71	18
% Alcohol	13	21	9	8	9	0
% Methamphetamines/ Amphetamines	37	4	2	0	0	27
% Powder Cocaine	0	4	7	7	3	9
% Crack Cocaine	26	5	6	6	1	18
% Heroin	2	3	2	0	13	9
% Other Opiates	2	2	2	1	1	9

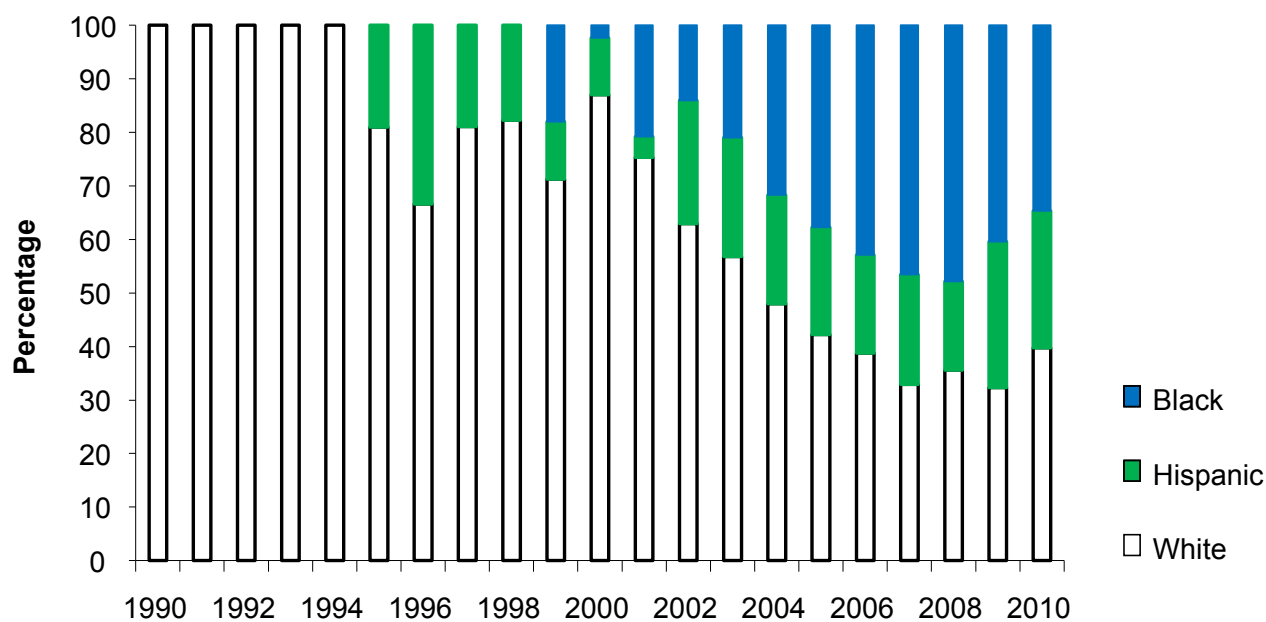
SOURCE: Texas Department of State Health Services (DSHS); analysis by J.C. Maxwell

Exhibit 23. Texas Poison Control Calls, Treatment Admissions, Laboratory Exhibits, and Deaths for Ecstasy: 1998–2010



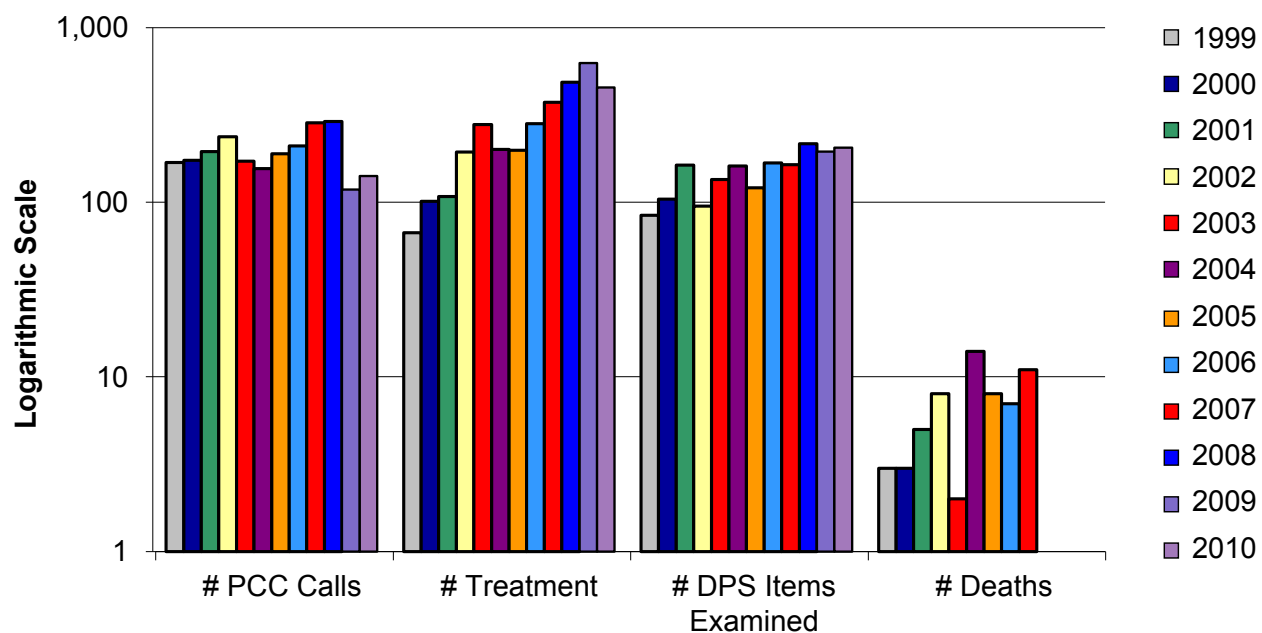
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics

Exhibit 24. Characteristics of Clients Admitted to DSHS-Funded Treatment with a Primary Problem with Ecstasy: 1990–2010



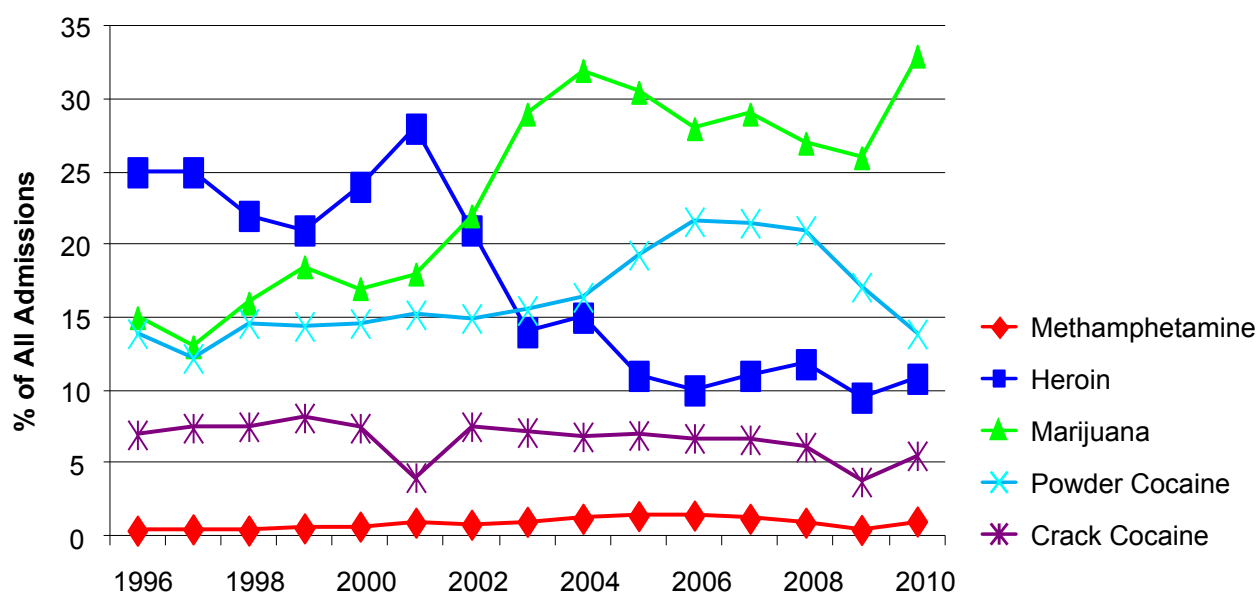
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 25. Texas Poison Control Calls, Treatment Admissions, Laboratory Exhibits, and PCP Deaths: 1999–2010

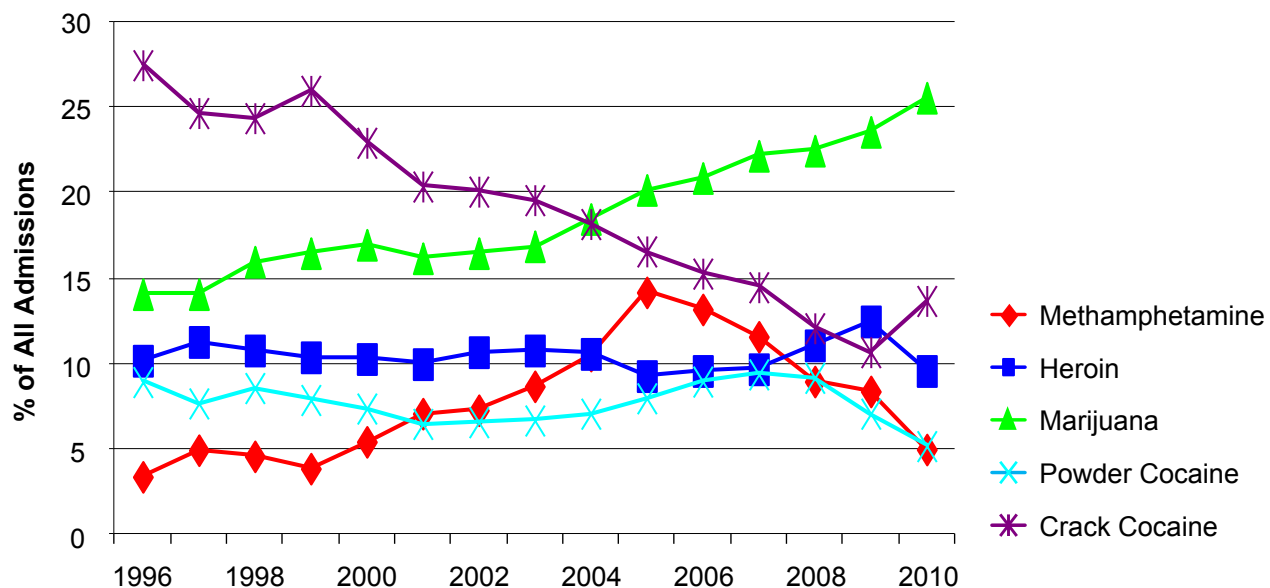


SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); NFLIS, DEA; Texas Bureau of Vital Statistics

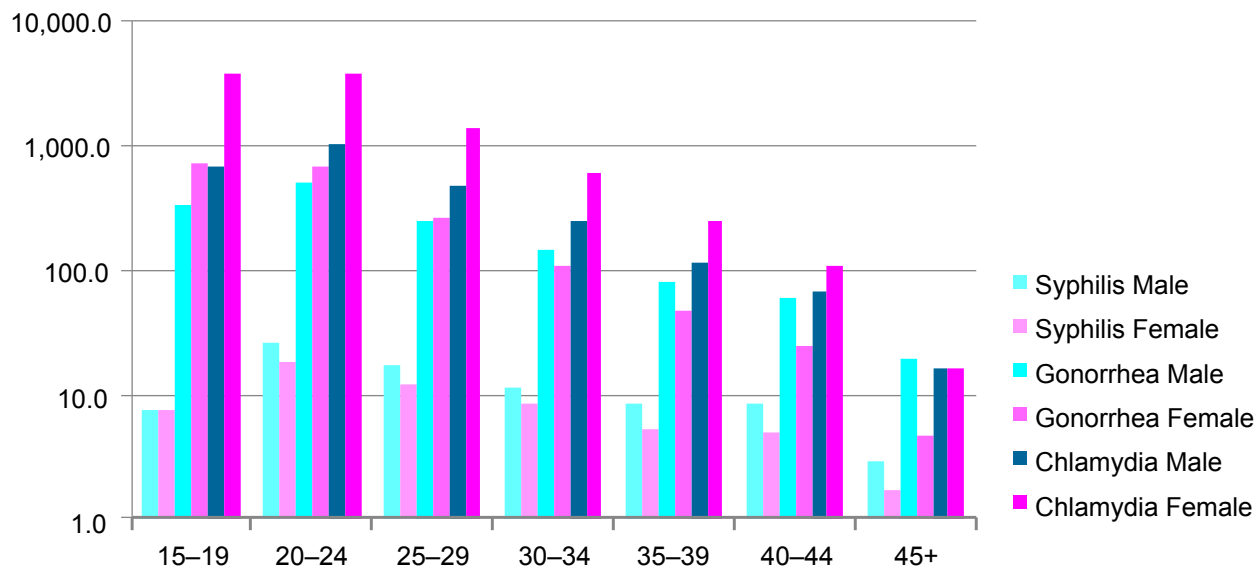
Exhibit 26. Admissions to Texas DSHS-Funded Treatment: Border 1996–2010



SOURCE: Texas Department of State Health Services (DSHS)

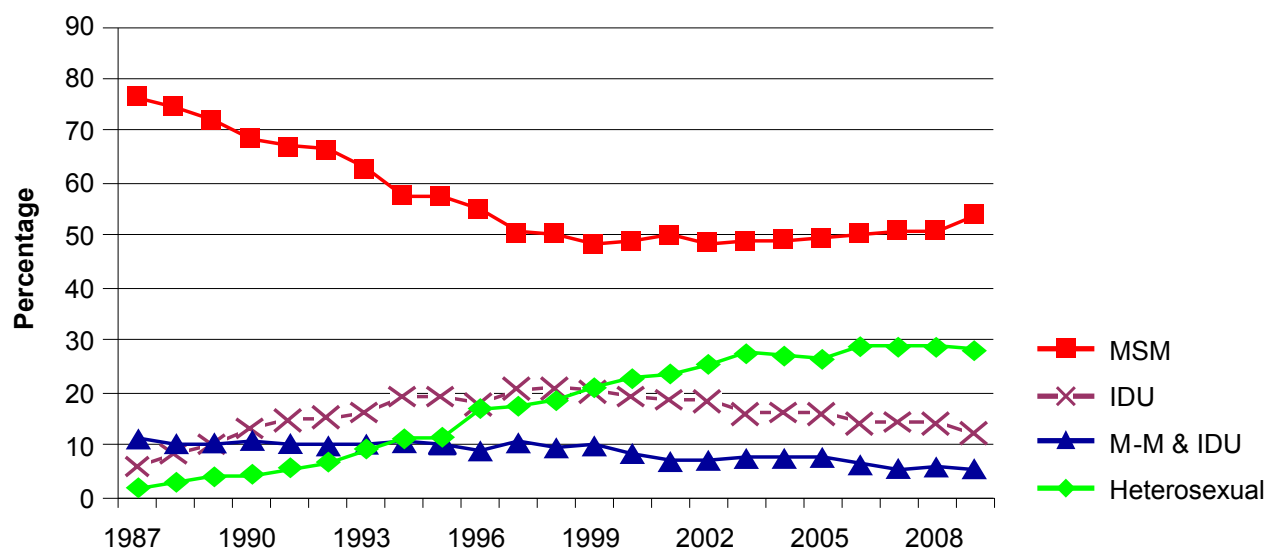
Exhibit 27. Admissions to Texas DSHS-Funded Treatment: Nonborder 1996–2010

SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 28. Texas STD Case Rates: 2010

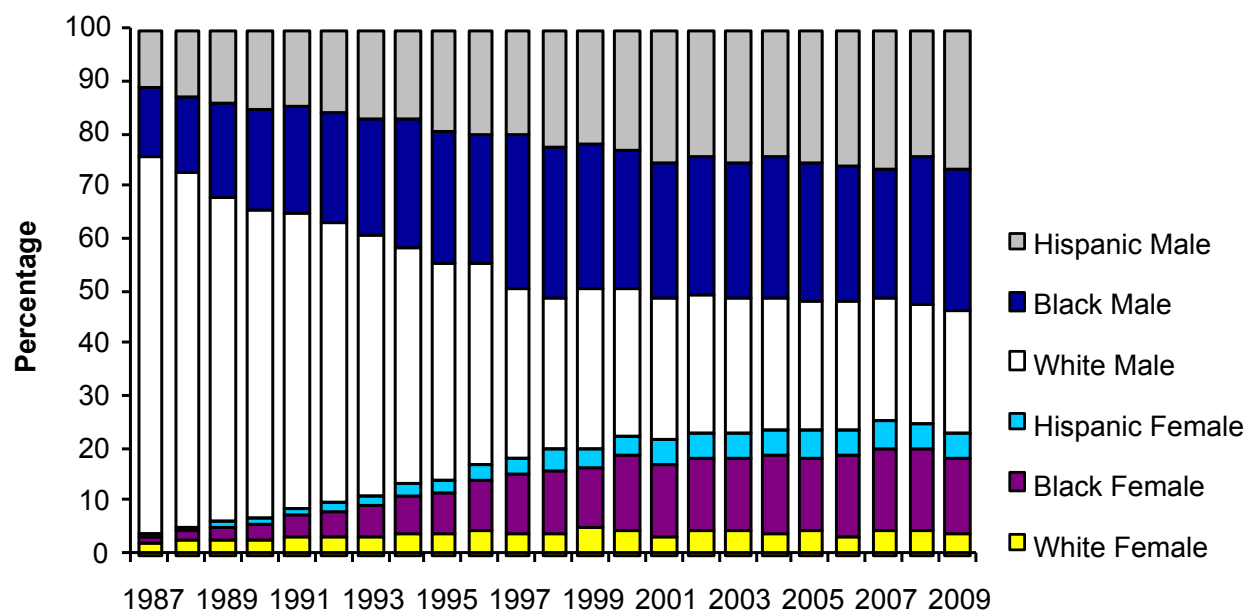
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 29. AIDS Cases in Texas by Mode of Exposure: 1987–2009 (Cases with Risk Not Classified Excluded)



SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 30. Texas Male and Female AIDS Cases, by Race/Ethnicity: 1987–2009



SOURCE: Texas Department of State Health Services (DSHS)

INTERNATIONAL REPORTS

Monitoring The Drug Situation in Canada: 2010

Judy Snider, M.Sc.¹

INTRODUCTION

Monitoring the drug situation in Canada is based on analyses of Health Canada's data from many sources, including the ongoing general population survey, Canadian Alcohol and Drug Use Monitoring Survey (CADUMS); surveys of high-risk populations; emergency department (ED) monitoring and chemical analysis of exhibits from drug seizures (Drug Analysis Service [DAS] Laboratory Information Management System [LIMS]). These data provide a fairly comprehensive picture of the drug situation in Canada and are complemented by those captured by stakeholders, including nongovernment organizations, researchers, and the provinces and territories.

Data Sources

Multiple data sources were used to prepare this report:

- **CADUMS 2008 and 2009 Surveys.** Led by Health Canada, the CADUMS is the first ongoing general population survey on alcohol and drug use in Canada. The results provide a benchmark for tracking the evolution of the alcohol and drug situation in the general population, including the impact of the National Antidrug Strategy.
- **Canadian Addiction Survey (CAS) 2004.** The CAS, conducted in 2004 by the Canadian Centre on Substance Abuse (CCSA), was designed to provide detailed national and provincial estimates of alcohol and drug-related behaviors and outcomes.
- **High-Risk Populations Survey 2010.** Health Canada supports a Comprehensive Alcohol and Other Drug (AOD) Epidemiological Monitoring System in British Columbia (BC-AOD). One component of this project captured information from three distinct high-risk populations: adult drug users (19 and older); street-entrenched youth (age 15–18); and recreational drug users 19 and older (e.g., attendees at clubs, bars, and raves).
- **ED Monitoring.** Health Canada provided funding for two ED projects, a pilot study to collect electronic alcohol and drug use information from ED files in Québec and an interview-based ED monitoring study as part of the BC-AOD project.
- **DAS, LIMS 1988–2009.** Health Canada's DAS conducts chemical analyses of suspected illicit substances for cases proceeding to trial (e.g., where a "not guilty" plea is entered) or for other purposes. Numbers of seizures over time and regions are affected by the extent, focus, and effectiveness of interception/detection activities by police and border services (e.g., a targeted

¹The author is affiliated with Health Canada, Ottawa, Canada.

crackdown on methamphetamine will increase the number of arrests, but does not necessarily indicate increased presence or use of that drug).

Caution is advised when interpreting these data. They underestimate the total number of illicit drug seizures, since they exclude guilty pleas and noncase seizures, and the full range of controlled substances found in a sample may not be captured in the LIMS database.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine (Including Cocaine and Crack Cocaine)

There has been no change in reported past-year cocaine use (1–2 percent) among Canadian adults (age 15 and older between 2004 and 2009) (exhibit 1). In British Columbia, among adult drug users, crack cocaine was the second most frequently reported substance used in the past week (62 percent), according to the high-risk survey, while 13 percent of street youth reported using cocaine in the past week, ranking fifth among drugs used. Among recreational drug users (club, bar, and rave attendees), cocaine was also the fifth most common substance, with 16 percent of respondents reporting past-week use.

Slightly less than 24,000 exhibits containing cocaine/crack cocaine were analyzed by the DAS laboratories in 2010; this represents a 27-percent decrease since the peak in 2007 (exhibit 1). In 2010, a decline in the number of these exhibits was noted in all regions except in Québec, where they increased.

Heroin

Past-year heroin use is not reportable among Canadians age 15 and older in the general population survey. Past-week heroin use was reported by 22 percent of adult drug users in British Columbia in the high-risk survey. Overall in Canada, the number of exhibits containing heroin increased slightly in 2010, compared with 2009 (exhibit 2). Regardless of region, exhibits containing heroin peaked in 1999 and decreased in the early 2000s. Heroin then started to rebound, particularly in British Columbia and Ontario, as indicated by an approximately 25-percent decrease in the number of heroin exhibits analyzed for British Columbia, from 1,024 in 2008 to 742 in 2009. These heroin exhibits decreased further to 676 in 2010. The number of exhibits containing heroin in Ontario climbed over the period and matched the number in British Columbia in 2010.

Psychoactive Pharmaceutical Drugs

A decrease in the prevalence of past-year pharmaceutical drug use (including medical use for such drugs as opioid pain relievers, stimulants, sedatives, or tranquilizers), from 28 percent in 2008 to 25 percent in 2009, was noted among Canadians age 15 and older (exhibit 3). Among these users, 2 percent reported that they used such a drug to get high. This represents less than 1 percent of the Canadian population.

In Canada, the number of exhibits containing prescription opioids has increased since 2005 (exhibit 3). Regional analyses of the number of these exhibits indicated an almost sevenfold increase in exhibits containing pharmaceutical opioids in Ontario since 2000. The numbers of exhibits in all other regions have had more moderate increases over the same period of time.

Amphetamine and Methamphetamine

Less than 1 percent of Canadians age 15 and older reported past-year methamphetamine (methamphetamine and crystal methamphetamine) use, and less than 1 percent reported using speed (amphetamine) over the same time period (exhibit 4).

The number of exhibits containing methamphetamine has increased by 37 percent since 2005, from 6,198 in 2005 to 8,480 in 2010 (exhibit 4). Between 2000 and 2010, there was a steady increase in the exhibits that were analyzed for Québec as containing methamphetamine. An increase in methamphetamine exhibits was seen in Ontario until 2008, and it has decreased since then. A slight increase was also seen for Atlantic Canada from 2003 onwards. Following increases until the mid-2000s, the number of exhibits containing methamphetamine appeared to decrease in the western provinces until 2009 (Prairies and British Columbia); however, it increased in the Prairies in 2010.

Cannabis

Cannabis continued to be the dominant illicit drug in Canada, based on both self-reported past-year use and from laboratory analysis of exhibits from seized substances (exhibit 5). Among the general Canadian population age 15 and older, reported past-year use of cannabis decreased from 14 percent in 2004 to 11 percent in 2009 (exhibit 5). When analyzed separately by gender and age (data not shown), a decrease in past-year cannabis use was noted among males and females age 15 and older and among adult Canadians age 25 and older. Results from the high-risk population project found that cannabis was among the top three substances used by respondents in the past week in British Columbia.

The DAS analyzes more exhibits from cannabis seizures than from any other substance seized in Canada (approximately 57,000 exhibits in 2010). Although the number of exhibits containing cannabis was fairly steady since 2005, there was an increase in the number of those exhibits in 2010 (exhibit 1). The number of exhibits containing cannabis increased in most regions in 2010, including Ontario and Québec, where exhibits reached similar levels to the peaks seen in the early 2000s.

Ecstasy

Approximately 1 percent of Canadians (age 15 and older) reported past-year ecstasy use in 2009; this has not changed over time (exhibit 6). The prevalence of ecstasy past-week use ranked fourth among illicit drugs among street youth (25 percent) and among recreational drug users (30 percent) in British Columbia in 2010.

Overall in Canada, the number of exhibits containing ecstasy (MDMA [3,4-methylenedioxymethamphetamine], MDA [3,4-methylenedioxyamphetamine], MDEA [methylenedioxyethylamphetamine], and MMDA [3-methoxy-4,5-methylenedioxyamphetamine]) increased in 2010, after a decline in 2009 (exhibit 6). The number of exhibits containing ecstasy has increased in most regions since the late 1990s; however, decreases in ecstasy exhibits have been noted in Ontario since 2007 and in British Columbia since 2008. An increasing trend was seen in Québec, which in 2010 had the greatest number of exhibits analyzed ($n=2,252$), surpassing the peak seen in Ontario in 2007.

Hallucinogens

The past-year use of hallucinogens (including salvia) among Canadians 15 years and older decreased, from 2 percent in 2008 to 1 percent in 2009. Among youth (age 15–24), there was a decline in the reported use of these substances, from 10.2 percent in 2008 to 4.4 percent in 2009.

In British Columbia, among street youth, magic mushrooms were the fourth most reported substance used in the year, representing 67 percent of drugs used. The number of exhibits containing hallucinogens (excluding salvia) has remained stable over the past 3 years. Although not a controlled substance in Canada, a small number of exhibits containing salvia have been analyzed annually since 2006.

Emerging Substances

In 2011, Health Canada monitored emerging substances either through surveys (e.g., Doda, a substance made by grinding the seed pods of opium poppies and brewing the powder as tea), exhibit analyses (e.g., 2C family, tryptamine), or both (synthetic cannabinoids, salvia, BZP [1-benzylpiperazine], TFMPP [3-(trifluoromethylphenyl)piperazine], and mephedrone). Results from the laboratory analyses of seized substances has identified that the number of exhibits containing BZP and/or TFMPP increased sevenfold between 2007 and 2008, doubled in 2009, but decreased slightly in 2010 (exhibit 7). It is important to note that the relatively low number of exhibits may be due to the fact that most of these substances, except 2C-B (a synthetic substance, 2,5-dimethoxy-4-bromophenylethylamine) and synthetic cannabinoids (schedule II), are not currently controlled in Canada.

Early Warning Systems

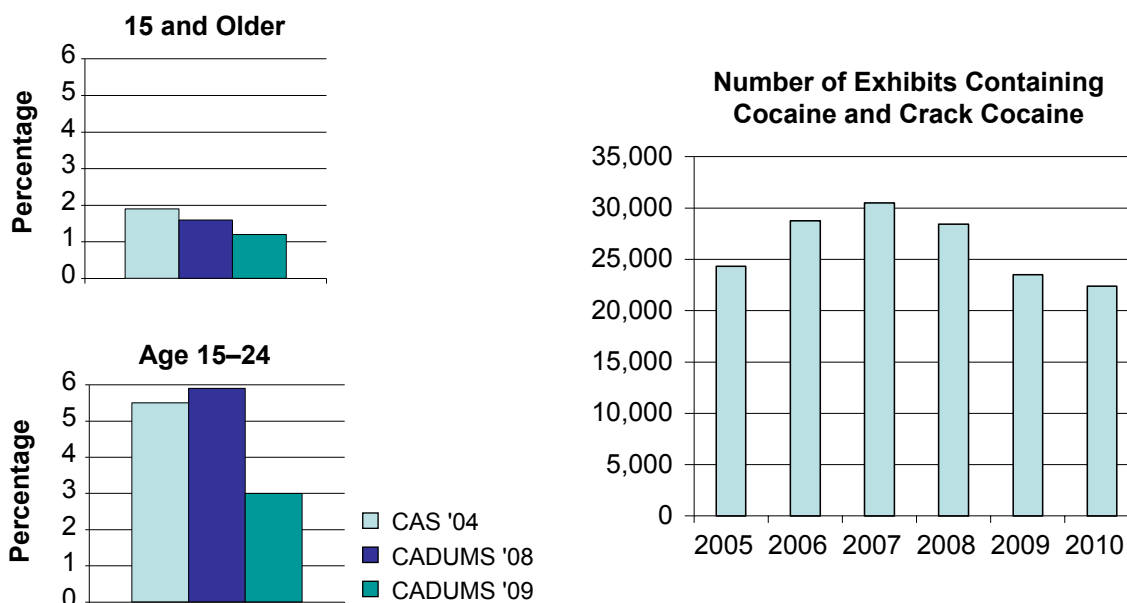
Health Canada has expanded the high-risk population survey across Canada to include cities in five regions (Atlantic Canada, Québec, Ontario, Prairies, and Alberta) beginning in 2011. A data fusion project is being developed with collaborators that will mine data from a number of sources, such as hospital EDs, poison control centres, and ambulance service dispatch. Pilot projects were undertaken in EDs in two provinces; they provided insight into the substances used by ED patients, and in the British Columbia study, they provided an assessment of related harms associated with the self-reported alcohol and drug use.

CONCLUSIONS

Monitoring the drug situation in Canada continues to improve with the advent of new surveillance tools and increases in the capacity to carry out data analyses. These data provide a fairly comprehensive picture of the drug situation in Canada; however, the standard caveats associated with surveys apply (e.g., underreporting, response rates, and cell phones), and the results of analyses of exhibit and destruction data may not reflect actual trends in illicit drug availability. Overall positive results are seen with the overall decrease in self-reported substance use by the Canadian population.

For inquiries regarding this report, contact Judy Snider, M.Sc., Manager of Drugs and Alcohol Surveillance, Office of Research and Surveillance, Controlled Substances and Tobacco Directorate, Healthy Environments and Consumer Safety Branch, Health Canada, MacDonald Building, A.L. 3506D, 123 Slater St., Ottawa, ON, K1A 0K9, Canada, Phone: 613-952-2514, Fax: 613-952-5188, E-mail: judy.snider@hc-sc.gc.ca

Exhibit 1: Prevalence of Past-Year Cocaine and Crack Use (2004–2009) and Number of Exhibits Containing Cocaine and Crack (2005–2010), in Canada



Notes:

In the CADUMS, substances were defined as follows:

Cocaine/crack includes freebase, powder, and snow.

In the CAS, substances were defined as follows:

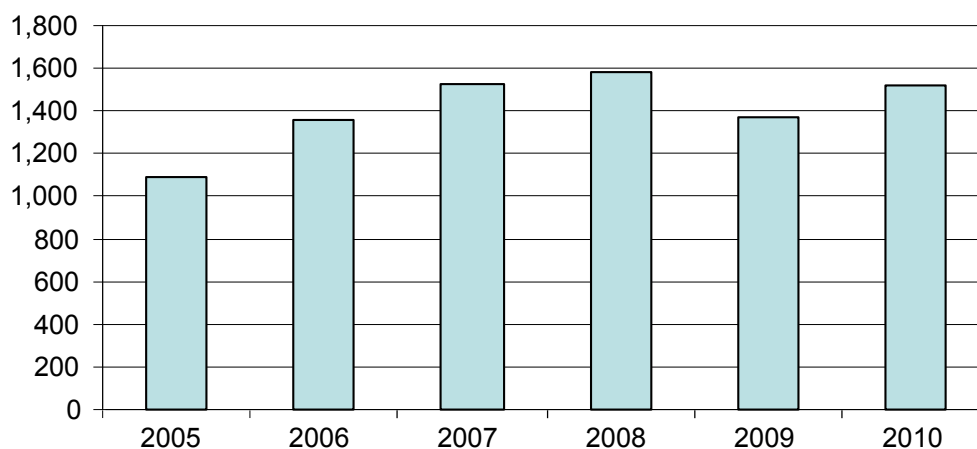
Cocaine/crack.

In the LIMS, substances were defined as follows:

Cocaine includes cocaine, cocaine base, cocaine salt, cocaine calculated as the base, and cocaine calculated as the hydrochloride.

SOURCES: Health Canada: Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2008, 2009; Canadian Centre on Substance Abuse: Canadian Addiction Survey (CAS) 2004; Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 2: Number of Exhibits Containing Heroin, in Canada: 2005–2010



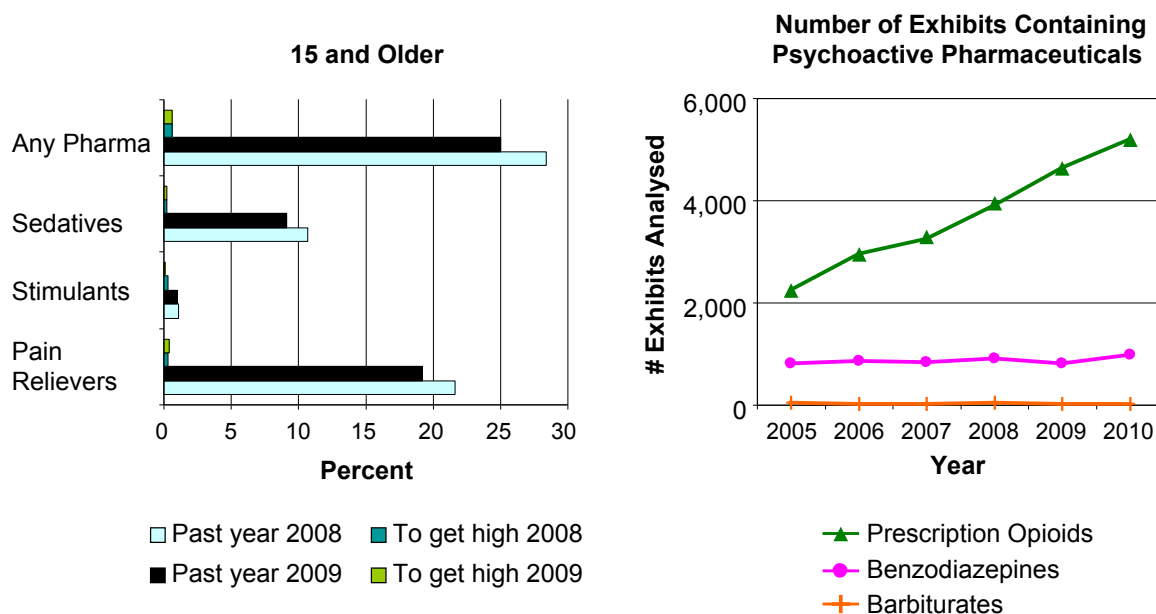
Notes:

In the LIMS, substances were defined as follows:

Heroin includes heroin, heroin base, and heroin salt.

SOURCE: Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 3: Prevalence of Past-Year Psychoactive Pharmaceutical Use and Abuse (2008–2009) and Number of Exhibits Containing Psychoactive Pharmaceuticals (2005–2010), in Canada



Notes:

In the LIMS, substances were defined as follows:

Prescription Opioids include alfentanil, buprenorphine, butorphanol, codeine, codeine salt, diphenoxylate, fentanyl, hydrocodone, hydromorphone, methadone, morphine, morphine salt, normethadone, oxycodone, pentazocine, pethidine, and sufentanil. These include pharmaceuticals available by prescription in Canada.

Barbiturates include amobarbital, barbitol, barbituric acid, butalbital, butabarbital, butobarbital, cyclobarbital, methabarbital, mephobarbital, pentobarbital, phenobarbital, secobarbital, and thiopental.

Benzodiazepines include alprazolam, bromazepam, clobazam, clonazepam, clorazepam, diazepam, flurazepam, chlordiazepoxide, lorazepam, midazolam, nitrazepam, nordazepam, olanzapine, oxazepam, temazepam, and triazolam. These are the "Pharmaceutical" benzodiazepines.

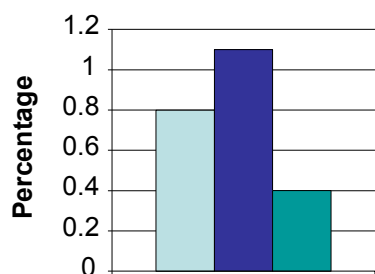
In the CADUMS, substances were defined as follows:

Stimulants obtained from a doctor such as Ritalin®, Concerta®, Adderall®, Dexedrin®, or others. Sedatives obtained from a doctor such as Valium®, Ativan®, Xanax®, or others. Pain relievers a doctor or dentist prescribed such as Percodan®, Demerol®, OxyContin®, or pain relievers with codeine obtained from a pharmacist without a prescription (such as Robaxacet 8® or others).

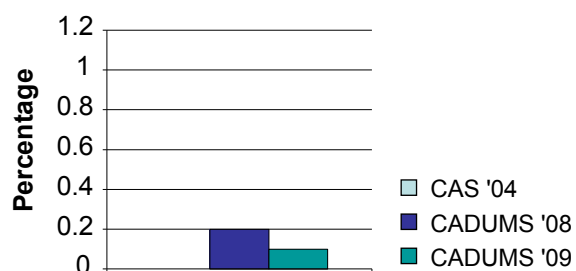
SOURCES: Health Canada: Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2008, 2009; Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 4: Prevalence of Past-Year Amphetamine and Methamphetamine Use (2004–2009) and Number of Exhibits Containing Methamphetamine (2005–2010), in Canada

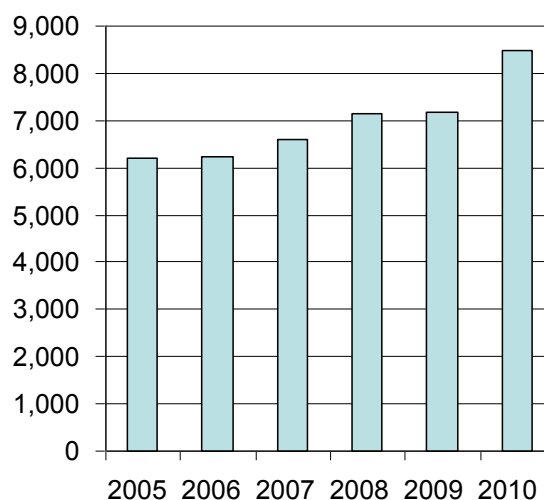
Amphetamine (Speed), 15 and Older



Methamphetamine/Crystal Methamphetamine, 15 and Older



Number of Exhibits Containing Methamphetamine



Notes:

In the CADUMS, substances were defined as follows:

Methamphetamine/crystal methamphetamine (ice).

In the CAS, methamphetamine use was not surveyed and the other substances were defined as follows:

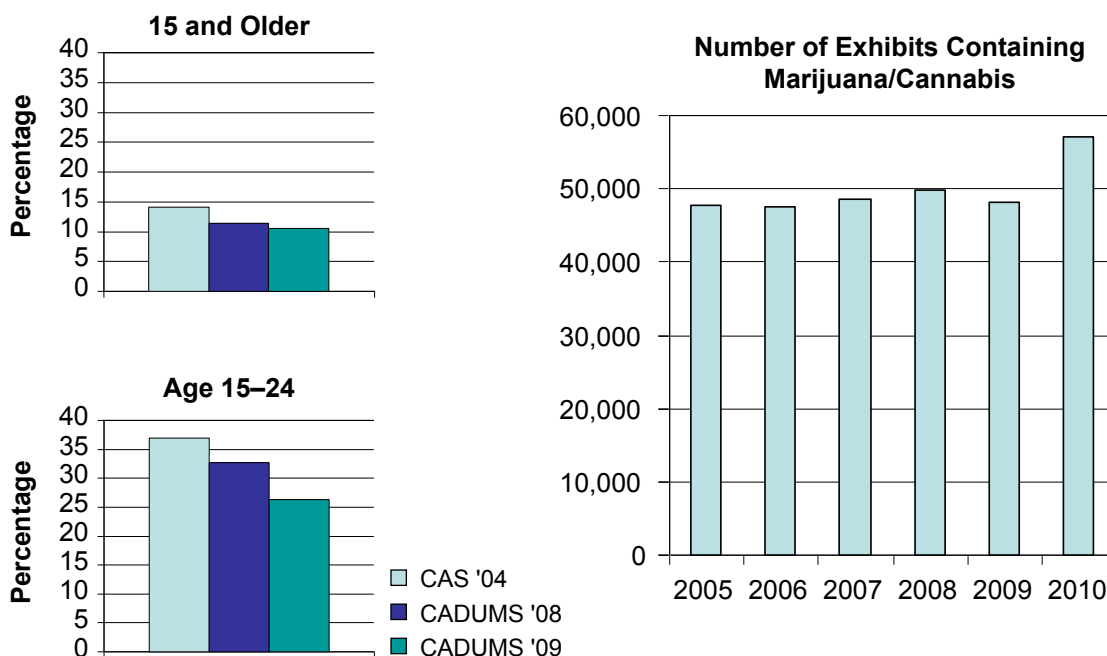
Speed (amphetamines).

In the LIMS, substances were defined as follows:

Methamphetamine includes methamphetamine, methamphetamine calculated as the base, and methamphetamine calculated as the hydrochloride.

SOURCES: Health Canada: Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2008, 2009; Canadian Centre on Substance Abuse: Canadian Addiction Survey (CAS) 2004; Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 5. Prevalence of Past-Year Marijuana/Cannabis Use (2004–2009) and Number of Exhibits Containing Marijuana/Cannabis (2005–2010), in Canada



Notes:

In the CADUMS, substances were defined as follows:

Cannabis refers to marijuana, hashish, hash oil, or other cannabis derivatives.

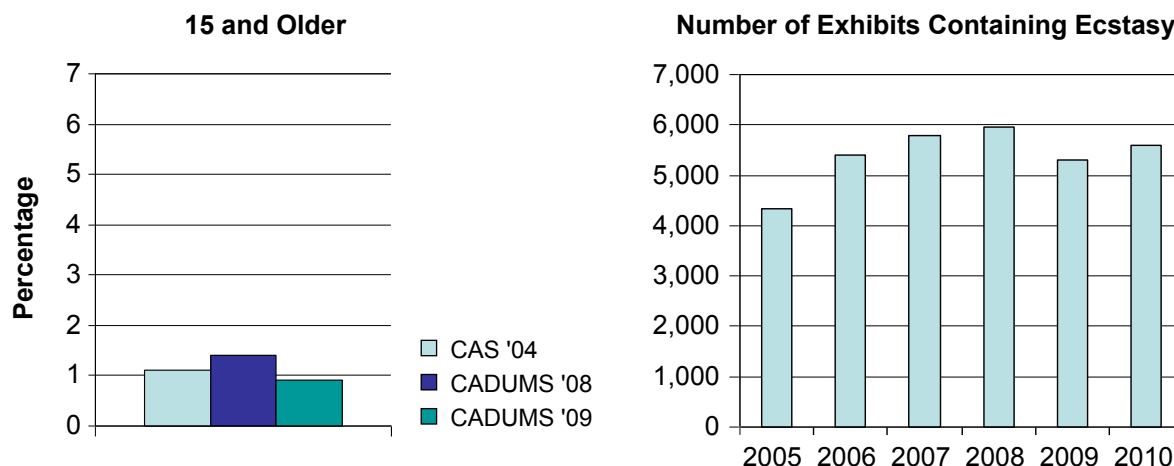
In the CAS, substances were defined as follows:

Cannabis refers to cannabis, marijuana, or hashish.

In the LIMS, substances were defined as follows:

Cannabis includes marijuana, cannabis resin, and cannabis resin (liquid).

SOURCE: Health Canada: Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2008, 2009; Canadian Centre on Substance Abuse: Canadian Addiction Survey (CAS) 2004; Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 6: Prevalence of Past-Year Ecstasy Use (2004–2009) and Number of Exhibits Containing Ecstasy (2005–2010), in Canada

Notes:

In the CADUMS, substances were defined as follows:

Ecstasy includes MDMA, E, Xtc, Adam, and X.

In the CAS, substances were defined as follows:

Ecstasy (MDMA) or other similar drugs.

In the LIMS, substances were defined as follows:

Ecstasy includes MDMA, MDA, MDEA, and MMDA.

SOURCES: Health Canada: Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2008, 2009; Canadian Centre on Substance Abuse: Canadian Addiction Survey (CAS) 2004; Health Canada: Drugs Analysis Service (DAS) - Laboratory Information Management System (LIMS) 2005–2010

Exhibit 7: Number of Exhibits Analyzed, Emerging Substances, in Canada: 2005–2010

	2005	2006	2007	2008	2009	2010
2C Family	6	66	53	103	187	272
Salvia	0	9	8	4	20	36
Tryptamine	11	5	124	239	148	40
BZP/TFMPP	0	8	151	1,161	2,366	1,921
Synthetic Cannabinoids	0	0	0	0	2	88

Notes:

In the LIMS, substances were defined as follows:

2C Family with the exception of 2C-B is not controlled and includes Nexus (2C-B), 2C-E, 2C-I, 2C-T-2, 2C-T-7, DOB (4-BROMO-2,5-DMA) & DOI (an analogue of amphetamine (Ömethylbenzeneethanamine), namely, 4-iodo-2,5-dimethoxyamphetamine).

Tryptamine includes 5-Methoxy-N, N-dimethyltryptamine, 5-Methoxy-N-methyl-Nisopropyltryptamine, 5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE, and 5-methoxy-alpha-methyltryptamine.

BZP includes 1-Benzylpiperazine.

TFMPP includes Trifluoromethylphenylpiperazine; 1-(3-Trifluoromethylphenyl)piperazine.

Synthetic Cannabinoids include JWH-018, JWH-073, JWH-250, and C8_CP47497; these are controlled under Schedule II of the CDSA.

SOURCE: Health Canada, Drug Analysis Service, Laboratory Information Management System (LIMS), 2005–2010

Vancouver and British Columbia Drug Use Epidemiology Report: 2010

Jane A. Buxton M.B.B.S., M.H.Sc., F.R.C.P.C.¹

ABSTRACT

This report collates and interprets the most recent drug epidemiology data currently available from various sources for Vancouver and/or British Columbia (BC). The Downtown Eastside of Vancouver continues to be the center of injection drug use and has an over-representation of males and lower educational attainment and average income than British Columbia. Surveys of three high-risk populations (street-involved youth, club users, and street-involved adults) continued in Victoria and Vancouver in 2010. In the youth cohort, 50 percent reported past-30-day cocaine use; 28 percent reported past-30-day crack use; 26 percent reported using crystal methamphetamine in the past 30 days; and 56 percent reported using ecstasy in the past 30 days. In the club cohort, 40 percent reported past-30-day cocaine use; 16 percent reported crack use in the past 30 days; and 66 percent reported using ecstasy in the past 30 days. In the adult street-involved cohort, 35 percent reported using cocaine in the past 30 days; 85 percent reported crack use in the past 30 days; and 41 percent reported heroin use in same time period. The Vancouver Police Department reported that offences under the criminal code related to each of the four drug types—cocaine, heroin, marijuana/cannabis, and “other drugs”—declined in 2009 for the third consecutive year; offences related to cocaine declined by more than 25 percent from 2008. Marijuana/cannabis possession accounted for 55 percent of the 24,246 provincial drug crimes in 2009. Using attributable fraction methodology, BC deaths related to illicit drugs declined, from 8.1 per 100,000 in 2002 to 6 per 100,000 in 2009. Hospitalizations related to illicit drugs increased from 82 per 100,000 in 2002 to 109 per 100,000 in 2008, and they declined to 92 per 100,000 in 2009. Newly identified hepatitis C virus (HCV) infections in Vancouver have continued to decline, and despite an increase in testing, seroconversion within 24 months has decreased also. New HIV-positive cases have also fallen in the injection drug use population. HCV was identified first in more than one-half of those co-infected with HIV and HCV in BC. Fifty cases of agranulocytosis related to use of crack containing levamisole have been reported in BC, with three related deaths. Many of those with agranulocytosis have repeat episodes, and underreporting is frequent. There are also reports by clinicians of necrotic skin lesions, especially affecting the face and ears. In May 2011, the BC Coroners Service issued a public warning of an increase in deaths associated with more potent heroin. The majority of cases occurred in Fraser Health, not in Vancouver. Clients receiving methadone maintenance therapy in BC continued to rise in 2010. More than 5 million sterile needles/syringes and 3 million sterile water vials were sent to harm reduction distribution sites in BC in the fiscal year (FY) 2010–2011; 3.5 million of the needles/syringes were distributed to Vancouver sites. The Federal government’s appeal to the BC Supreme Court’s 2010 decision that health responses to drug addiction fall under provincial jurisdiction was heard in the Canadian Supreme Court in May 2011; a decision was pending at the time of this report.

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INTRODUCTION

Area Description

Vancouver, British Columbia, is located on the southwest coast of Canada. Port Metropolitan Vancouver is the largest and busiest port in Canada. The 2010 population counts for BC were 4.5 million; 659,214 lived in the city of Vancouver. Vancouver is divided into six Community (Local) Health Areas (CHAs), including the Downtown Eastside (DTES) Core area, which had a population of 69,863 in 2010. This is a 27-percent increase from 55,020 in 2005. The DTES Core continued to be the center of the Vancouver injection drug epidemic. Males were overrepresented in the Vancouver DTES (54.5 percent), compared with BC as a whole (49.6 percent), as were Aboriginal persons.

DRUG ABUSE PATTERNS AND TRENDS

Prevalence of Illicit Drug Use

Prevalence of drug use can be obtained from general population or school surveys. However, these surveys underestimate true prevalence, as those with problematic substance use are less likely to answer the surveys or to be in school, and those who do respond may be reluctant to admit drug use.

The High Risk Population component of the British Columbia Alcohol and Other Drug Monitoring Project provides indicators of patterns of use and substance-related problems with at-risk populations. Face-to-face interviews are performed, with a convenience sample of 50 individuals for each of three high-risk populations (club and party attendees, street-involved youth age 16–24, and street-involved adults) in Vancouver and Victoria. To monitor patterns and trends, the survey data are collected in waves—with two waves per year since 2008. Qualitative and quantitative data are collected, including drug use in the past 12 months, past 30 days, and past week. The relative frequency of survey administration enables the survey to be responsive and explore current concerns. Substance use in Vancouver in the past 30 days and the trends over 2 years by club and party attendees, street-involved youth, and street-involved adults in the second half of 2010 are shown in exhibits 1 to 4, respectively.

Marijuana/cannabis was the drug most frequently used in the past 30 days by both the club and youth high-risk cohorts, at approximately 90 percent, and appeared to have increased over time in both cohorts. However, only 59 percent of the adult street-involved population reported past-30-day marijuana/cannabis use. The most reported drug used by this adult population was crack cocaine, at 85 percent.

The prevalence of cocaine use in the past 30 days reported by club attendees, street-involved youth, and street-involved adult cohorts was 40 percent, 50 percent, and 35 percent, respectively. In these respective cohorts, past-30-day ecstasy use was 66 percent, 56 percent, and 6 percent; crystal methamphetamine use was reported at 6 percent, 26 percent, and 20 percent, respectively.

The three cohorts were also asked questions regarding drug availability. All three cohorts in Vancouver reported that marijuana, cocaine, crack, crystal methamphetamine, and heroin were either easy or very easy to obtain. The mean prices reported are shown in exhibit 5.

The supervised injection facility in Vancouver collects principle substances reported as used by clients. Heroin was reported by 36 percent of these clients, cocaine by 32 percent, and morphine by 12 percent. However, this reflects drugs used by people who attend the facility and may not be a true representation of drug use in Vancouver.

Crime and Enforcement

In Canada, offences involving drugs are prosecuted under the Controlled Drugs and Substances Act (CDSA) and are categorized by drug type (i.e., heroin, cocaine, marijuana/cannabis, and other). Cocaine includes powdered and crack cocaine. Drug offence data are influenced by police enforcement practices and reporting styles. In 2004, the Vancouver Police Department (VPD) adopted a new reporting style that took into account four separate offences per incident instead of the previous single most serious offence. Drug-related offences rose substantially from 2003 to 2006, but they declined in 2009 for the third consecutive year. In 2009, the highest numbers of drug offences in Vancouver were related to cocaine (44 percent); marijuana/cannabis accounted for 38 percent; heroin constituted 13 percent; and other drugs represented 5 percent (exhibit 6).

The rate of drug crimes in BC in 2009 (the latest data available) was reported as 5.4 per 1,000 population, a decline since the high in 2007 of 6.6 per 1,000 population as (exhibit 7). The majority of the 24,246 drug offences in BC were attributed to marijuana/cannabis (55 percent possession and 13 percent trafficking, production, or distribution). Cocaine followed at 12 percent possession and 9 percent trafficking, production, or distribution (exhibit 8).

The Health Canada Drug Analysis Service performs chemical composition analysis of suspected illegal substances seized by Canadian police and customs officers (called exhibits). Only substances where the arrestee is prosecuted are analyzed. Data are recorded in the Laboratory Information Management System, which does not record the quantity of drug seized. These data are reported elsewhere by Health Canada and are not repeated here (see Judy Snider report from Health Canada for detail).

Harms from Illicit Drug Use

Hospitalization and Deaths Attributable to Substance Use in British Columbia

Hospitalizations and deaths attributed to substance use in BC are calculated using the etiologic fraction methodology. Aggregate data are received from the BC Ministry of Health Discharge Abstract Database and BC Vital Statistics agency for more than 70 individual ICD-10 codes, by sex, 5-year age group, and health region. The hospitalizations and deaths are calculated for tobacco, alcohol, and illicit drugs, both as absolute numbers and age/sex adjusted rates. Illicit drug morbidity and mortality include a proportion of hospitalizations and deaths due to HIV and hepatitis C, mental and behavioral disorders due to drugs, and accidental and intentional illicit drug overdose deaths. The most recent data available were for 2009.

Exhibit 9 shows provincial hospitalization and deaths attributed to the three categories of substance use—tobacco, alcohol, and illicit drugs. Hospitalizations and deaths attributable to illicit drugs represent a small proportion of those caused by tobacco. A description of the methodology can be found at the Alcohol and Other Drug Monitoring Project Web site (see references).

Hospitalizations and deaths attributed to illicit drugs in BC have declined since 2006. The BC hospitalization rate attributed to illicit drugs declined from 113.47 per 100,000 population in 2006 to 91.91 per 100,000 in 2009. The overall death rate attributed to illicit drugs declined from 8.98 per 100,000 population to 6.48 per 100,000 in the same years (exhibit 10). However, the death rates in some health authorities were unstable due to small numbers (exhibit 11).

Illicit Drug Overdose Deaths

The BC Coroners Service reports on illicit drug overdose deaths. It conducts a toxicological examination for all deaths in which the abuse of street drugs is suspected. In March 2011, a Coroner from the Fraser region, which is east of Vancouver, became concerned about the number of recent overdose deaths which appeared to be associated with heroin. Testing of samples of heroin in the lower mainland confirmed that the purity of heroin had increased in these samples, from the usual 20 percent to more than 50 percent purity. In early May 2011, the BC Coroners Office issued a warning about heroin potency. The alert stated that in the first 4 months of 2011, the BC Coroner's Office had identified an increase in cases of heroin-related overdoses, double the number of cases during the same period in 2010. Analysis of the provisional data of the 38 heroin-related overdose deaths identified in January–April 2011 indicated the majority of cases occurred in the Fraser Health region. Eighty-two percent of the heroin-related deaths were male. The majority ($n=26$) of cases were younger than 40; 15 cases were age 20–29; one case was younger than 20; and 10 cases were age 30–39.

Overdoses observed at the supervised injection site (InSite) in the first half of 2011 were reviewed and showed increases in the numbers of overdoses involving heroin (including speedballs, a combination of heroin and cocaine) and overdoses involving heroin when intra-nasal Narcan was administered, compared with 2010. VCH collates emergency room admissions due to overdose by substance for 9 of the 13 acute care hospitals in Vancouver. Every week in 2011 had a higher number of overdoses when compared with 2010.

INFECTIOUS DISEASES RELATED TO DRUG USE: HCV AND HIV

Hepatitis C Virus

In BC, about 70,000 persons infected with hepatitis C virus (HCV) have been reported to public health since it became a reportable disease in 1992. An additional 20–25 percent may have been infected with HCV but are unaware. Sharing needles and other injecting equipment during intra-venous drug use is the most common risk factor for contracting the disease. Sharing snorting and smoking equipment, such as straws and pipes, has also been implicated. About 5 percent of adult injectors in Vancouver participating in the high-risk population survey reported sharing a needle in the past 12 months; this is significantly less than those who reported sharing in Victoria (exhibit 12).

A positive HCV antibody result indicates that infection has occurred, but it is unable to distinguish if the virus has been cleared (as occurs naturally in approximately 25 percent of those infected) or has become a chronic infection. People may be tested for HCV due to past or ongoing risk factors, such as drug use. However, others may be tested as they develop symptoms as a result of a chronic HCV infection, such as cirrhosis, having been infected many years ago. Therefore, newly identified

HCV infections do not necessarily mean a person has recently acquired HCV. In BC, newly identified HCV-positive results are entered into the provincial integrated Public Health Information System (iPHIS). Exhibit 13 shows the rate of HCV infection per 100,000 population in Vancouver, BC, and Canada. The peak of identification in 1996–1997 was associated with the notification from the BC Ministry of Health for blood product recipients prior to 1992 to be tested for HCV.

In 2010, 2,224 cases of HCV were newly identified in BC; 371 of these were reported in Vancouver, consistent with a general historical decrease both provincially and in Vancouver since 1997 (exhibit 13). Cases identified are dependent on testing patterns as well as actual cases. Although females test more frequently than males, more cases of HCV were identified in males overall. However, in younger age groups (15–19, 20–24, and 25–29 age groups) female cases are reported more frequently than males (exhibit 14).

The Provincial Public Health Reference Laboratory performs 95 percent of anti-HCV (HCV antibody) testing and has positive and negative anti-HCV results from more than 900,000 individuals since 1992. This longitudinal data set allows identification of persons who have seroconverted from HCV negative to positive antibody. Only 25 percent of persons infected with HCV develop symptoms at the time of infection, and acute infections are often missed. Therefore, new infections of HCV are more completely identified using laboratory data, which contain negative and positive serology results. The number of individuals tested for HCV has steadily increased since 1998, with more than 120,000 persons tested in 2009. Despite this increase in testing, HCV seroconversions within 24 months have decreased since 2006. Although HCV is more prevalent in males, seroconversion is more commonly identified in females.

HIV

There has been a decline in HIV cases in Vancouver that identify injection drug use as the main risk factor, from 71 cases in 2002 to 21 in 2010 (exhibit 15). Various reasons have been proposed to account for this decline (which is also mirrored in BC overall), such as the impact of harm reduction programs; changing drug use patterns from injection to smoking; and the increased uptake of Highly Active Antiretroviral Treatment among people who report injection drug use, which can reduce the viral load and thus risk of transmission. The first two reasons would also account for the decline in HCV seroconversions; however, the reasons for the decline are likely multifactorial. There has been increased access to harm reduction measures in Vancouver and BC during the time injection drug use-related HIV infections have been declining. In 2003, the needle exchange policy in BC was replaced by needle distribution to enable those who injected drugs to have a new needle for every injection. Introduction of this policy was found to decrease HIV infections in the Vancouver drug injecting cohort. The supervised injection facility was opened in Vancouver in 2003, and the number of clients receiving methadone maintenance therapy (MMT) in BC has increased steadily since 2005 (exhibit 16).

The database of HIV-positive cases is linked to cases of HCV. From 1995 to April 11, 2011, 1,918 cases of co-infection have been identified. Of these, 68 percent were male; 61 percent identified themselves as Caucasian; and 23 percent reported First Nations ethnicity. HIV was identified first in about one-quarter of the cases; another quarter had HIV and HCV identified at the same time; and 51 percent had HCV identified first. The sequence of infections supports the need for followup of newly identified HCV cases and harm reduction measures to prevent subsequent HIV infection.

Neutropenia Related to Cocaine Use

Cases of neutropenia associated with exposure to cocaine containing levamisole, an antihelminthic agent, were first identified in Alberta and BC in 2008. About 69 percent of cocaine seized at the U.S. borders contains levamisole. A report form was developed in BC to collect and collate levamisole information; from January 2008 to May 2011, 50 cases of agranulocytosis were reported, with at least 3 deaths. Although cases continue to be sporadically reported, underreporting is likely considerable. Cases have been distributed throughout the province, and many have had repeat episodes. More cases have been reported in females and among persons reporting First Nations ethnicity. A case-control study is underway to investigate genetic markers and behavioral risk factors related to agranulocytosis. Cases of necrotic skin lesions have also been identified involving the face and ear, and they have been associated with levamisole in cocaine.

REDUCING HARMS FROM ILLICIT DRUG USE

Harm reduction aims to keep people safe and minimize death, disease, and injury from high-risk behaviors. It involves a range of services and strategies to enhance knowledge, skills, and support to enable individuals, families, and communities to be safer and healthier. Harm reduction initiatives in BC include the MMT program; harm reduction supply distribution (e.g., condoms, needles/syringes, cookers, ascorbic acid, and sterile water); and the InSite.

Methadone Maintenance Therapy

The College of Physicians and Surgeons of BC administers the methadone program and maintains a register of patients receiving methadone for the treatment of opioid dependency throughout BC. Studies have found that MMT programs reduce morbidity and mortality among opiate-addicted clients and diminish the users' involvement in crime, as well as reducing the risk of contracting HIV and helping drug users to gain control of their lives. As of December 31, 2009, 11,853 clients were registered with the MMT program. Exhibit 16 shows the number of patients receiving MMT as of December of each year from 1997 to 2010. Prior to 2003, all clients on methadone, whether for maintenance or prescribed for pain, were included. Following a general decline from 2002 to 2005, there has been a steady increase in clients receiving MMT.

In order to receive authorization (section 56 of CDSA exemption) to prescribe methadone for maintenance to their patients, a physician must complete a 1-day workshop and 2 half-days of a preceptorship. Forty-three new physicians were granted methadone maintenance exemptions in 2010. In BC, 403 physicians were methadone maintenance exempted, and 226 of these had patients registered with them.

The College of Pharmacists of BC introduced a series of methadone training workshops around the province in 2011. As of October 1, 2011, any pharmacists wishing to provide community pharmacy services related to MMT must have successfully completed the mandatory training program prior to providing MMT services.

Harm Reduction Supplies

Policies regarding harm reduction supply distribution in BC are developed by the BC Harm Reduction Strategies and Services Committee. Harm reduction supplies (such as sterile needles/syringes, water vials, cookers, and acidifiers for injecting drugs; mouthpieces and push-sticks for smoking crack cocaine; and safer sex products) are coordinated through the BC Centre for Disease Control pharmacy. Supplies are distributed through a central warehouse location. The orders for supplies are tracked by individual items to more than 200 approved ordering sites. In fiscal year (FY) 2010–2011, 5.13 million needles/syringes and 3.03 million sterile water vials were sent to harm reduction distribution sites throughout BC (exhibit 17). Sixty-four percent (3.29 million) of the needles were sent to Vancouver, and of these 44 percent (1.44 million) went to InSite for use for injection within the facility and distribution for use off site.

In FY 2010–2011, Vancouver sites received 528,000 cookers and 189,600 sachets of ascorbic acid (vitamin C) (which is used to dissolve crack cocaine for injection and is preferable to other acids which may become contaminated with bacteria or cause more vein irritation, such as vinegar or lemon juice). In FY 2010–2011, Vancouver received 1.39 million condoms, down from 1.92 million condoms ordered in FY 2009–2010, which may be due in part to over ordering the previous year in preparation for the Winter Olympic Games. A map of needle distribution and details of other supply distribution throughout BC can be found in the June 2011 *Strategies Newsletter* available on the BC Centre for Disease Control Harm Reduction Web site. Exhibit 17 shows the distribution of harm reduction supplies by fiscal year (April 1 to March 31) from 2006–2007 to 2010–2011, by the health authority in BC. Exhibit 18 shows totals for needles and water vials distributed to Vancouver sites in FYs 2006–2007 to 2010–2011.

Supervised Injection Site

Supervised injection sites (SISs) are controlled health care settings where people who use drugs can inject illicit drugs which they have personally acquired under supervision. Counseling, health care, and referral to social services and health and drug use treatment services are available from staff at the facilities. There are 70 SISs in 6 countries around the world, including Europe and Australia. InSite, a supervised injection site, was established in Vancouver in 2003.

InSite has 12 injection booths where clients inject pre-obtained illicit drugs using clean injection paraphernalia provided by the site. Supervision by nurses and health care staff enables immediate overdose interventions to be implemented. From 2004 to 2010, there were 1,418 overdoses managed by staff with no fatalities; 221 of these occurred in 2010.

Since it opened, InSite has had more than 1.8 million visits. In 2010, there were 312,214 visits by 12,236 unique individuals, of whom 26 percent were females, and 17 percent identified themselves as Aboriginal. There was an average of 855 daily visits, with 587 injections per day. OnSite also has 12 rooms for clients who are ready to access withdrawal management; in 2010, there were 458 admissions to OnSite detoxification.

Rigorous peer-reviewed research of the cohorts of adults and youth who use and/or inject drugs in Vancouver and at InSite continue to be published in eminent journals.

When InSite opened, it received a Section 56 exemption from Health Canada (stating that health responses to drug addiction fall under provincial jurisdiction rather than Federal jurisdiction). The exemption renewal was deferred until the end of 2007 while an external evaluation was performed. In May 2008, the BC Supreme Court Judge found the application of the Federal drug laws to InSite deprives injection drug users of their rights to life, liberty, and security of the person, and is not in accordance with the principles of fundamental justice. In January 2010, the BC Court of Appeals dismissed the Federal Government appeal, stating that health responses to drug addiction fall under provincial jurisdiction. The Federal Government appeal to this decision was heard in the Supreme Court of Canada in May 2011; a final decision was pending at the time of this report.

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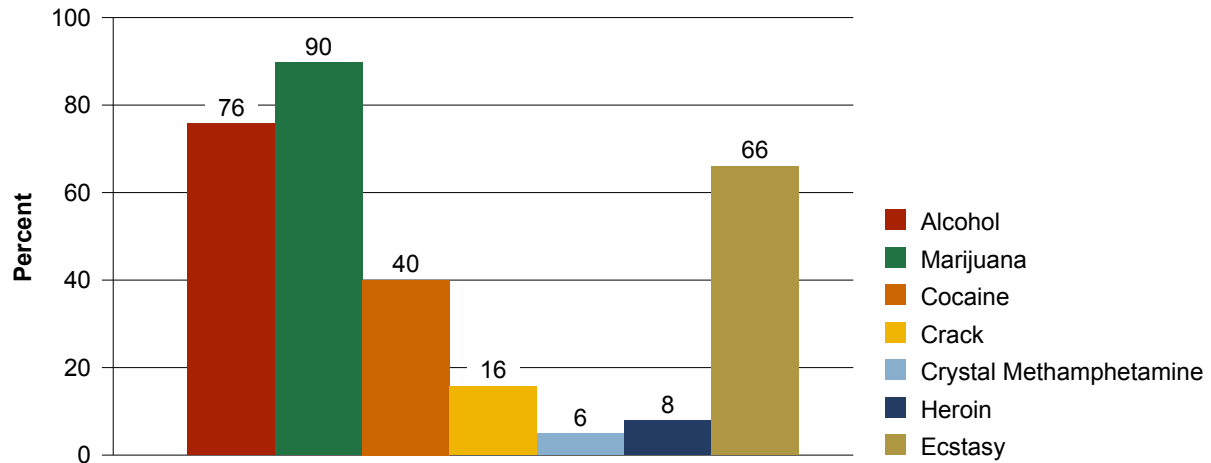
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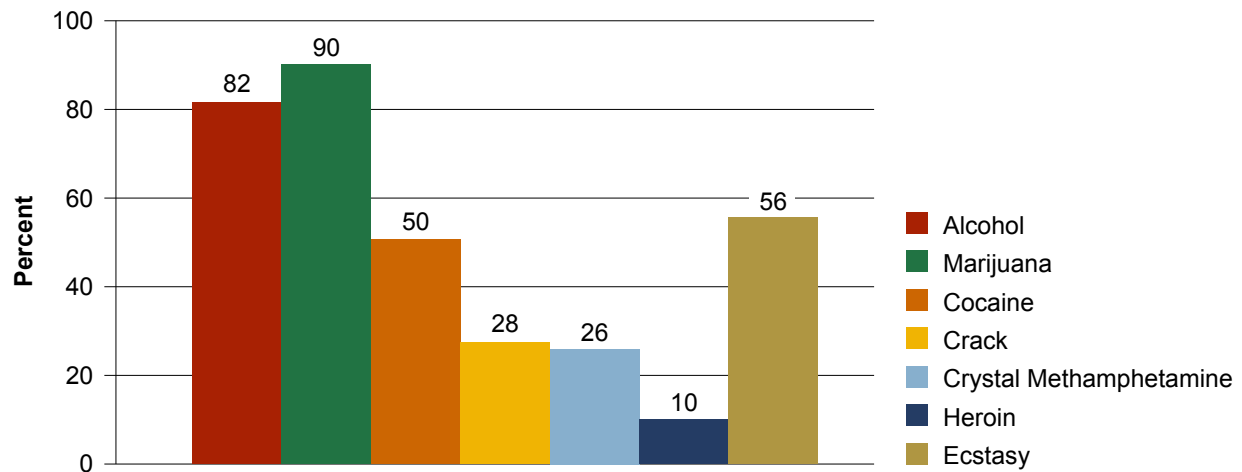
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Exhibit 1. Prevalence of Substance Use in the Past 30 Days (Club Cohort), in Vancouver, Wave 2 (N=100): 2010



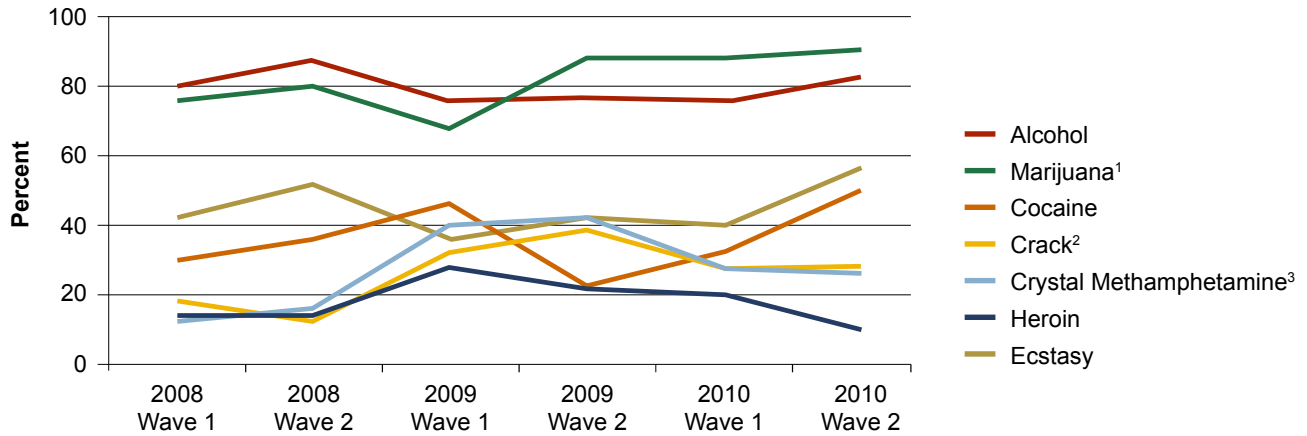
SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 2. Prevalence of Substance Use in the Past 30 Days (Youth SIDU), in Vancouver, Wave 2 (N=100): 2010



SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 3. Prevalence of Substance Use in the Past 30 Days (Youth SIDU), in Vancouver (N=300): 2008–2010



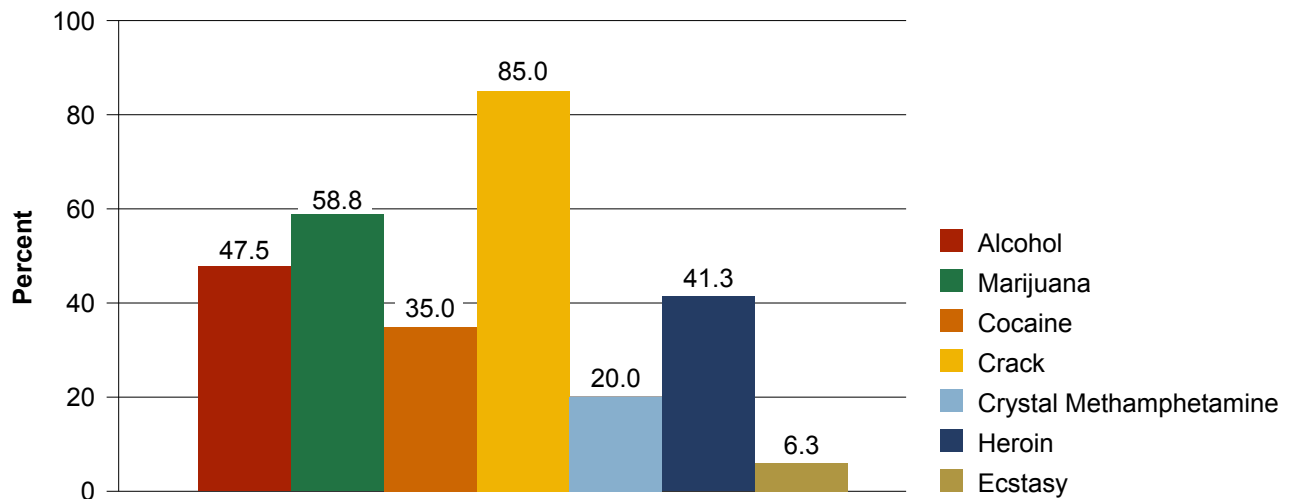
¹Marijuana: $\chi^2=6.08$, $p<.05$.

²Crack: $\chi^2=4.00$, $p<.05$.

³Crystal methamphetamine: $\chi^2=4.18$, $p<.05$.

SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 4. Prevalence of Substance Use in the Past 30 Days (Adults SIDU), in Vancouver, Wave 2 (N=160): 2010



SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 5. Mean Price of Drugs Reported by Participants, Second Wave of 2010 Vancouver Survey, Rounded to the Nearest Canadian Dollar

Drug ¹	Club	Street-Involved Youth	Street-Involved Adults
Marijuana/Cannabis	9	11	9
Ecstasy	6	**2	**
Cocaine	83	85	102
Crack	94	96	90
Crystal Methamphetamine	113	108	135
Heroin	180	**	134

¹Prices reported per 1 gram, except ecstasy per tablet.

²Responses of fewer than three were suppressed.

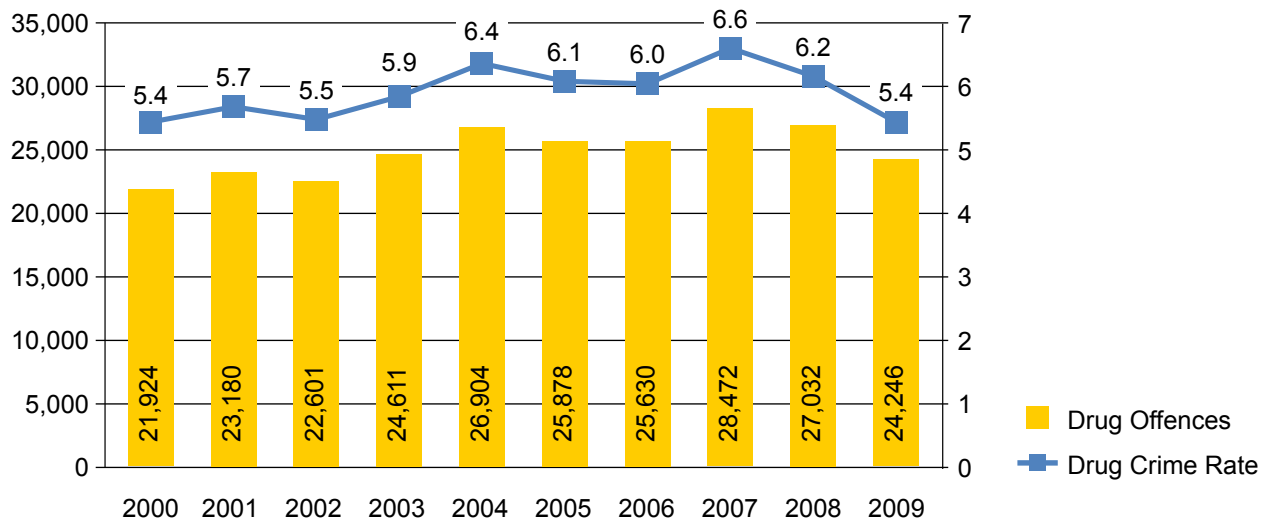
SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 6. Number and Rate per 1,000 of Vancouver Police Department Criminal Code Offences, by Drug: 2007–2009

Drug	2007 Number (Rate/1,000)	2008 Number (Rate/1,000)	2009 Number (Rate/1,000)	% Change 2008–2009
Heroin	590 (1.0)	489 (0.8)	445 (0.7)	-11.1
Cocaine	2,237 (3.7)	1,984 (3.2)	1,495 (2.4)	-26.1
Marijuana/Cannabis	1,655 (2.7)	1,407 (2.3)	1,269 (2.0)	-11.6
Other Drugs	182 (0.3)	203 (0.3)	171 (0.3)	-17.0
Total	4,664 (7.6)	4,084 (6.6)	3,380 (5.4)	- 18.8

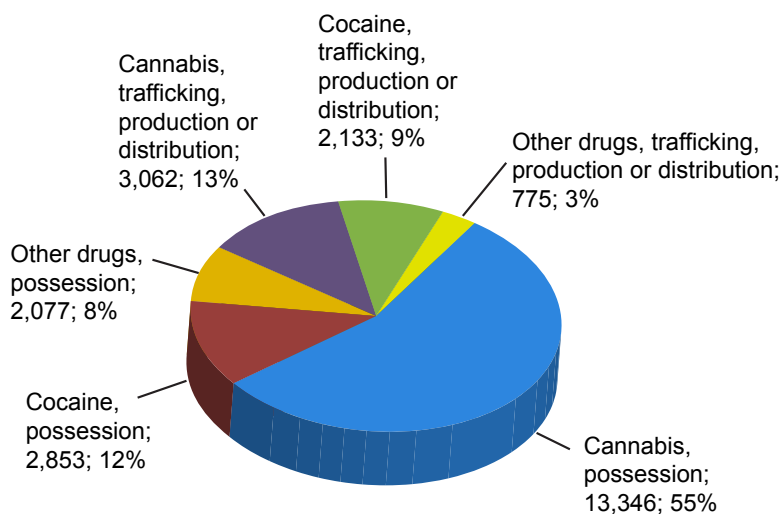
SOURCE: <http://vancouver.ca/police/about/publications/index.html>

Exhibit 7. Number and Rate per 1,000 of Criminal Code Offences (Drugs), British Columbia: 2000–2009



SOURCE: http://www.pssg.gov.bc.ca/police_services/publications/

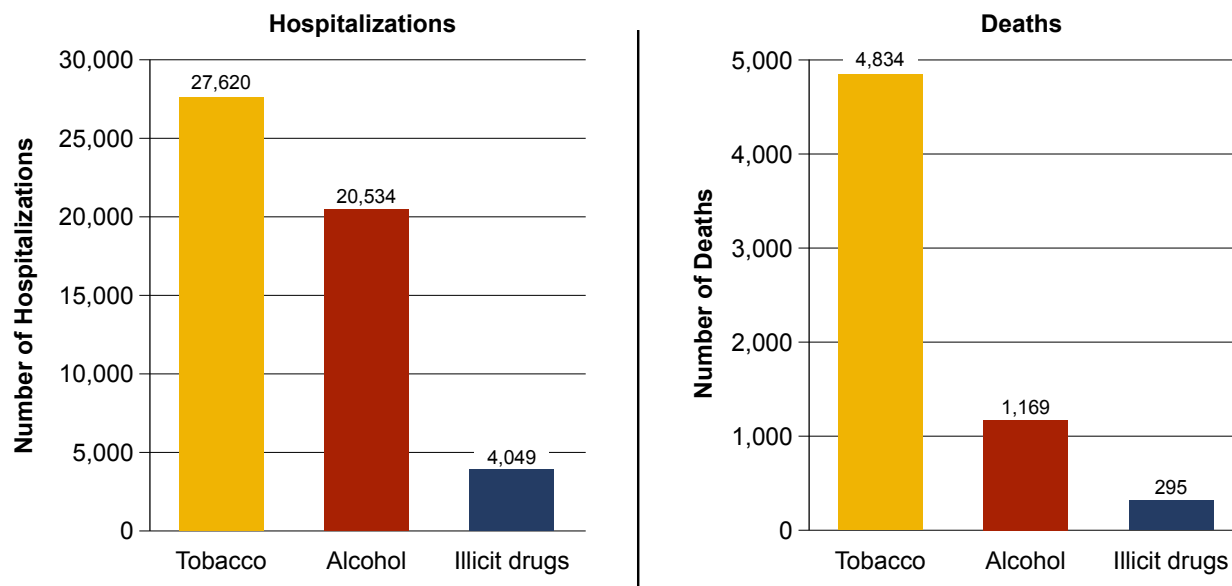
Exhibit 8. Number and Percentage of Drug Offences, by Type of Offence, in British Columbia: 2009



Total Drug Offences = 24,246

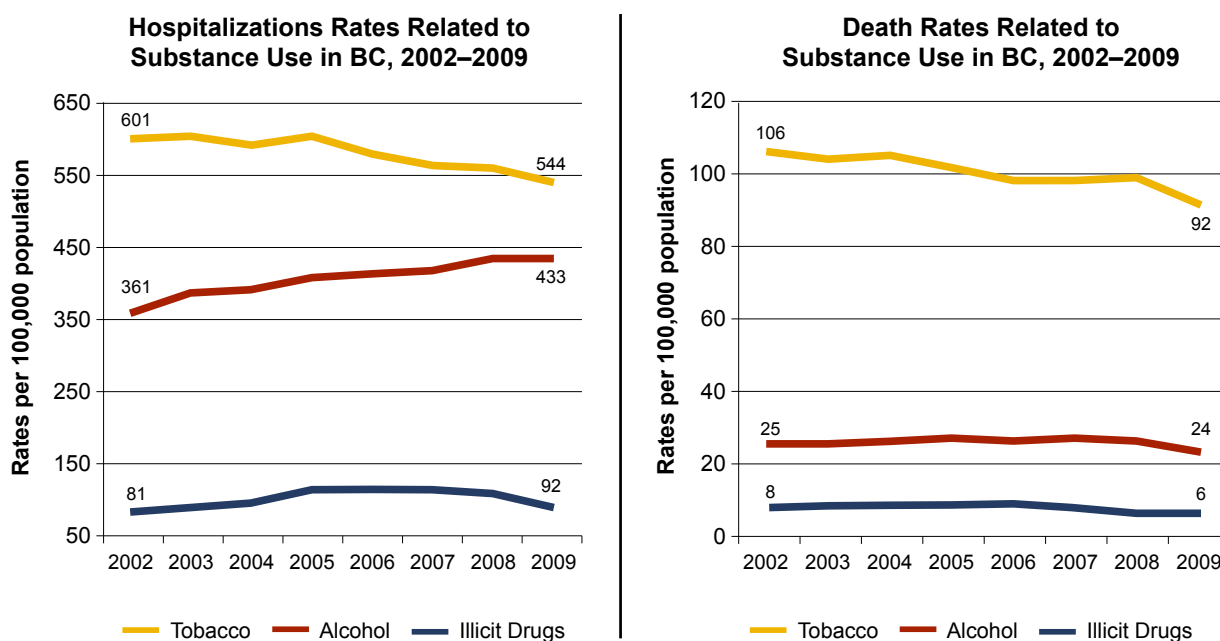
SOURCE: http://www.pssg.gov.bc.ca/police_services/publications/

Exhibit 9. Number of Hospitalizations and Deaths Attributed to Tobacco, Alcohol, and Illicit Drugs, in British Columbia: 2009



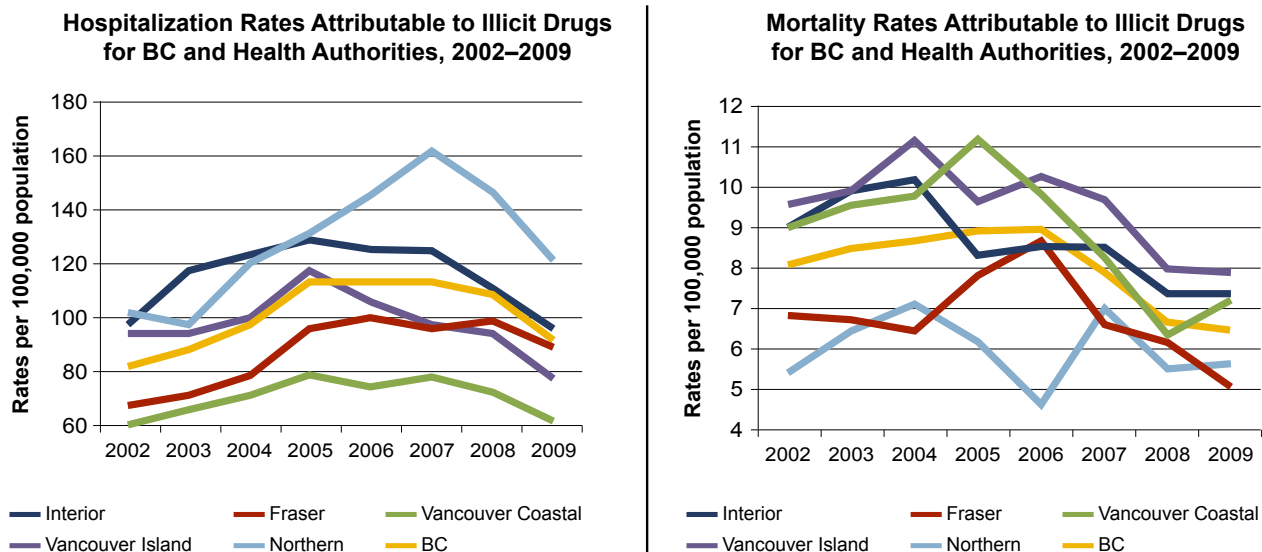
SOURCE: <http://carbc.ca/AODMonitoring/ResearchComponents/%20MortalityMorbidity/tabid/614/Default.aspx>

Exhibit 10. Hospitalization and Death Rates per 100,000 Population Related to Substance Use, in British Columbia: 2002–2009



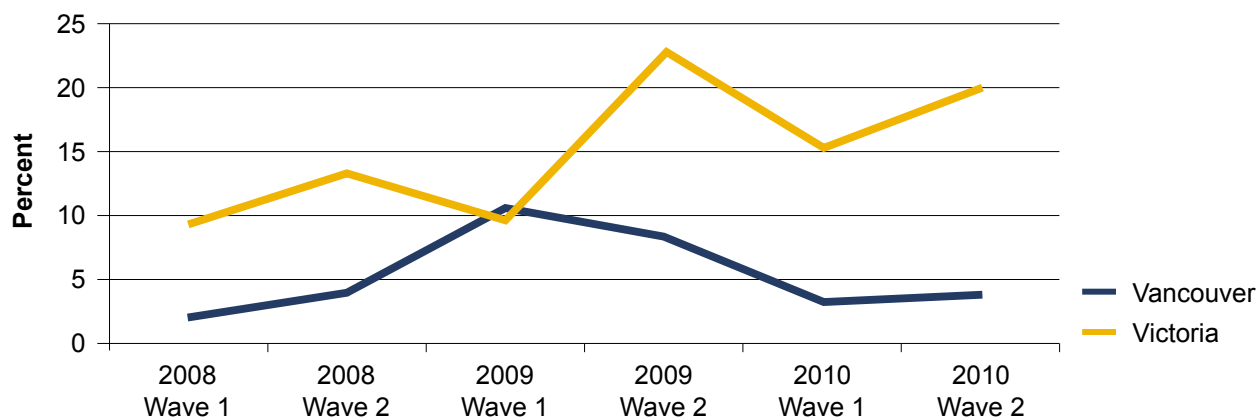
SOURCE: <http://carbc.ca/AODMonitoring/ResearchComponents/%20MortalityMorbidity/tabid/614/Default.aspx>

Exhibit 11. Hospitalization and Mortality Rates per 100,000 Population Attributed to Illicit Drugs, for British Columbia Health Authorities: 2002–2009



SOURCE: <http://carbc.ca/AODMonitoring/ResearchComponents/%20MortalityMorbidity/tabid/614/Default.aspx>

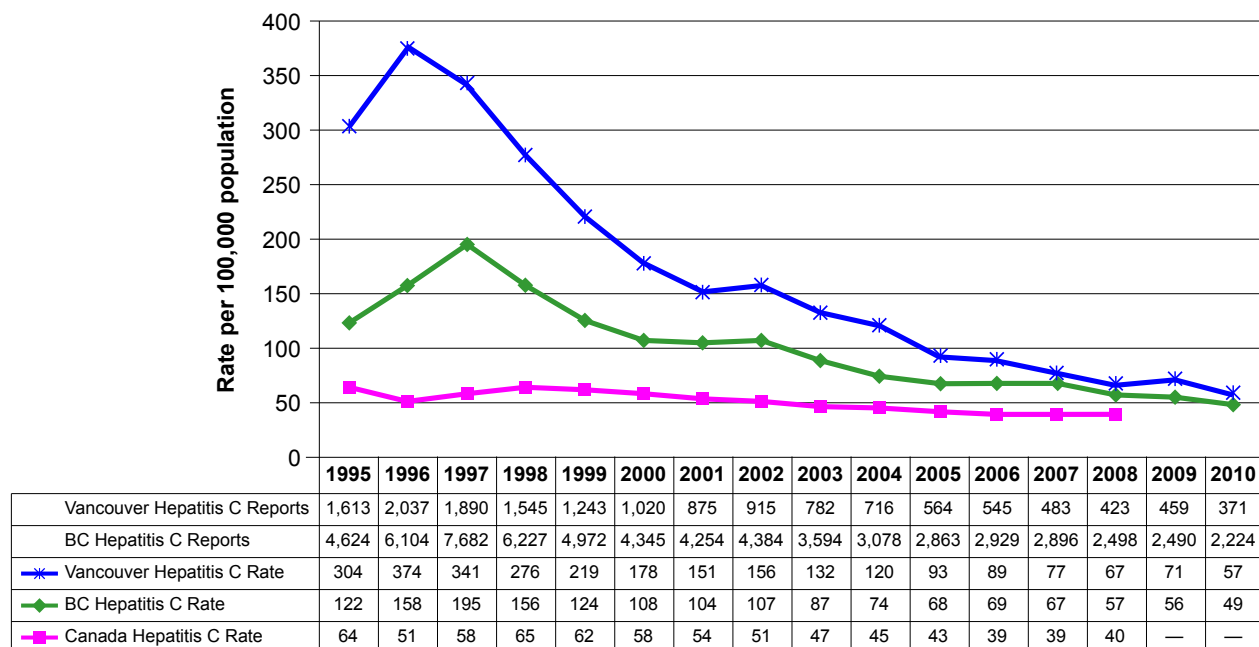
Exhibit 12. Percentage of Past-12-Month Needle Sharing Among Active Drug Injectors, in Vancouver and Victoria: 2008–2010



Note: Overall needle sharing significantly greater in Victoria than Vancouver ($\chi^2=9.83$; $p<.01^*$)

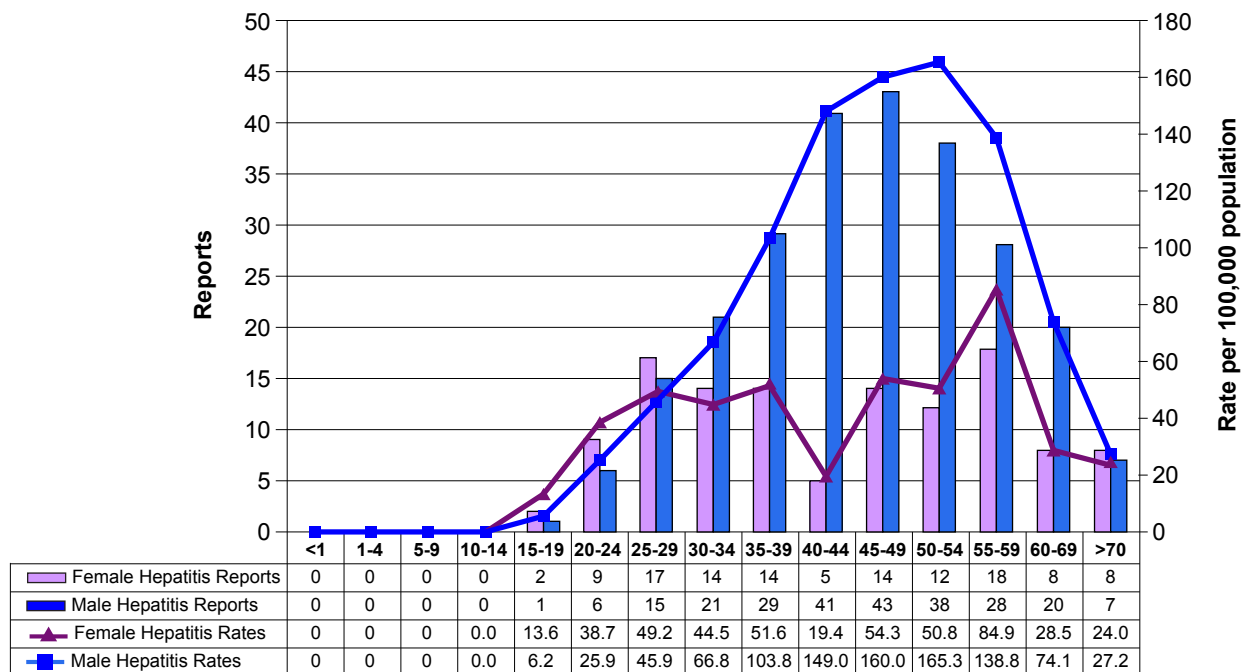
SOURCE: <http://www.carbc.ca/AODMonitoring/ResearchComponents/HighRiskPopulations.aspx>

Exhibit 13. Number of Reports and Rates per 100,000 Population for HCV Cases Reported in Vancouver, BC, and Canada: 1995–2010

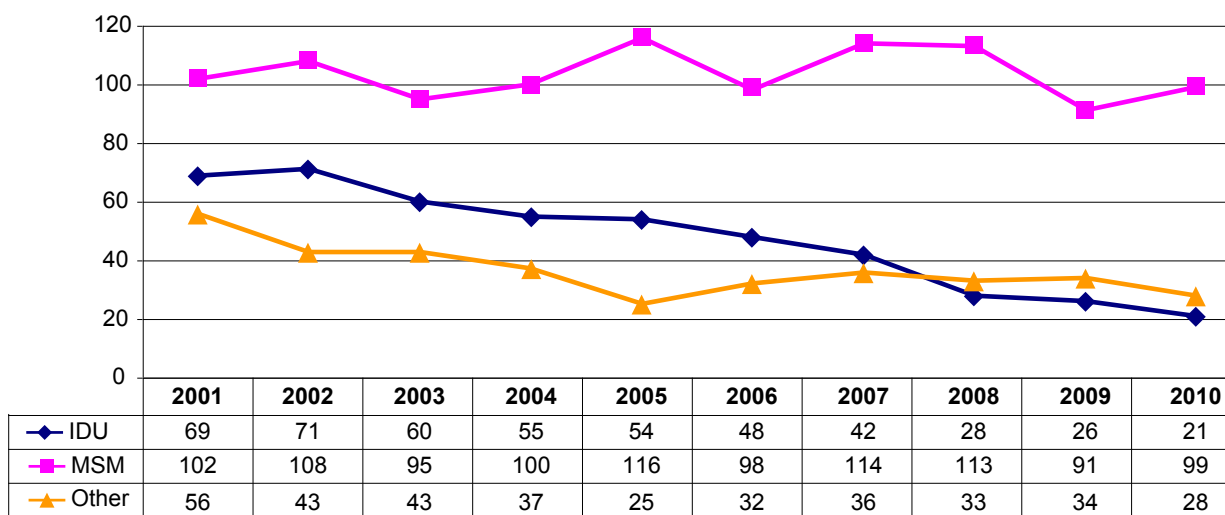


SOURCE: integrated Public Health Information System (iPHIS), data extracted May 17, 2011

Exhibit 14. Number of Reports and Rates per 100,000 Population of HCV Cases Reported, by Age and Sex, in Vancouver: 2010

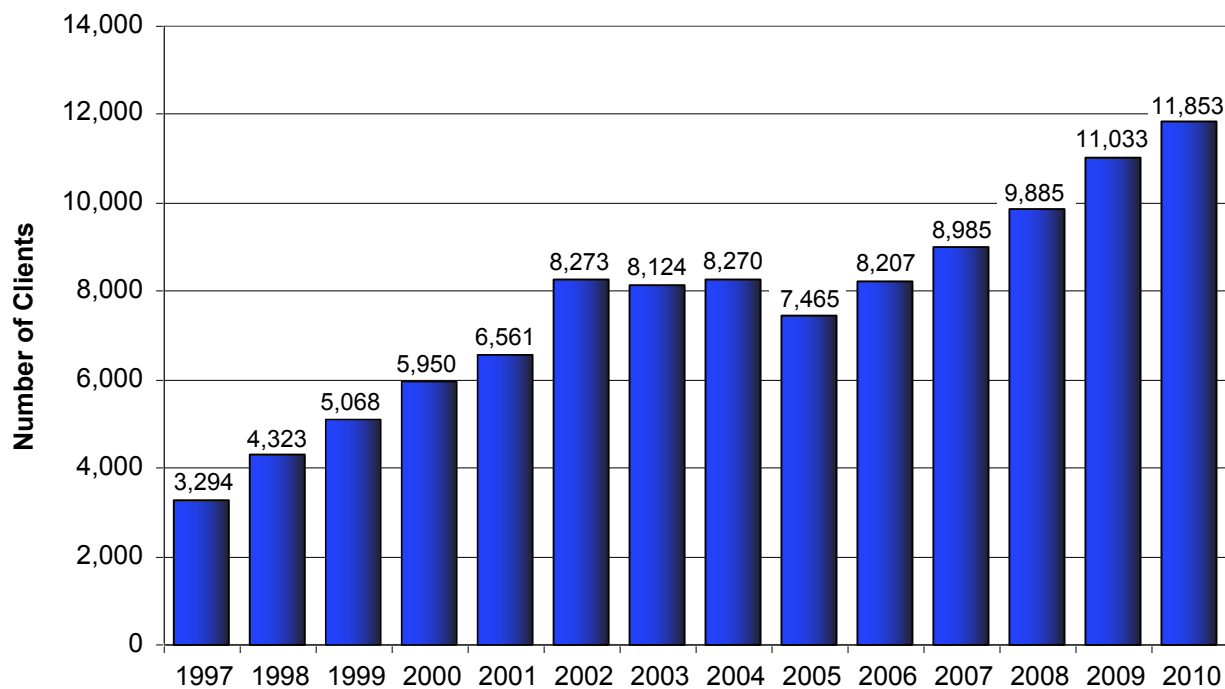


SOURCE: integrated Public Health Information System (iPHIS), data extracted May 17, 2011

Exhibit 15. Number of Persons Testing Newly Positive for HIV, in Vancouver: 2001–2010

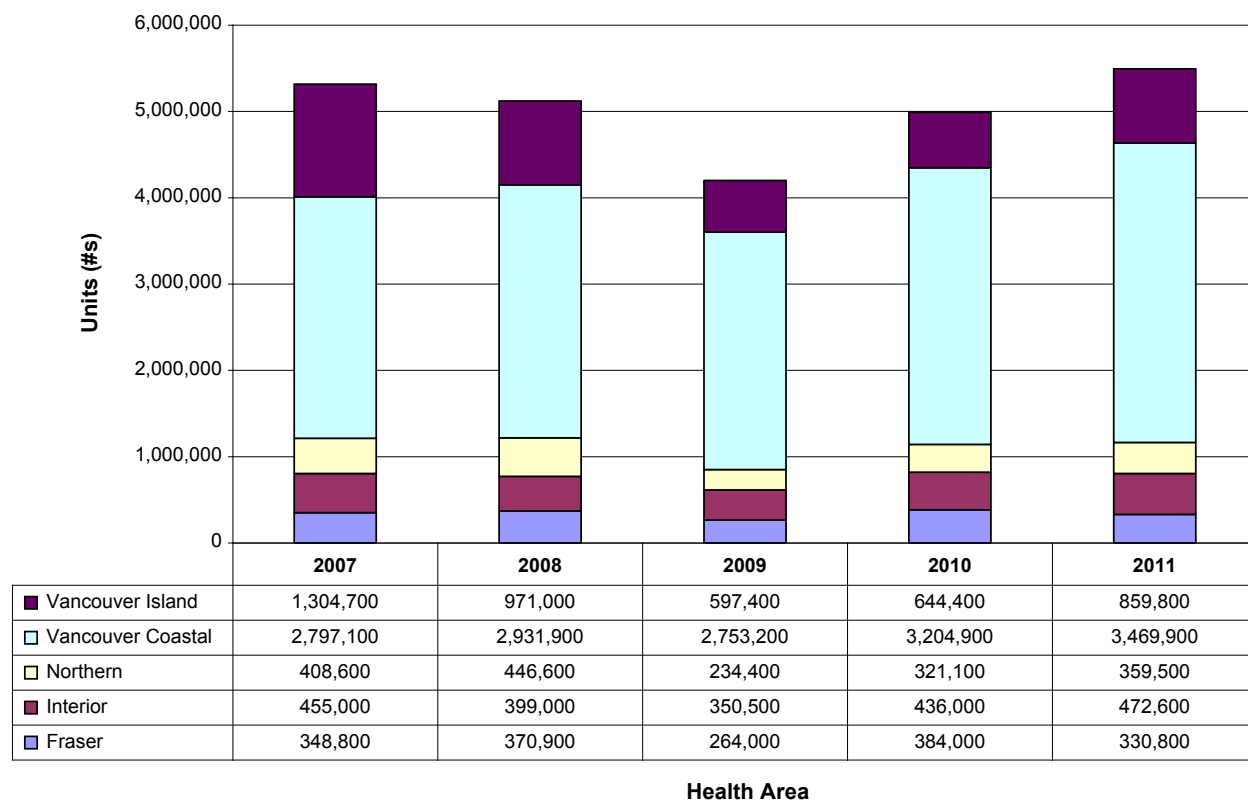
Notes: IDU= injection drug user; MSM=men who have sex with men; IDU includes MSM/IDU.

SOURCE: BCCDC HIV/AIDS Information System; data prepared by VCH Public Health Surveillance Unit, June 3, 2011

Exhibit 16. Number of Clients in Methadone Treatment, in British Columbia: 1997–2010

SOURCE: College of Physicians and Surgeons Annual Report, 2010 Committee Reports, Methadone Maintenance Committee

Exhibit 17. Needles/Syringe Distribution, by Provincial Harm Reduction Supplies, by Numbers and Year, Select Areas in Canada: Fiscal Years 2007–2011¹



¹FY=April 1 through March 31.

SOURCE: British Columbia Centre for Disease Control

Exhibit 18. Number of Harm Reduction Supplies Distributed in Vancouver, by Fiscal Year¹: FYs 2006–2007 to 2010–2011

	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
Needles/syringes	2,771,200	2,971,800	3,110,300	3,124,000	3,469,900
Water Vials	1,840,000	1,621,100	1,514,000	1,687,000	1,955,000

¹FY=April 1 through March 31.

SOURCE: British Columbia Centre for Disease Control Pharmacy Database

The Canadian Community Epidemiology Network on Drug Use: 2010

Erin E. Beasley¹

The Canadian Centre on Substance Abuse (CCSA), Canada's national addiction agency, is currently working towards revitalizing the Canadian Community Epidemiology Network on Drug Use (CCENDU). The past year marked much progress towards this goal. A national CCENDU report will likely be released in fall 2011. It will include data from Ottawa, Saskatoon, Winnipeg, Vancouver, Victoria, and Toronto. Much work is also being done currently to create a vibrant knowledge exchange network. Highlights of the CCSA/CCENDU report will include the following information.

Ottawa has long been known as the “City of Cocaine,” and use of crack cocaine increased dramatically over the 7-year period from 2003 to 2010, according to findings of the CCSA. In 2010, 22 percent of Ottawa students said they had used a prescription drug nonmedically in the past year; of these, 70 percent said they got the drugs from home. An increase in the use of heroin was observed in the second half of 2010; it was described as a “cheaper replacement for OxyContin®.”

In **Saskatoon**, people using cocaine and crack were mostly age 19–29; there were slightly more males than females. Most people using marijuana/cannabis were younger than 49, with the highest rates among those younger than 19. More females than males used prescription opioids; most were age 19–49. Concerns were emerging regarding energy drinks and Salvia divinorum.

A study of emergency room data in **Toronto** showed that of all visits in which drugs were implicated, 30.6 percent were for opioids (11.5 percent of these were attributed to oxycodone); 19.9 percent were for crack/cocaine; and less than 5 percent were for club drugs (e.g., ecstasy or ketamine). The study specifically examined patient charts for levamisole, and no evidence of levamisole-related harms were found.

Marijuana/cannabis continued to be one of the most prevalent drugs in **Winnipeg**. Of adult treatment clients in the Winnipeg Health Regions in 2009–2010, the drugs of choice reported were as follows:

- Marijuana: 82.8 percent
- Cocaine: 57.7 percent
- Narcotics/opiates: 47.7 percent
- Crack/cocaine: 43.6 percent
- LSD (lysergic acid diethylamide), mescaline, or psilocybin: 41.5 percent
- Tranquilizers: 34.9 percent
- Benzodiazepines: 32.0 percent
- Ecstasy/club drugs: 31.0 percent

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Recent Trends in Drug Use in New Zealand: 2006–2010

Chris Wilkins¹, Paul Sweetsur, and Bryony Smart

New Zealand has experienced a particularly dynamic drug use environment over the past 10 years, and new drug trends resulted in changes in drug enforcement priorities, innovative policy initiatives, and the development of new drug monitoring research capacity. New Zealand experienced a rapid rise in methamphetamine use in the early 2000s; this was associated with a range of drug-related harms. The Illicit Drug Monitoring System (IDMS) was subsequently established in 2005 to fill the gap in early warning capacity for drug use. The IDMS conducts annual snapshots of the drug problem by interviewing frequent drug users in the community. The capacity to monitor drug trends was further expanded by the establishment of the New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) system, which interviews police arrestees about drug use and criminal offenses. In late 2009, the government developed a multipronged Methamphetamine Action Plan, which controlled methamphetamine precursor chemicals, actively targeted methamphetamine supply chains, reduced the demand for methamphetamine through community action programs, and funded additional drug treatment places.

Findings from the IDMS and NZ-ADUM concerning methamphetamine trends over the past 5 years indicate rising prices (particularly for gram weights), falling potency, and some indication of reduced availability. These findings suggest law enforcement is successfully disrupting the methamphetamine market in New Zealand and represents a rare example of a successful supply reduction campaign. In contrast, the use and availability of ecstasy (MDMA, 3,4-methylenedioxymethamphetamine) has increased steadily, and the price has declined over the past 5 years. The potency of ecstasy declined after 2008, with a number of substances other than MDMA found to have been sold as ecstasy pills in New Zealand, including BZP (1-benzylpiperazine), MDPV (3,4-methylenedioxypyrovalerone), mephedrone, and methylone (methylenedioxymethcathinone). The adulteration of ecstasy was also reported in a number of other western countries around the same time and has been attributed to successful law enforcement operations against key ecstasy precursors.

The prohibition of BZP in New Zealand may have created a ready stock of a psychoactive substance which could be fraudulently sold as ecstasy. One of the consequences of the regulation of BZP was the establishment of the “Restricted Substances” category of the *Misuse of Drugs Act*, which allowed psychoactives that were deemed “less than moderately harmful” to continue to be sold legally, but only to individuals age 18 or older and with restrictions placed on their promotion and sale. This has proven to be an innovative and potentially radical approach to new psychoactives. A number of “New Drugs” have been earmarked for classification as Restricted Substances, including DMAA (dimethylamylamine), synthetic cannabis products (e.g., Spice), and *Salvia divinorum*. In many other countries these substances have simply been prohibited.

¹The principal author is a Senior Researcher and Drugs Team Leader with the Social and Health Outcomes Research and Evaluation and Whariki Research Centre, School of Public Health, Massey University, Auckland, New Zealand.

The New Zealand Law Commission has recommended a reverse onus of proof with respect to new low potency psychoactive substances being offered for legal sale. Sellers are required to demonstrate the substances are safe in advance, rather than regulators having to determine their risk in retrospect. The New Zealand government was yet to respond to these recommendations as of the writing of this report.

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SEATTLE AREA PRESENTATIONS

A Tale of One City—The Role of Epidemiology in Identifying Areas in Need of Drug Treatment Services

Ron Jackson, M.S.W., L.I.C.S.W.¹

This presentation described how epidemiologic data that documented a burgeoning increase in opiate/opioid addiction, both heroin and pharmaceutical, provided evidence to community leaders in Kitsap County, Washington, of the need to open a clinic providing evidenced-based treatment services. A clinic of this type was not available in this area of Washington State. The data sources used to provide this evidence were accidental drug-related death data, emergency department (ED) outpatient visits with an opiate diagnosis data, syringe exchange utilization data, and data for county residents with an opiate diagnosis receiving outpatient treatment. The report presenting these data was compiled by the Division of Behavioral Health and Recovery (DBHR), Department of Social and Health Services, State of Washington, at the request of the Kitsap County Commissioners.

This information was subsequently reported on and updated in two articles by reporter Josh Farley in the *Kitsap Sun* on March 12, 2011—"Heroin experiences a resurgence in Kitsap County" (<http://www.kitsapsun.com/news/2011/mar/12/heroin-experiences-resurgence-kitsap-county/>), and "Kitsap methadone clinic proposed to treat growing number of opiate addicts" (<http://www.kitsap-sun.com/news/2011/mar/12/kitsap-methadone-clinic-proposed-treat-growing-num/>). Mr. Farley obtained his updated data from Caleb Banta-Green, Ph.D., of the University of Washington's Alcohol and Drug Abuse Institute. Banta-Green is the representative to the CEWG from the Seattle/King County area; he also monitors drug trends for the State of Washington.

The presentation described the process by which Evergreen Treatment Services, a private, non-profit addiction treatment agency with a long history of providing medication-assisted treatment (MAT) (using both methadone and buprenorphine) used those data in a community-based process to build support for the funding and implementation of an opioid treatment program in that area. The process began by meeting with local elected and public health officials and tribal entities to determine those parties' commitment to supporting the establishment of a clinic that would provide MAT to local residents and tribal members. The agency also worked with DBHR staff to secure funding for MAT for Medicaid-eligible clients seeking treatment at the proposed clinic. This would assure that the operation of the new clinic would not threaten the funding of other addiction treatment agencies operating in that county. The funding component was a key piece for getting other community leaders to support the opening of the clinic. The presentation also described the process of site selection.

Finally, the presentation described the program's plans for monitoring outcomes at a local level (using ED reports, law enforcement data, overdose death data, syringe exchange data, and transportation utilization expense data), as well as monitoring outcomes at the patient level (outcomes

¹The author is the Executive Director of Evergreen Treatment Services in Seattle and is an Affiliate Professor in the School of Social Work at the University of Washington.

data based on ASI [Addiction Severity Index] methodology and patient satisfaction surveys), to evaluate the impact of the opening of the clinic.

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Drug Availability and Trafficking in the Northwest

Steven Freng, Psy.D., M.S.W.¹

The Northwest High Intensity Drug Trafficking Area (HIDTA) is 1 of 28 grant programs located throughout the country developed as part of the National Drug Control Strategy. The programs are administered by the White House Office of National Drug Control Policy and are awarded to geographic areas that are shown to be critical areas of drug production, manufacturing, importation, distribution, and/or chronic consumption.

The Northwest HIDTA includes 14 counties located within Washington State. Other HDTAs range from single counties to multi-State jurisdictions; they are based on collaborations with U.S. Attorneys in applying for and implementing the programs. HIDTA regions differ in regard to their focus on predominant drug(s) of choice and the activities associated with the drug(s). Some HDTAs are simply “consumption” regions; others import or produce as well. Some HDTAs are dominated by a single drug, while others have three or four preferences. The Northwest HIDTA is the only region in the country that can demonstrate every defined activity associated with illicit drugs, while also having at least six substantial “threats” within the region.

Each year the Northwest HIDTA produces a Threat Assessment, a major component of which is data provided by individual law enforcement agencies throughout the region. Each agency is asked to rank the drugs in their communities in terms of prevalence and as threats. The 2011 Threat Assessment ranked, from most to least, the following drugs: methamphetamine and marijuana (tied for first in both definitions), heroin, cocaine, prescription opiates, and “other dangerous drugs.” Although local methamphetamine production has been substantially curtailed over the past decade, importation and abuse are rebounding after decreasing several years ago. Marijuana is the most prevalent threat, with local production and availability continuing to rise. Indicators of heroin importation, availability, and abuse are also rising, which is correlated with the precipitous recent increases involving prescription opiates. Cocaine has remained static in regard to availability and abuse, although increasing awareness of levamisole contamination appears to be lessening demand. Prescription opiates are now ranked with the common illicit drugs and are obtained in several ways: legally by prescription, illegally through multiple providers (Washington State has not yet implemented an electronic monitoring program), illegally from friends or family (free, purchased, or stolen), through theft, and through illegal Internet pharmacies. Another prominent commerce in illicit drugs involves MDMA (3,4-methylenedioxymethamphetamine, or “ecstasy”), which is produced in substantial quantities in British Columbia and is transported across Washington State for distribution throughout the United States.

Activity involving the movement of illicit drugs across the international border with Canada is dominated by two endeavors—smuggling marijuana and MDMA from Canada into the United States and smuggling cocaine and currency from the United States into Canada. As most of the marijuana

¹The author is the Prevention and Treatment Manager with the Northwest High Intensity Drug Trafficking Area in Seattle.

grown and MDMA produced in Canada occurs in British Columbia, the border crossings between Washington State and British Columbia are highly impacted.

Washington State, particularly the Yakima area, is also a staging and distribution center for a region extending east into Wyoming and the Dakotas and dominated primarily by Mexican national drug trafficking organizations.

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Overdose and Femoral Injection Among Participants at a Community-Based Syringe Exchange Program in Seattle: 2010

Phillip O. Coffin, M.D., M.I.A.¹

Injection drug use is associated with multiple medical morbidities. Drug overdose remains the principal etiology of premature death among injection drug users (IDUs), and distribution of naloxone for lay management of overdose has become increasingly common throughout the United States. Injection into the femoral vein, which has become common practice in some regions of the United Kingdom, has been anecdotally reported among IDUs in the Seattle area.

A study at a community-based harm reduction program in Seattle in late 2010 examined the characteristics of drug overdose, including the lay use of naloxone and injection into the femoral vein. Among 278 respondents to a cross-sectional, anonymous survey of participants in the study (81-percent response rate), 68 percent had ever witnessed an overdose. At the most recently witnessed overdose, 52 percent reported calling 911, and 26 percent reported administering naloxone to the victim. There was no association between administering naloxone and calling 911. Among 248 IDU respondents, 40 percent had ever injected into their femoral vein; 58 percent of femoral injectors reported medical problems that they attributed to the practice. On multivariate analysis, femoral injectors were more likely to be White and to primarily inject opioids; initiation of femoral injection increased by calendar year since 2008.

In summary, Seattle-area drug users administering naloxone to an overdose victim were no less likely to call 911 than those who did not administer naloxone, and the practice of injecting into the femoral vein, associated with several perceived medical complications, appeared to be increasingly common.

For inquiries regarding this report, contact Phillip O. Coffin, M.D., M.I.A., Senior Fellow in Infectious Diseases, Division of Allergy and Infectious Diseases, University of Washington, HMC Box 359931325 9th Avenue, Seattle, WA 98104, Phone: 206-685-1064, Fax: 206-744-3693, E-mail: pcoffin@uw.edu.

¹The author is affiliated with the Division of Allergy and Infectious Diseases at the University of Washington in Seattle.

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June 8–10, 2011*

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