



EPIDEMIOLOGIC TRENDS IN DRUG ABUSE

Proceedings of the Community
Epidemiology Work Group

Volume II

June 2009

NATIONAL INSTITUTE ON DRUG ABUSE



COMMUNITY EPIDEMIOLOGY WORK GROUP

EPIDEMIOLOGIC TRENDS IN DRUG ABUSE

Proceedings of the Community
Epidemiology Work Group

Volume II

June 2009

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
Division of Epidemiology, Services and Prevention Research
National Institute on Drug Abuse
6001 Executive Boulevard
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 reports presented at the semiannual CEWG meeting; representatives from other agencies that contribute data and technical knowledge; and other researchers who participate in the meetings. This publication was prepared by Social Solutions International, Inc., and its subcontractor, MasiMax Resources, Inc., under contract number HHSN2712007-00003C from the National Institute on Drug Abuse.

This publication, *Epidemiologic Trends in Drug Abuse, Volume II*, contains the individual

papers presented and data reported at the June 2008 CEWG meeting by representatives from 22 areas in the United States. This publication also includes papers by researchers from Canada, Mexico, and Europe.

All material in this volume is in the public domain and may be reproduced or copied without permission from the Institute or the authors. Citation of the source is appreciated. The U.S. Government does not endorse or favor any specific commercial product. Trade or proprietary names appearing in this publication are used only because they are considered essential in the context of the studies reported herein.

For more information about the Community Epidemiology Work Group and other research-based publications and information on drug abuse and addiction, visit NIDA's Web site www.drugabuse.gov.

This report (available in limited supply) can be obtained by contacting the NIDA DrugPubs Research Dissemination Center

***by phone: 877-NIDA-NIH (877-643-2644)
240-645-0228 (TTY/TDD)***

by fax: 240-645-0227

by e-mail: drugpubs@nida.nih.gov

Contents

Foreword	v
The Community Epidemiology Work Group	1
EPIDEMIOLOGY OF DRUG ABUSE: CEWG AREA REPORTS	
Patterns and Trends of Drug Use in Atlanta: 2008 <i>Brian J. Dew, Ph.D.</i>	6
Patterns and Trends of Drug Abuse in Baltimore, Maryland, and Washington, DC Metropolitan Area—Epidemiology and Trends: 2002–2008 <i>Erin Artigiani, M.A., Margaret Hsu, M.H.S., Lynda Okeke, M.A., Maribeth Rezey, B.A., Cheryl Rinehart, B.A., and Eric Wish, Ph.D.</i>	18
Greater Boston Patterns and Trends in Drug Abuse: 2008 <i>Daniel P. Dooley</i>	37
Patterns and Trends of Drug Abuse in Chicago: 2008 <i>Damian J. Denson, M.P.H. and Lawrence Ouellet, Ph.D.</i>	53
Drug Abuse Patterns and Trends in Cincinnati, Ohio: 2008 <i>Jan Scaglione, B.S., M.T., Pharm.D., DABAT</i>	69
Patterns and Trends in Drug Abuse in Denver and Colorado: 2008 <i>Bruce Mendelson, M.P.A and Kristen Dixion, M.A., L.P.C.</i>	79
Drug Abuse in Detroit, Wayne County, and Michigan: 2008 <i>Cynthia L. Arfken, Ph.D. and Yvonne E. Anthony, Ph.D., M.B.A., M.H.A.</i>	114
Illicit Drug Use in Honolulu and the State of Hawai‘i: 2008 <i>D. William Wood, M.P.H., Ph.D.</i>	120
Patterns and Trends in Drug Abuse in Los Angeles County, California: 2008 <i>Mary-Lynn Brecht, Ph.D.</i>	135
Patterns and Trends of Drug Abuse in Maine: 2008 <i>Marcella H. Sorg, Ph.D., R.N., D-ABFA</i>	148
Drug Abuse Trends in South Florida: Miami/Dade, Broward, and Palm Beach Counties, Florida: 2008 <i>James N. Hall</i>	156
Drug Abuse Trends in Minneapolis/St. Paul, Minnesota: 2008 <i>Carol L. Falkowski</i>	183
Drug Use Trends in New York City: 2008 <i>Rozanne Marel, Ph.D., Robinson B. Smith, M.A., and Gregory Rainone, Ph.D.</i>	198
Drug Use in Philadelphia, Pennsylvania: 2008 <i>Samuel J. Cutler, Marvin F. Levine, M.S.W., and Roland C. Lamb, M.A.</i>	216

Drug Abuse Patterns and Trends in Phoenix and Arizona: 2008 <i>James K. Cunningham, Ph.D.</i>	231
Patterns and Trends in Drug Abuse in St. Louis, Missouri: 2008 <i>Heidi Israel, Ph.D., R.N., F.N.P., L.C.S.W., and Jim Topolski, Ph.D.</i>	245
Drug Use and Abuse in San Diego County, California: 2008 <i>Robin A. Pollini, Ph.D., M.P.H.</i>	258
Patterns and Trends of Drug Abuse in the San Francisco Bay Area: 2008 <i>John A. Newmeyer, Ph.D.</i>	275
Drug Abuse Trends in the Seattle/King County Area: 2008 <i>Caleb Banta-Green, T. Ron Jackson, David Albert, Michael Hanrahan, Mary Taylor, Margaret Soukup, John Ohta, Steve Freng, Robyn Smith, Ann Forbes, and Richard Harruff</i>	283
Drug Abuse Trends in Texas: 2008 <i>Jane C. Maxwell, Ph.D.</i>	297
 INTERNATIONAL REPORTS	
Drug Abuse in Toronto, Ontario: 2008 <i>Joyce Bernstein, MSc., Ph.D.</i>	336
Vancouver Community Epidemiology Report: 2008 <i>Jane Buxton, Jat Sandhu, and Monica Durigon</i>	351
Drug Abuse Trends in The Netherlands: 2008 <i>Margriet van Laar, Ph.D.</i>	363
 SPECIAL PRESENTATION	
Drug Abuse and HIV/AIDS Issues in Chicago <i>Chyvette Williams, Ph.D.</i>	374
 PARTICIPANT LIST	
Participant List	377

Foreword

THIS PUBLICATION INCLUDES REPORTS presented and data prepared for the 66th semi-annual meeting of the National Institute on Drug Abuse (NIDA) Community Epidemiology Work Group (CEWG) held in Chicago, Illinois, on June 10–12, 2009. 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), 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 that includes the full CEWG area reports and international reports.

The majority of the June 2009 meeting was devoted to the CEWG area reports and presentations. CEWG area representatives presented data on drug abuse patterns and trends. After the area reports, breakout groups were formed to discuss

key drug abuse indicators and to review meeting findings by area and region. In addition, discussions were held on emerging drug problems and issues across CEWG areas. Presentations on drug abuse patterns and issues were also provided by guest researchers from Canada and the Netherlands. Other highlights of the meeting included: presentations by DEA representatives, Cassandra Prioleau, Ph.D. and Artisha Polk, M.P.H., on emerging drugs of concern, and Michael Vrakatitsis, J.D., on recent trends in methamphetamine trafficking; a presentation on findings from DAWN emergency department data for 2004–2007 by Elizabeth Crane, Ph.D., M.P.H., from SAMHSA; an update from the Office of National Drug Control Policy on the Arrestee Drug Abuse Monitoring (ADAM) II data system by M. Fe Caces, Ph.D.; a presentation on the Latin American drug abuse network, the Inter-America Drug Abuse Control Commission, by Marya Hynes Dowell, M.H.S.; and a presentation by Chyvette Williams, Ph.D., on NIDA-supported HIV research in the Chicago area.

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

Division of Epidemiology, Services and Prevention Research
National Institute on Drug Abuse
National Institutes of Health
Department of Health and Human Services

The Community Epidemiology Work Group

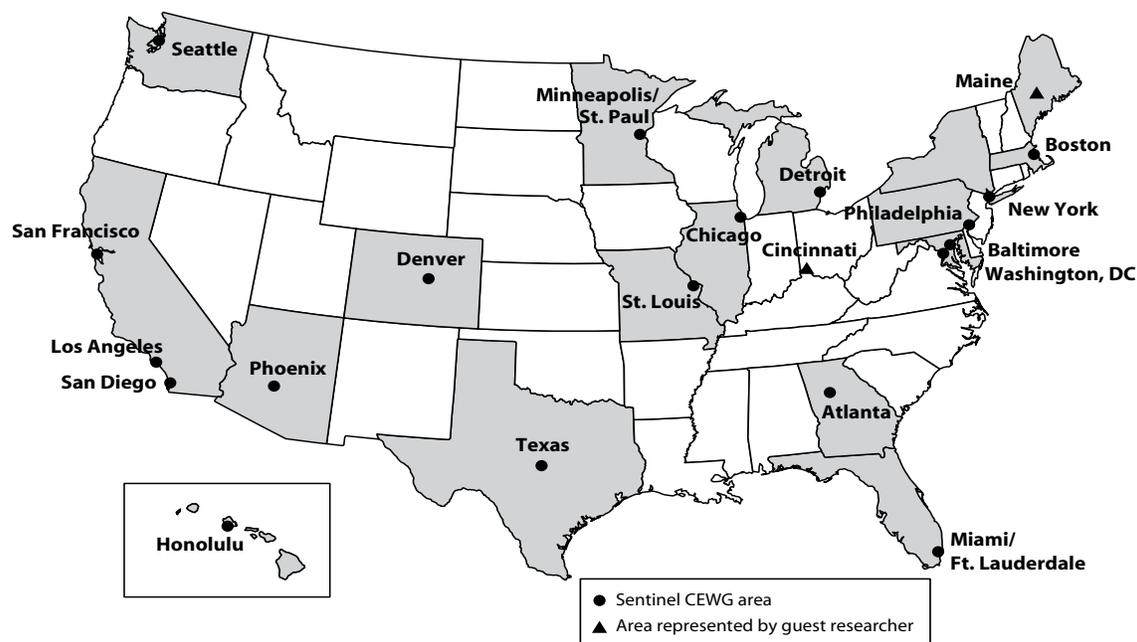
INTRODUCTION

The 66th semiannual meeting of the Community Epidemiology Work Group (CEWG) was held on June 10–12, 2009, in Chicago, Illinois. During the meeting, researchers from geographically dispersed areas in the United States reported on current trends and emerging issues in their areas. In addition to the information provided for sentinel areas that have contributed to the network for many years, guest researchers from Cincinnati and Maine provided data from their respective areas, as did international representatives from Canada, the Netherlands, and Latin America.

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 2009



meeting are depicted in the map on the previous page, with one area presentation including data on Baltimore, Maryland, and Washington, DC. There was no area presentation for Albuquerque at this meeting.

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 follow-up in the future.

In addition to CEWG area presentations, time at each meeting is devoted to presentations by invited speakers. These 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 types of data reviewed by CEWG representatives to derive drug indicators include 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 available for 2004–2007 for this report
- 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

- Controlled substance transactions reported by the DEA's Automation of Reports and Consolidated Orders System (ARCOS)
- Arrestee urinalysis results from the Arrestee Drug Abuse Monitoring (ADAM) II system
- 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); local DEA offices; High Intensity Drug Trafficking Area (HIDTA) reports; help lines; local and State surveys; and key informants and ethnographers.

EPIDEMIOLOGY
OF
DRUG
ABUSE:

CEWG
AREA
PAPERS

Patterns and Trends of Drug Use in Atlanta: 2008

Brian J. Dew, Ph.D.¹

ABSTRACT

Cocaine, marijuana, and methamphetamine remained the dominant drugs of abuse in the metropolitan Atlanta area in 2008. Cocaine continued as Atlanta's primary illicit drug concern. Cocaine was the most mentioned drug among treatment admissions, prison admissions, and in National Forensic Laboratory Information System (NFLIS) drug seizure data. Treatment admissions indicated that Atlanta's cocaine users continued to be African American, male, and older than 35. Nearly 8 out of 10 of all cocaine users who entered treatment preferred to smoke the drug, a proportion that has remained stable in the last 6 years. However, multiple data sources, including Fulton County Medical Examiner (ME), treatment, and NFLIS data, indicated decreased cocaine use in 2008 compared with previous years. The Fulton County ME found that one-quarter of all drug-related deaths were caused by cocaine use only, the highest proportion for any isolated drug type. Wholesale supply of cocaine remained stable in 2008, reversing a decreasing trend in 2007. In 2008, cocaine hydrochloride (powder cocaine) pricing at the wholesale level decreased while wholesale pricing for crack cocaine remained stable. Marijuana remained the most commonly used substance in Atlanta. Ethnographic reports suggested that supply for marijuana was easily available and price levels for Mexican-grown marijuana decreased. However, the demand for "BC Bud" and hydroponic marijuana increased, thereby driving wholesale and retail prices up. Marijuana-related treatment admissions accounted for nearly 22 percent of all Atlanta treatment admissions and remained

the leading cause for adolescents seeking treatment (27 percent). Indicators were down with regard to methamphetamine. In 2008, 27 of 28 counties that comprise metropolitan Atlanta saw decreases in methamphetamine-related treatment admissions. While comprising 6.1 percent of treatment admissions in 2008, compared with 9.1 percent in 2007, methamphetamine treatment admissions continued to be mostly female and White. The largest ever methamphetamine bust east of the Mississippi River occurred in May 2009, when 351 pounds of Mexican crystal methamphetamine were seized in Gwinnett County. Ethnographic reports suggested a growing level of methamphetamine use occurring among African Americans and Latinos. Heroin indicators were mixed in 2008, with the drug's use branching outside of Atlanta's Bluff district. The use of South American heroin appeared stable in 2008, although heroin-related NFLIS drug seizure data nearly doubled in 2008. The Fulton County ME reported that prescription benzodiazepines were third only to cocaine and prescription opioids in the number of statewide postmortem specimens that tested positive for a particular drug. Although its use was stable, alprazolam remained the most popular benzodiazepine in Atlanta in 2008, especially among Whites and young adults (age 18–28), followed by diazepam. Multiple indicators showed that hydrocodone was the most commonly abused narcotic analgesic in Atlanta, followed by oxycodone. Hydrocodone accounted for 2 percent of treatment admissions in 2008, an increase of nearly 50 percent from the previous year. Indicators suggested oxycodone use was stable and occurring in more suburban counties. Drug indicators suggested that the use of 3,4-methylenedioxymethamphetamine (MDMA) had also stabilized in 2008, over 2007. While not appearing in other drug indicators, an increase in 1-benzylpiperazine (BZP) was found among NFLIS drug seizure and identification data. Ethnographic reports found that BZP was being manufactured and sold as MDMA on the street.

¹The author is affiliated with Georgia State University.

INTRODUCTION

Area Description

The metropolitan Atlanta area is located in the northwest corner of Georgia and includes 28 of the State's 159 counties. The metropolitan area comprises more than 6,100 square miles, or 10.5 percent of Georgia's total size. Currently, Georgia is the ninth most populous State in the Nation. From April 2000 to December 2008, the State's population grew 4.3 percent, ranking third among all States in terms of growth percentage.

With an estimated more than 5.7 million residents, the metropolitan Atlanta area includes over 59 percent of the State's population of nearly 9.6 million residents (U.S. Bureau of the Census, 2007). The Atlanta metropolitan area ranks eighth among the Nation's major population centers. The city of Atlanta, with a population of approximately 519,145, represents 9.1 percent of the overall metropolitan population (American Community Survey, 2006). The city is divided into two counties, Fulton County and DeKalb County, which include 17.2 and 12.9 percent of the metropolitan population, respectively.

There are demographic differences between the city of Atlanta and the larger metropolitan area, which more closely reflects the State as a whole. African Americans are the largest ethnic group within the city (57.3 percent), followed by Whites (35.7 percent), Hispanics (4.7 percent), and Asians (2.0 percent). When examining the overall metropolitan Atlanta area, those numbers reverse. Whites account for the majority (55.4 percent), followed by African Americans (26.8 percent), Hispanics (11.9 percent), and Asians (4.0 percent). Per capita family income in 2007 for the city of Atlanta was higher, at \$57,352, than in the metropolitan area, at \$33,670. The poverty rate inside the city was 23.2 percent, compared with only 11.2 percent in the metropolitan area. The housing vacancy rate outside the city (16.1 percent) was lower than in the city (17.2 percent).

In 2008, the Georgia Bureau of Investigation (GBI)'s statewide drug-enforcement efforts were led by three regional drug offices (Savannah, Macon, and Canton) and 13 multijurisdictional task force programs. As of December 2007, there were 36 existing drug courts in Georgia (of these, 26 were for adult felony drug offenses and 10 were for juvenile drug offenses). Two adult felony drug courts were located in the city of Atlanta. In 2008, 39 percent of those on probation in Georgia, 26 percent of prisoners, and 42 percent of parolees had been convicted of a drug-related offense.

The following are additional factors that influence substance use in the State:

- Georgia is both a final destination point for drug shipments and a smuggling corridor for drugs transported along the east coast. Extensive interstate highway, rail, and bus transportation networks, as well as international, regional, and private air and marine ports of entry, serve the State.
- The State is strategically located on the I-95 corridor between New York City and Miami—the key wholesale-level drug distribution centers on the east coast and major drug importation hubs. In addition, Interstate Highway 20 runs directly into Georgia from drug entry points along the southwest border and gulf coast.
- The city of Atlanta has become an important strategic point for drug trafficking organizations, as it is the largest city in the South. It is considered a convenient nexus for all east/west and north/south travel. The city's major international airport also serves as a distribution venue for illicit substances.
- The entire State, Atlanta in particular, has experienced phenomenal growth over the last several years with a corresponding increase in drug crime and violence. With Georgia bordering North Carolina, South Carolina, Tennessee, Alabama, and Florida, Atlanta is the base for several major dealers who maintain trafficking cells in these States, especially Mexican-based

traffickers who hide within legitimate Hispanic enclaves.

- Economic difficulties impacted the metropolitan Atlanta area in 2008. The area's unemployment rate doubled from 4.1 to 9.3 percent within 1 year (February 2008 versus February 2009).

DATA SOURCES

Data sources used for this report include the following:

- **Drug abuse treatment program data** were from the Georgia Department of Human Resources for primary drugs of abuse among clients admitted to Atlanta's public drug treatment programs from 2000 through December 2008. Data for nonmetropolitan Atlanta counties of Georgia were also reported.
- **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 May 2009, was classified by drug type.
- **Drug-related prison admissions data** were obtained from the Georgia Department of Corrections, and represent individuals who entered the prison or jail system due to drug possession from calendar years (CYs) 2004 through 2008.
- **Drug price, purity, and trafficking data** came from the Drug Enforcement Administration (DEA), the National Drug Intelligence Center (NDIC), and the Office of National Drug Control Policy. Information on the price, purity, and source of several drugs was provided by the DEA's Domestic Monitoring Program and local law enforcement officials. Additional information came from Narcotics Digest Weekly published by the NDIC. Other data were from the Atlanta High Intensity Drug Trafficking Area (HIDTA) Task Force, a coordination unit for drug-related Federal, State, and local law enforcement agencies.
- **Forensic drug analysis data** came from the National Forensic Laboratory Information System (NFLIS), and represent evidence in suspected drug cases throughout metropolitan Atlanta that were tested by the GBI Forensic Laboratory in 2008.
- **State drug-related mortality data** was obtained from the Georgia Medical Examiner's (ME)'s Office. Data representing the number of post-mortem specimens that tested positive for a particular drug were collected from fiscal years (FYs) 2001 through 2009.
- **Fulton County drug-related mortality data** was obtained from the director of the Fulton County ME's Office. Data representing the number of postmortem specimens that tested positive for a particular substance, the type of drug present at the time of death, and select sociodemographics were collected from 2003 through 2008.
- **Ethnographic information** was collected from local drug users and drug researchers and was used for several purposes: to corroborate the epidemiologic drug indicators; to signal potential drug trends; and to place the epidemiologic data in a social context.
- **Acquired immunodeficiency syndrome (AIDS) data** came from the Department of Human Resources, Division of Public Health, and represent AIDS cases in Georgia and a 28-county Atlanta metropolitan area from January 1981 through December 2007. Additional information was provided by the Centers for Disease Control and Prevention (CDC).

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In 2008, cocaine continued to be the most mentioned primary and secondary drug of choice for individuals seeking assistance at publicly funded treatment centers in metropolitan Atlanta. However, the number of primary admissions in metropolitan Atlanta for cocaine ($n=1,853$) decreased 5.4 percent in 2008 from the previous year, reflecting a continuing downward trend (exhibit 1). From 2000 to 2002, approximately one-half of all primary treatment admissions in metropolitan Atlanta were cocaine related. The percentage of cocaine-related admissions into Atlanta's public substance abuse treatment facilities decreased to: 42.8 percent in 2003; 39.5 percent in 2004; 37.2 percent in 2005; 34.2 percent in 2006; and 25.6 percent in 2007. In 2008, cocaine admissions were 22.8 percent of the total number of primary admissions. An additional 11.8 percent reported cocaine as a secondary drug of choice, bringing the total percentage of primary and secondary cocaine-related treatment admissions to over 34 percent. When compared with total primary and secondary cocaine-related treatment admissions in 2007, data from 2008 suggest a 35-percent decrease from the previous 12 months. Ethnographic reports indicated that cocaine users were likely to overstate primary alcohol abuse during treatment entry/screening due to a greater likelihood of inpatient admission associated with alcohol dependence compared with cocaine dependence. The ratio of males to females in treatment for cocaine was 1.1:1, a proportion that was more equal than the 1.2:1 ratio found in 2007, and lower than the 1.4:1 found in 2006, and 1.5:1 in 2005. Whereas the percentage of African Americans entering treatment in 2008 for cocaine-related issues was 65.6 percent, nearly identical to the earlier year, the percentage of White users increased nearly 6 percent. Clients older than 35 accounted for the highest number of both metropolitan and nonmetropolitan cocaine admissions (68.6 and 67.2 percent, respectively).

In metropolitan Atlanta, smoking continued to be the most preferred route (75.3 percent), followed by inhalation (19.2 percent), injection (1.4 percent), and oral (2.5 percent). These route of administration statistics reflect no significant changes from the previous year.

According to the DEA, Atlanta HIDTA, local law enforcement officials, and key street informants, cocaine remained readily available in Atlanta during 2008, reversing a downward supply trend found in 2007. Atlanta remained a growing distribution hub for surrounding States and Europe, and also served as part of a smuggling corridor along the east coast. Powder cocaine and crack dominated the Georgia drug scene. Multiple law enforcement officials and ethnographic reports indicated that over 90 percent of Atlanta's crack cocaine was locally converted from powder cocaine in the metropolitan Atlanta area. The primary sources for cocaine were Texas and California. HIDTA intelligence analysts implicated Mexico-based drug trafficking organizations, whose members blend within enclaves of Hispanic workers. According to HIDTA and NDIC, cocaine prices remained relatively stable in Atlanta. Powder cocaine typically sold for \$40–\$100 per gram. Crack rocks sold for as little as \$3, but typically were priced between \$10 and \$20.

The "Georgia Threat Assessment" (DEA, 2008) reported that other than marijuana, crack was the most available drug in Atlanta. Officials estimated that 75 percent of all drug-related arrests involved crack cocaine. Powder cocaine availability at the retail level in Georgia was limited, except in large cities such as Atlanta and Savannah. NFLIS reported that cocaine accounted for 56.3 percent of confiscated substances in suspected drug cases that were tested in forensic laboratories in 2008 (exhibit 2), nearly identical the findings from 2007 (56.4 percent).

In FY 2009, cocaine was indicated in 3.1 percent ($n=185$) of all Georgia's postmortem specimens tested by the Georgia State Examiners Office, down from 4.5 percent in FY 2007; 10 percent in FY 2006; 9.4 percent in 2005; 9.2 percent in 2004; and 10.2 percent in 2003.

Data from the Fulton County ME reinforced cocaine as the city's primary drug problem. While the drug was found in nearly 42 percent of all postmortem specimens in 2008, isolated use of cocaine contributed to the deaths of nearly 15 percent of all Fulton County postmortem specimens—the highest level of any substance.

In 2008, Cobb County led among prison admissions for cocaine possession ($n=267$), followed by Fulton ($n=97$), Clayton ($n=84$), and DeKalb ($n=53$) Counties. In all five counties, these numbers reflect between a 22 and 60 percent decrease in prison admissions from the previous year. However, these numbers of prison admissions for select metropolitan Atlanta counties were consistent with reports from law enforcement and ethnographic efforts that suggested the continuation of cocaine distribution in the southern counties of metropolitan Atlanta.

Heroin

Heroin abuse indicators in Atlanta during 2008 remained low compared with other metropolitan areas. However, public substance abuse treatment admissions, drug-related deaths, and ethnographic data obtained through corroboration with local street outreach workers suggested that heroin use may be increasing, while the type of heroin available in metropolitan Atlanta continued to change.

In 2008, treatment admissions for individuals who reported heroin as their primary drug of choice accounted for 3.0 percent of all treatment admissions in the State; these admissions were mostly concentrated in metropolitan regions. Over 4.3 percent of metropolitan Atlanta admissions were for heroin, as compared with 1.5 percent in nonmetropolitan areas (exhibit 1). Heroin-related treatment admissions for metropolitan Atlanta increased by nearly 50 percent over 2007. Admission ratios for males were higher (2.3:1) than those for females in metropolitan regions, with a nonmetropolitan ratio of 1.4:1 male to female treatment admissions.

Whites slightly outnumbered African Americans (178 to 149) among metropolitan Atlanta treatment admissions in 2008 (Exhibit 3). Outside of metropolitan Atlanta, Whites constituted an overwhelmingly high percentage (79 percent) of heroin-related treatment admissions, followed by African Americans (17 percent) and Hispanics (6.6 percent). The percentage of heroin treatment admissions for clients age 35 and older, in both metropolitan (54.1 percent) and nonmetropolitan (62.1 percent) Atlanta, was the lowest in over 10 years. The 8-percent increase in young adult users (age 18 to 25) was consistent with reports from street outreach workers indicating heroin's rise in popularity among this age group. Nearly 6 out of 10 heroin treatment admissions preferred to inject the drug, followed by inhalation (27.5 percent), oral (4.6 percent), and smoking (2.6 percent). Most heroin users admitted to treatment in Georgia did not report having a secondary drug of choice, although metropolitan users were overall more likely than nonmetropolitan users to report cocaine (27.2 percent) and alcohol (16.7 percent) as their secondary drug of choice. In 2008, the Georgia Department of Public Health estimated the rate of heroin addicts in Atlanta to be 161 per 100,000 population ($n\approx$ approximately 7,000).

The NDIC's *Georgia Drug Threat Assessment* (October 2007) reported that heroin availability in metropolitan Atlanta was stable, and that the city remained a high traffic area for heroin distribution. The majority of heroin available in Atlanta was South American, followed by heroin from southwest Asia. However, law enforcement officials reported greater amounts of Mexican brown powder heroin in Atlanta, which was likely a result of increasing Mexican drug trafficking efforts for methamphetamine and cocaine. Ethnographic interviews with active heroin users indicated a local rise in Mexican black tar heroin supply that was perceived by users to be "more pure" than both South American and Southwest Asian heroin. The DEA (September 2007) reported that average purity of South American heroin was 29.1 percent (exhibit 4) and cost on

average \$2.01 per milligram. Law enforcement groups, including HIDTA and the DEA, reported local heroin was supplied through sources in Chicago, New York, and the southwest border, and that there was increased Hispanic involvement in trafficking. Reports from outlying metropolitan Atlanta counties suggested an increase in heroin traffic in their jurisdictions. Approximately 2.2 percent ($n=268$) of NFLIS-tested drug items seized tested positive for heroin in 2008 (exhibit 2), a 160-percent increase in the number of drug items seized from the previous year.

Law enforcement groups, including HIDTA and the DEA, reported that Mexican criminal groups were primarily responsible for the trafficking of South American heroin in Georgia. These groups used commercial and private vehicles to bring the drugs into the State. Heroin also entered the State through Colombian and Nigerian groups that transported the drug by airline couriers. Additionally, NDIC and the DEA reported that Dominican criminal groups drove heroin into Georgia from New York and Philadelphia. Some of that heroin was sold in Atlanta, but the majority of the drug was shipped elsewhere.

Other Opiates/Narcotics

Beginning in 2007, the Georgia Department of Human Resources began reporting primary-related treatment admissions for prescription opiates/narcotics. In 2008, hydrocodone accounted for 2.5 percent of metropolitan treatment admissions, a significant increase from the 0.7 percent of primary treatment admissions in 2007. Individuals admitted to public treatment facilities for hydrocodone use were more likely to be White, in their 30s and 40s, and seeking treatment for the first time. Oxycodone accounted for 1.2 percent of treatment admissions in 2008, a 100-percent increase from 2007 (0.6 percent). Users of oxycodone, in comparison to users of hydrocodone, were more likely to be between age 18 and 34 and users of polysubstances. Continuing an increasing trend, other opiates accounted for approximately 3–4 percent of secondary drugs abused statewide.

The use of opiates as a secondary abuse category was cited more often in nonmetropolitan areas (3.2 percent) than in metropolitan Atlanta (2.4 percent).

According to NFLIS data, oxycodone and hydrocodone each accounted for approximately 3 percent of laboratory identifications of drugs seized by law enforcement in 2008 (exhibit 2). OxyContin®, the most widely recognized oxycodone product, is a growing drug threat in Georgia, according to the DEA. Twenty-milligram tablets sold on the illegal market for \$5 to \$10 in 2008. Hydrocodone (Vicodin®) and hydromorphone (Dilaudid®) were also abused in Atlanta, and 20-milligram tablets typically sold for \$5 to \$10. These drugs are typically obtained by “doctor-shopping,” purchasing from dealers, and/or ordering over the Internet.

Down 26 percent from 2007, hydrocodone was indicated in 4.0 percent ($n=240$) of all Georgia’s postmortem specimens tested by the State Examiner’s Office. This finding reversed a previous 5-year upward trend. In 2007, oxycodone was indicated in 3.3 percent of all statewide postmortem specimens, a 14-percent decrease from the previous year.

Marijuana

Ethnographic sources consistently confirmed that marijuana was the most commonly abused drug in Atlanta. Most epidemiological indicators showed an upward trend in marijuana use.

Nearly 22 percent of public treatment admissions in 2008 in metropolitan Atlanta were for those who considered marijuana their primary drug of choice (exhibit 1). Male admissions were just more than double those of females in metropolitan Atlanta (2.0:1), with the gap widening in nonmetropolitan regions (2.1:1). The proportion of African Americans who identified marijuana as their primary drug of choice was higher than in the previous year (58.2 versus 53.8 percent in 2007) (exhibit 3). Younger users of marijuana were seeking treatment at higher rates than older users, with clients under 26 accounting for

nearly 60 percent of all admissions. Alcohol was the most popular secondary drug of choice for marijuana users, followed by cocaine and methamphetamine for both metropolitan and non-metropolitan Atlanta admissions.

Marijuana, which was readily available in Atlanta and the rest of Georgia, retailed for between \$5–\$50 (domestic), \$5–\$25 (Mexican), and \$50–\$150 (“BCBud” or hydroponic) per gram. Atlanta served as a regional distribution center for marijuana. Most of the marijuana in Georgia came from Mexico, although locally grown marijuana was also on the market. Colombian and Jamaican marijuana were purportedly present but less available. Mexican drug cartels were the primary transporters and wholesale distributors of Mexican-grown marijuana. Local gangs (African American and Hispanic) and local independent dealers (African American and White) were the primary resale distributors.

The NFLIS report for CY 2008 indicated that 1.4 percent of all drug-related items confiscated tested positive for marijuana/cannabis (exhibit 2). 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. According to *The Georgia Governor’s Task Force on Drug Suppression*, 58 percent of Georgia’s 159 counties were reported as significant locations for marijuana cultivation.

Ethnographic data continued to support treatment and law enforcement data that indicated the widespread availability and use of marijuana in Atlanta. Hydroponic cultivation of marijuana has become more popular due in part to the DEA’s eradication program.

Stimulants

From 2000 to 2006, metamphetamine use increased faster than any other illicit substance in both metropolitan and nonmetropolitan areas. Law enforcement efforts to stop the spread of this drug involved seizures and closures of clandestine laboratories. Methamphetamine became an

increasing threat in the suburban areas because of the drug’s price and ease of availability, and it was replacing some traditional drugs as a less expensive, more potent alternative. Moreover, growing concerns over the dangers the drug poses have been fueled by: frequent media reports; recent strengthening of criminal penalties for the manufacture, transfer, and possession of methamphetamine; and the statewide illegalization of transporting materials used in its production. Methamphetamine is not only a party drug, but it is also used for weight loss or as a way to keep up with demanding work schedules, especially among females.

The percentage of methamphetamine-related treatment admissions in 2008 fell nearly 30 percent from the previous year to 6.1 percent. In 2007, 9.0 percent of public treatment admissions reported methamphetamine as the primary drug of choice, compared with: 7.7 percent in 2006; 11.9 percent in 2005; 8.5 percent in 2004; and 5.1 percent in 2003. In 2008, the proportion of admissions for methamphetamine in nonmetropolitan Atlanta fell to 10.8 percent. The percentage of females in metropolitan Atlanta who reported to treatment for methamphetamine-related causes was 63 percent, down from previous years when females represented nearly 7 out of 10 treatment admissions. In treatment centers outside of metropolitan Atlanta, the percentage of females entering treatment decreased as well in 2008 (69 versus 66 percent in 2007). Most users were White; in fact, Whites accounted for nearly 95 percent of treatment admissions in metropolitan Atlanta during 2008 (exhibit 3). The proportion of African Americans remained low (2.0 versus 2.1 percent in 2007). Hispanic users have remained stable since 2004. Treatment admissions for methamphetamine were more evenly distributed in various age groups than in previous years. Nearly 25 percent of methamphetamine admissions were under 26 (compared with 30 percent in 2007); 37.2 percent were age 26–34 (compared with 35.6 percent in 2007); and 37.8 percent were over 35 (compared with 33.6 percent in 2007). From 2003

through 2006, more than 80 percent of statewide treatment admissions were individuals older than 35. Metropolitan Atlanta treatment admissions were most likely to smoke methamphetamine (59.3 percent), followed by snorting (12.3 percent), and injection (13.7 percent). These results reflected a 7-percent decrease over 2007 among individuals preferring to smoke the drug and a 20-percent increase among persons preferring to inject methamphetamine.

According to the DEA and HIDTA, methamphetamine popularity has stabilized, in part because of its higher price, decreased availability, and reduced purity levels. In 2008, methamphetamine's retail price in Atlanta was \$80–\$200 per gram, \$1,000–\$1,500 per ounce, and between \$14,000 and \$25,000 per pound. In 2007, Atlanta's methamphetamine's retail price was \$100–\$120 per gram, \$750–\$1,600 per ounce, and \$7,500 per pound.

Law enforcement officials reported that methamphetamine emerged as the primary drug threat in suburban communities neighboring Fulton and DeKalb counties (exhibit 5). The Atlanta HIDTA task force found that over 68 percent of participating law enforcement agencies identified methamphetamine as posing the greatest threat to their areas. In 2008, methamphetamine accounted for 18.3 percent of NFLIS tests of seized drugs and ranked second behind only cocaine (exhibit 2), but this was down from 21.2 percent in 2007. The HIDTA task force seized more methamphetamine in 2008 than in previous years. In May 2009, the largest methamphetamine bust ever by law enforcement east of the Mississippi River was made in Gwinnett County. During this seizure, 351 pounds of crystal methamphetamine were confiscated. HIDTA investigators also reported an increase among African Americans using methamphetamine in Atlanta. Ethnographic data from Atlanta area drug research studies among methamphetamine users supported this trend.

Depressants

The use of depressants, especially benzodiazepines, was stable in Atlanta. The most commonly abused benzodiazepine was alprazolam. Less than 1 percent of clients admitted for drug treatment chose benzodiazepines as their primary drug of choice, and less than 2 percent choose benzodiazepines as secondary or tertiary drugs of choice. Statewide and Fulton County ME reports for 2008 also indicated no significant fluctuations in benzodiazepine-related deaths.

Beginning in 2007, the Georgia Department of Human Resources began providing treatment data from publicly funded programs that included depressants such as barbiturates and benzodiazepines as a primary cause of admission. In metropolitan Atlanta, less than 1 percent of treatment admissions identified a particular benzodiazepine as a primary reason for seeking treatment. In 2008, 1 percent of heroin and methamphetamine users chose benzodiazepines as a secondary drug choice. These percentages were consistent with the figures from the previous 6 years.

In 2008, alprazolam was indicated in 6.7 percent ($n=394$) of all Georgia's postmortem specimens tested by the State ME Office. This proportion represented a 27-percent decrease from the previous year (6.7 versus 9.2 percent). In 2002, alprazolam was indicated in 3.3 percent of statewide postmortem specimens, followed by 4.8 percent in 2003; 5.2 percent in 2004; 5.8 percent in 2005; and 3.2 percent in 2006. In Fulton County, 17.6 percent of all decedents tested positive for alprazolam, with over 63 percent of cases being combined with a prescription opiate.

The DEA considered benzodiazepines and other prescription depressants to be a growing threat in Georgia. The pills were widely available on the street or on the Internet. Their abuse exceeded that of oxycodone and hydrocodone. According to the NDIC and DEA, local dealers tend to work independently, and typically sell to "acquaintances and established customers." These

primarily White dealers and abusers steal prescription pads, rob pharmacies, and attempt to convince doctors to prescribe the desired pills.

Hallucinogens

Epidemiological indicators and law enforcement data did not indicate much hallucinogen use in Atlanta in 2008. Despite these data, there was an increase in ethnographic reports of phencyclidine (PCP) use since 2007, especially in combination with marijuana and ecstasy. In 2008, there were no reports for PCP among primary treatment admissions.

In 2008, hallucinogens were listed 14 times as a secondary or tertiary drug of choice in metropolitan Atlanta. "Other hallucinogens" were listed 17 times as a secondary drug of abuse and 20 times as a tertiary drug in nonmetropolitan areas. These secondary and tertiary data indicated consistent use of hallucinogens compared with previous years.

In 2008, lysergic acid diethylamide (LSD) accounted for only 0.02 percent of drugs analyzed by NFLIS. The DEA reported an increase in the availability of LSD, especially among White traffickers/users age 18–25. LSD was usually encountered in university settings and was imported through the U.S. Postal Service.

Club Drugs

While so-called club drugs—3,4-methylenedioxymethamphetamine (MDMA or ecstasy), gamma hydroxybutyrate (GHB), and ketamine—appeared relatively infrequently in epidemiological data, ethnographic and sociologic research suggests continued frequency in use, particularly among metropolitan Atlanta's young adult population.

Atlanta served as a distribution point for MDMA to other U.S. cities. According to the NDIC, most of the MDMA available in Georgia was produced in northern Europe and flown

into major cities in the United States or produced in Canada and transported into the Southeast, including Atlanta. Results from drug-related seizure data indicated that in 2008, MDMA accounted for 3.4 percent of substances tested in suspected drug cases; this proportion was nearly one-half of the percentage reported in 2007 (5.8 percent). The emergence of MDMA use in Atlanta's African American community was supported by treatment data and ethnographic reports. Results from ethnographic reporting found higher demand for MDMA in African American young adults (age 18–25), especially in those individuals associated with Atlanta's hip-hop culture. The drug retailed at \$10 to \$20 per tablet, although ethnographic data indicated that many users were buying ecstasy in bulk. Users reported that bulk ecstasy rates were \$5–\$10 per pill. Ethnographic reports also indicated that methamphetamine was being combined with MDMA and sold as ecstasy. These MDMA pills were marketed, especially among White users, as combination MDMA-methamphetamine tablets. Among the NFLIS drug seizure data in 2008, there were significant increases among piperazine (16 to 227) and 1-benzylpiperazine (BZP) items identified (5 to 32). Ethnographic reports found that these drugs were replacing MDMA in ecstasy tablets and sold to the consumer without her/his knowledge.

3,4-Methylenedioxyamphetamine (MDA) accounted for another 0.4 percent of NFLIS drug-related seizure data; the proportions were similar to the previous 3 years.

The NDIC reported the primary distributors and abusers of GHB were White young adults, especially gay males. The HIDTA Atlanta Division reported that in 2007, liquid GHB sold for \$500 to \$1,000 per gallon and \$15 to \$20 per dose (one dose is usually the equivalent of a capful from a small water bottle).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Georgia continued to be ranked eighth in the Nation for cumulative reported AIDS cases. A cumulative total of 36,847 adult/adolescent AIDS cases were reported in Georgia through 2007. Of the cumulative cases in Georgia, 66 percent were African American, 30 percent were White, and 3 percent were Hispanic; 80 percent were male. The

city of Atlanta constituted nearly 59 percent of the State's cumulative AIDS cases.

For inquiries regarding this report, contact Brian J. Dew, Ph.D., Associate Professor, Department of Counseling and Psychological Services, Georgia State University, 1210 Beach Haven Road, Atlanta, GA 30324, Phone: 404-808-5436, Fax: 404-413-8013, E-mail: bdew@gsu.edu.

Exhibit 1. Percentage of Primary Treatment Admissions for Major Drugs of Abuse in Atlanta: CYs 2003–2008¹

Drug	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007	CY 2008
Cocaine/Crack	42.8	39.5	37.2	34.2	25.6	22.8
Heroin	6.3	5.6	5.0	4.9	2.8	4.3
Marijuana	20.0	21.7	20.9	20.9	21.0	21.8
Methamphetamine	5.1	8.5	11.9	7.7	9.0	6.1
Other Drugs ²	25.8	24.6	25.0	32.4	41.6	45.0
Total Admissions (n=)	(7,178)	(7,996)	(9,320)	(9,125)	(8,938)	(8,105)

¹Data are for January through December.

²Includes "alcohol-in-combination."

SOURCE: Georgia Department of Human Resources

Exhibit 2. Number of Analyzed Items and Percentage of All Items Tested in Atlanta: CY 2008¹

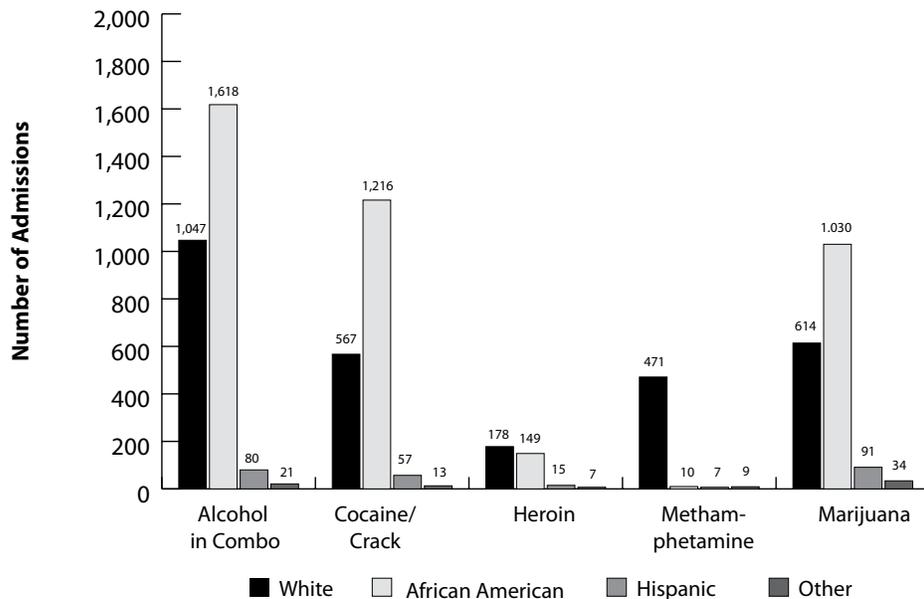
Drug	Number	Percent
Cocaine	6,820	56.3
Methamphetamine	2,223	18.3
Alprazolam	522	4.3
MDMA/MDA	410	3.7
Hydrocodone	400	3.3
Oxycodone	339	2.8
Heroin	268	2.2
1-(3-Trifluoromethylphenyl) piperazine (TFMPP)	227	1.9
Cannabis	175	1.4
Carisoprodol	114	0.9
Other ²	709	4.9
Total	12,207	100.0

¹Data are for January through December 2008.

²Includes clonazepam, morphine, codeine, psilocin, noncontrolled nonnarcotic drugs, methylphenidate, ketamine, gamma hydroxybutyrate (GHB), hydromorphone, lorazepam, and lysergic acid diethylamide (LSD).

SOURCE: NFLIS, DEA

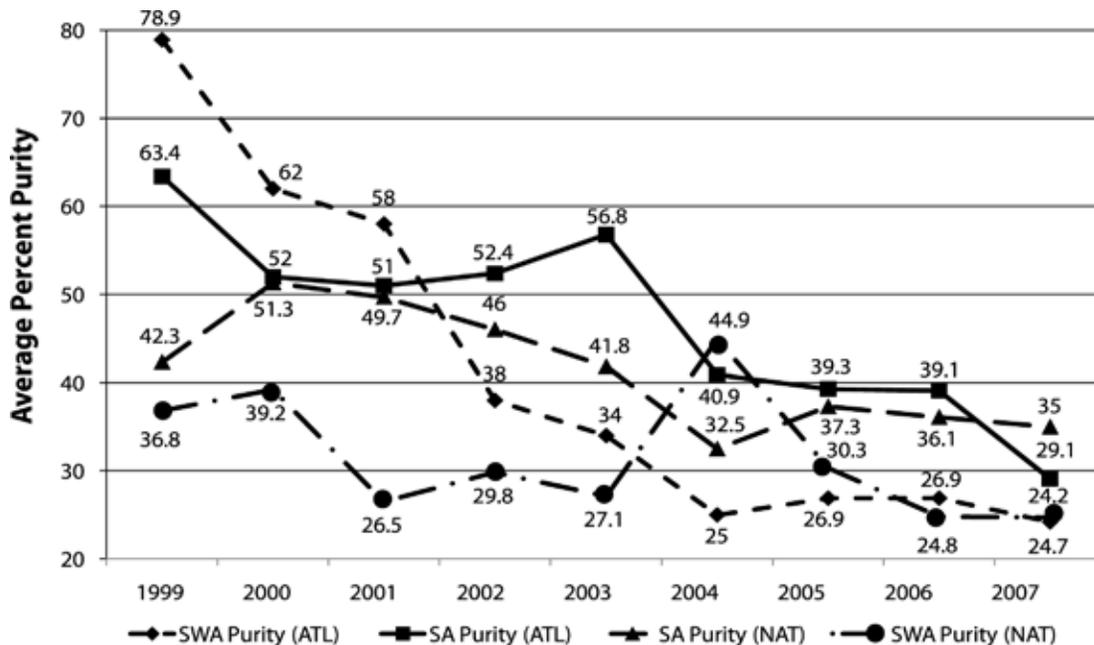
Exhibit 3. Number of Public Substance Abuse Treatment Admissions, Selected Drugs by Race, Metropolitan Atlanta: January–December 2008



¹Other Category includes: Asian, American Indian, Multicultural, and Other Race.

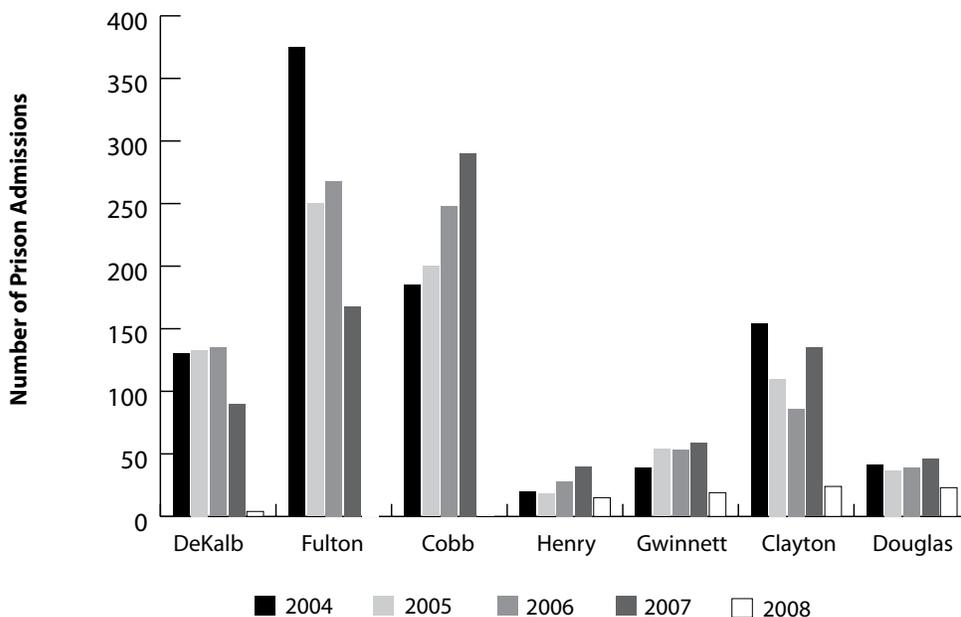
SOURCE: Georgia Department of Human Resource

Exhibit 4. South West Asian (SWA) and South American (SA) Heroin Purity Levels, Atlanta Versus National Trends: 1999–2007



SOURCE: DEA

Exhibit 5. Number of Prison Admissions Related to Possession of Methamphetamine for Select Metropolitan Atlanta Counties: 2004–2008



SOURCE: Georgia Department of Corrections

Patterns and Trends of Drug Abuse in Baltimore, Maryland, and Washington, DC Metropolitan Area—Epidemiology and Trends: 2002–2008

Erin Artigiani, M.A., Margaret Hsu, M.H.S.,
Lynda Okeke, M.A., Maribeth Rezey, B.A.,
Cheryl Rinehart, B.A., and Eric Wish, Ph.D.¹

ABSTRACT

Throughout the Washington, DC, and Maryland region, cocaine, marijuana, and heroin continued to be the primary drugs of abuse from 2002 through mid-2009. The Washington/Baltimore High Intensity Drug Trafficking Area (HIDTA) reported that cocaine and marijuana were the most frequently seized drugs in the region. However, seizures of heroin and club drugs increased sharply in 2008. Cocaine and marijuana were also the most frequently found drugs in National Forensic Laboratory Information System (NFLIS) drug items tested. 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 the club scene in DC and rural areas in the HIDTA region. The percentage of adult and juvenile offenders in Washington, DC testing positive for amphetamines remained considerably lower than for other drugs. The percentage testing positive decreased in 2008 for adults, and remained low in the first 4 months of 2009. In Washington, DC, in 2007 and 2008, cocaine/crack, marijuana, and heroin continued to be the most frequently used drugs. The use of phencyclidine (PCP)

remained steady for youth and may be beginning to decrease for adults. Cocaine remained one of the most frequent drugs of abuse, as evidenced by the fact that more adult arrestees tested positive for cocaine than for any other drug. One-third of adult arrestees tested positive for cocaine in 2008; this percentage continued to decrease in the first 4 months of 2009. As in prior years, approximately 9 percent tested positive for opiates and/or PCP. In addition, more seized drug items tested positive for cocaine (41 percent) in 2008 than for any other drug, as reported by NFLIS. In 2007, overdose deaths were also more likely to be related to cocaine (59 deaths) than to any other drug, although the number decreased sharply since 2006. During 2008, juvenile arrestees were more likely to test positive for marijuana (54 percent) than for any other drug. The percentage of juvenile arrestees testing positive for marijuana increased slightly (from 50 to 54 percent) during the prior 3 years, leveled off in 2008, and appeared to be decreasing in 2009. The percentages testing positive for cocaine decreased slightly but steadily from 2005 to 2008 (3.5 to 1.6 percent), and appeared to be continuing to decrease in 2009. The percentages testing positive for PCP remained about the same (3.4 to 2.8 percent). In Maryland, admissions to certified treatment programs in 2008 most frequently involved alcohol, heroin, marijuana, crack, and other cocaine. Cocaine and marijuana also accounted for nearly three-quarters of the positive drug items tested through NFLIS during 2008. Narcotics (heroin, methadone, oxycodone, fentanyl, and others) were the most frequently identified drugs in drug abuse deaths in 2007, and more than one-half of these deaths occurred in Baltimore. Current human immunodeficiency virus (HIV) data were not available for Washington, DC or Maryland due to changes in data collection required by the Centers for Disease Control and Prevention (CDC). Washington, DC, however, did recently release updated acquired immunodeficiency syndrome (AIDS) data through 2007. DC AIDS data indicated a decrease in new adult and adolescent AIDS cases from 838 in 2003 to 661 in 2005,

¹The authors are affiliated with the Center for Substance Abuse Research, University of Maryland, College Park, Maryland. Some background material was taken from prior CEWG reports.

followed by an additional decrease of approximately 7 percent from 2006 to 2007, from 694 to 648 cases, respectively. Approximately 21 percent of new AIDS cases in 2007 reported injection drug use (IDU) or men who have sex with men (MSM)/IDU as the mode of transmission. This was a slight decrease, from approximately 32 percent in 2005.

INTRODUCTION

This article addresses drug trends in both Maryland (including Baltimore) and Washington, DC. It is organized to provide area descriptions and drug use overviews of both Maryland and DC in this Introduction section. 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 581,530 people residing in eight wards; 20.2 percent live below the poverty level, and 63.6 percent are in the labor force (U.S. Bureau of the Census, 2006 estimate). The northwest part of the city tends to be home to residents who are wealthy and White, while the northeast and southeast sections tend to be home to residents who are poor and African American. Slightly more females than males live in DC, and the majority of the District's population are African American (55 percent). However, the number of African Americans residing in the District decreased approximately 14 percent in the 1990s, while the numbers of Asians and Hispanics increased (U.S. Bureau of the Census, 2000 Census; *The Washington Post*, May 17, 2007). The population of the District is slightly older than the Nation's population. One in five residents are younger than 18, and slightly more than 12 percent are 65 and older. More than one-third (39.1

percent) of adults age 25 or older have at least a bachelor's degree (District of Columbia Epidemiological Outcomes Workgroup—DCEOW—Profile 2008).

The State of Maryland is home to approximately 5,296,486 people residing in 24 jurisdictions. The State has slightly more females than males, and the majority of the State's population are White (64.0 percent). Approximately 27.9 percent of Maryland's population are African American, 4.3 percent are Hispanic or Latino, and 4.0 percent are Asian. As in the District, data from the 2000 Census reveal several key demographic changes in Maryland since 1990. Maryland's total population increased by 11 percent from 1990 to 2000. Minority populations in the State increased sharply during this time, while the White population remained about the same. Increases were noted among the African American population (24 percent), Asians (51 percent), and Hispanics (82 percent). Approximately three-quarters (74.4 percent) of the State's population is age 18 and older, comparable to the national average of 74.3 percent. Approximately 11.3 percent of Maryland's population is 65 and older, slightly lower than the national average. More than three-quarters (83.8 percent) of the State's residents are high school graduates or higher, and nearly one in three (31.4 percent) has a bachelor's degree or higher—an education level higher than that of the Nation's general population.

According to recently released statistics from the Bureau of Labor Statistics, the unemployment rate across the region is increasing. The percentage of unemployed DC residents increased to 10.7 percent in May 2009 (from 6.6 percent in May 2008). The percentage of unemployed Maryland residents increased to 7.2 percent (from 4.1 percent in May 2008). The DC unemployment rate is now higher than the national average (*The Washington Post*, June 20, 2009).

Drug Use Overview

Washington, DC: According to the National Survey on Drug Use and Health (NSDUH) annual

State averages for 2006/2007, an estimated 60,000 DC residents age 12 or older reported past-month illicit drug use; 295,000 reported past-month drinking; and 143,000 reported past-month binge drinking. Approximately one-third (33.75 percent) of residents age 12–20 drank, and nearly one-quarter (22.51 percent) reported binge drinking.

Maryland: In Maryland, an estimated 326,000 residents age 12 or older reported past-month illicit drug use; 2,507,000 reported past-month drinking; and 977,000 reported past-month binge drinking. Approximately one-quarter (28.41 percent) of residents age 12–20 drank alcohol, and nearly one-fifth (17.31 percent) reported binge drinking (Substance Abuse and Mental Health Services Administration [SAMHSA], Office of Applied Studies [OAS], NSDUH, 2006–2007).

The Washington/Baltimore High Intensity Drug Trafficking Area (W/B HIDTA) has been monitoring drug threats in the Maryland/Washington, DC/Virginia region since 1994. Current primary drug threats include crack and other cocaine, marijuana, and heroin. Other drugs identified as threats in the W/B HIDTA region are pharmaceuticals, phencyclidine (PCP), 3,4-methylenedioxymethamphetamine (MDMA), methamphetamine, steroids, and club drugs. The amount of heroin seized by HIDTA task forces more than tripled from 26 kilograms in 2007 to 87 kilograms in 2008, and the amount of club drugs seized more than doubled, from 85,102 drug units (D.U.s) in 2007 to 212,781 D.U.s in 2008. In contrast, the amount of cocaine seized decreased by nearly 32 percent (from 677 kilograms to 463 kilograms). HIDTA task forces have identified 368 drug trafficking organizations (DTOs) trafficking these drugs in the region (an increase from 194 in 2005). The majority of these DTOs operate in multiple States and are African American, Caucasian, Mexican, or Jamaican. The most frequently trafficked drugs by these DTOs are cocaine/crack, marijuana, and heroin.

Information from the W/B HIDTA suggests that Maryland and DC have a wide variety of drug transportation options, including an extensive

highway system, two major airports, and rail and bus systems. While W/B HIDTA information suggests that traffickers use all of these options extensively, the region appears to be a secondary drug distribution center. Most drugs intended for distribution in Maryland or DC are distributed first to larger cities, such as New York City and Miami (W/B HIDTA 2009).

Alcohol abuse costs Maryland and the District approximately \$4.1 billion per year, and illicit drug use costs about \$2.7 billion per year. In fiscal year (FY) 2005, Washington, DC, spent approximately \$360 million to address the problem. Approximately 49 treatment programs, 20 publicly funded prevention programs, 11 recovery clubs, and 727 weekly recovery meetings are based in the District. There are more than 1,500 licensed alcohol retailers and more than 1,100 issued tobacco licenses in DC. There were approximately 4,818 admissions to treatment programs in the District. The majority of people seeking treatment were male, African American, and age 36 or older. In Maryland, the FY 2009 budget for the Alcohol and Drug Abuse Administration (ADAA) is approximately \$144 million. In FY 2007, 211,234 individuals received prevention services. The majority of these people were White and female, but percentages served were very similar across age groups (“Outlook & Outcomes 2007,” an annual publication of the Maryland ADAA). Approximately 513 treatment programs are currently listed on the ADAA Web site. A recent data run indicated that there were 65,375 admissions to Maryland treatment programs in 2008. The most frequently mentioned drugs were alcohol, heroin, marijuana, and cocaine. The majority of clients seeking treatment were male, White, and age 35 or older.

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. In addition, interviews were

conducted with a sample of substance abuse professionals in the fields of criminal justice, public health, and education.

- **Test results on drug items analyzed** by local crime laboratories were obtained from the National Forensic Laboratory System (NFLIS) for calendar year (CY) 2008 (exhibits 1a and 1b).
- **Drug-related death data** Washington, DC, were obtained from the 2005, 2006, and 2007 Annual Reports, prepared by the District's Office of the Chief Medical Examiner (OCME); and for Maryland from special data runs conducted by the Maryland Office of the Chief Medical Examiner. Exhibits 2a and 2b show the number of drug overdose and drug positive deaths by drug in DC, and exhibit 2c shows the number of drug intoxication deaths in Maryland.
- **Student survey data** were adapted by the Center for Substance Abuse Research (CESAR) from the 2007 Maryland and DC Public Schools Youth Risk Behavior Survey (YRBS). Exhibits 3a and 3b compare student drug use in DC and Baltimore.
- **Arrestee urinalysis data** were provided by the District of Columbia Pretrial Services Agency for adult and juvenile arrestees from 1984 through April 2009 (exhibits 4a, 4b, 5a, and 5b).
- **Treatment data** for Maryland were provided by the Maryland ADAA (exhibit 6) and Treatment Episode Data Set (TEDS) for DC (data not shown).
- **Drug prices and trafficking trends** were obtained from the Department of Justice, Drug Enforcement Administration (DEA), *National Illicit Drug Prices—June 2008*, the W/B HIDTA 2007 and 2008 Threat Assessment reports, the 2008 Annual Report, and the *Threat Assessment and Strategy for Program Year 2009*.
- **Census data** for Maryland and DC were derived from the U.S. Census Bureau. Additional information for DC came from the "Council of the District of Columbia; Subcommittee on Labor, Voting Rights, and Redistricting; Testimony of

the Office of Planning/State Data Center on Bill 14–137, The Ward Redistricting Amendment Act of 2002."

- **Additional information** came from several sources. Data on the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) were provided by the DC HIV/AIDS Administration; retail distribution data were derived from the DEA's Automation of Reports and Consolidated Orders System (ARCOS); and other data or information were derived from the Maryland and DC Epidemiological Outcomes Workgroups State profiles (exhibits 7a, 7b, 8a, and 8b).

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. It also continued to be a primary concern in Maryland. However, several indicators in both jurisdictions were decreasing.

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 DC, in 2008, powder cocaine sold for \$30,000 per kilogram wholesale and approximately \$100–\$150 per gram retail. Crack sold for about the same wholesale (\$25,000–\$30,000/kilogram), and retail for \$20–\$40 per rock. In Baltimore, powder cocaine sold for about the same (\$24,000–\$32,000/kilogram wholesale, and \$20–\$200 per gram retail). Crack prices also fell in this range (\$20,000–\$28,000/kilogram wholesale, and \$40–\$200 per rock retail). NFLIS data for CY 2008 showed that 40.5 percent of analyzed drug items in the District and 34.7 percent in Maryland tested positive for cocaine, more than for any other drug (exhibits 1a and 1b). There was a decrease in the percentage of items testing

positive in both DC and Maryland. There was also a decrease in the amount of cocaine seized by HIDTA initiatives throughout the W/B HIDTA region, from 677 kilograms in 2007 to 463 kilograms in 2008 (W/B HIDTA 2008 Annual Report).

Cocaine-caused overdose deaths in the District totaled 75 in 2006, more than deaths caused by any other drug (exhibit 2a). This number decreased sharply in 2007, however, to 59. The number of cocaine-positive cases (134) was surpassed only by alcohol-positive cases in the District in 2007 (178) (exhibit 2b). Nearly all of the driving under the influence (DUI) cases analyzed by the OCME tested positive for at least one drug. Approximately 7 percent of these cases were positive for cocaine. In Maryland and Baltimore, the total number of intoxication deaths decreased from 2007 to 2008 (14 percent statewide and 35 percent in Baltimore), and the decrease appeared to be continuing in 2009. Cocaine was the most frequently found drug in intoxication deaths statewide and in Baltimore residents in 2007, but cocaine intoxication deaths decreased sharply from 2007 to 2008. Cocaine intoxication deaths decreased by 38 percent statewide, from 249 in 2007 to 155 in 2008 (exhibit 2c), and by nearly 50 percent among Baltimore residents, from 113 to 58. In 2008, cocaine was the second most frequently found drug in Baltimore residents (after heroin/morphine) and the third most frequently found drug statewide (after heroin/morphine and methadone). There were 192 alcohol-related fatal crashes (34 percent of all fatal crashes) in Maryland in 2007, resulting in the deaths of 221 people.

The results of the District's 2007 YRBS data indicated that 6.2 percent (95-percent Confidence Interval or CI=4.6–8.4) of public school students in grades 9–12 reported lifetime use of any form of cocaine, about the same as in 2003 (exhibit 3a). Significantly more District students than Baltimore students reported lifetime cocaine use (6.2 [CI=4.6–8.4] versus 2.0 [CI=1.3–3.2] percent); 5.5 percent (CI=3.7–8.3) of Maryland students reported lifetime cocaine use, about the same as in 2005.

In the District, reports from the Pretrial Services Agency indicated that the percentages of both adult and juvenile arrestees testing positive for cocaine continued to decrease in 2008, and these appeared to continue to decrease in the first 4 months of 2009 (from 33 to 29.1 percent for adults, and from 1.6 to 0.9 percent for juveniles) (exhibits 4a to 5b).

For Maryland, primary admissions to certified Maryland alcohol and drug abuse treatment programs decreased by 9.5 percent from 2004 to 2006, but increased slightly (1.5 percent) in 2007. Admissions decreased slightly in 2008, but this may be because private programs expected to be dropped from the State reporting system and may have already stopped reporting data. Mentions of both crack and other cocaine appeared to have decreased from 2007 to 2008 (exhibit 6). Primary crack and other cocaine mentions at admission decreased in Baltimore as well, but city residents still accounted for approximately one-third of the crack admissions in the State, followed by Montgomery and Prince George's Counties (10 percent each), both of which border DC.

Heroin

Heroin represented one of the three leading drugs of abuse in Maryland and 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. Drug costs in these cities reflected this assessment. Crack rocks sold for slightly less in DC, while the lower end of the range of heroin prices was less in Baltimore. The NDIC reported that heroin prices remained stable: \$100,000 per kilogram wholesale, and \$100–\$150 per gram retail in DC. In Baltimore, heroin prices were \$64,000–\$125,000 per kilogram wholesale, and \$90–\$165 per gram retail.

NFLIS data for CY 2008 showed that approximately 9 percent of analyzed drug items in DC and 21 percent in Maryland tested positive for heroin, making it the third most frequently found drug in the region (exhibits 1a and 1b). Although the percentage of drug items testing positive for

heroin reported by NFLIS remained about the same, the amount of heroin seized throughout the W/B HIDTA region by HIDTA task forces more than tripled from 26 kilograms in 2007, to 87 kilograms in 2008 (W/B HIDTA 2008 Annual Report).

The number of overdose deaths involving heroin/morphine in the District increased from 43 in 2005 to 50 in 2006, then decreased sharply to 32 in 2007. 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 2007 ($n=71$) (exhibit 2b). In Maryland, heroin/morphine was the most frequently found drug in intoxication deaths in 2008, replacing cocaine, but the number of heroin/morphine deaths decreased approximately 8 percent from 213 in 2007 to 196 in 2008 (exhibit 2c). Baltimore experienced a much larger decrease (33 percent) from 107 in 2007 to 72 in 2008. In addition, a specific narcotic was not specified in 168 deaths statewide in 2007 and 99 deaths in 2008. The majority of these deaths were of Baltimore residents.

The results of the District's 2007 YRBS indicated that 5.4 percent (CI=3.8–7.7) of public school students in grades 9–12 reported lifetime use of heroin, about the same as in 2003 (exhibit 3). Significantly more District students (5.4 percent; CI=3.8–7.7) reported lifetime heroin use than Baltimore students (1.8 percent; CI=1.1–2.8); 2.4 percent (CI=1.4–4.0) of Maryland students reported lifetime heroin use, about the same as in 2005.

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 2008. In 2008, 10 percent of adult arrestees tested positive for opiates; however, the percentage testing positive decreased to 8.4 percent during the first 4 months of 2009 (exhibits 4a and 4b). Juvenile arrestees were not tested for opiates during this time period.

Heroin continued to be the most frequently used illicit drug among Maryland treatment admissions (exhibit 6). Primary admissions for heroin to certified Maryland alcohol and drug abuse treatment programs remained about the same in 2008 as in 2007 and 2006. These admissions were highest in Baltimore in 2008. More than one-half of the admissions in Baltimore mentioned heroin as a primary substance of abuse, and Baltimore residents accounted for nearly 60 percent of the admissions in the State. Primary heroin mentions at admission to treatment appeared to have increased slightly from 2007 to 2008.

Other Opiates/Narcotics

Drug overdose deaths in DC involving methadone continued to decrease in 2007. Overdose deaths involving oxycodone decreased slightly in 2006 (exhibit 2a); data were not available for 2007. Twenty-six drug-positive cases involved methadone, and 12 of these cases were classified as overdose deaths (exhibits 2a and 2b). Six cases were oxycodone positive, a sharp decrease from 23 in 2006. Methadone intoxication deaths also decreased in Maryland and Baltimore from 2007 to 2008. In Maryland, methadone intoxication deaths decreased by 24 percent, from 215 in 2007 (exhibit 2c) to 164 in 2008. Methadone intoxication deaths of Baltimore residents decreased by 41 percent, from 88 to 52. Oxycodone intoxication deaths showed the opposite trend statewide, increasing from 68 in 2007 to 81 in 2008. The number of oxycodone intoxication deaths of Baltimore residents, however, remained about the same (9 in 2007 and 7 in 2008).

Oxycodone, methadone, hydrocodone, and buprenorphine combined to account for approximately 3 percent of analyzed drug items reported to NFLIS in 2008 in Maryland, and approximately 1 percent of analyzed drug items in DC.

The DEA's ARCOS reports showed that the retail distribution of oxycodone, methadone, and buprenorphine in DC and Baltimore City and Baltimore County increased sharply from 2000 to

2007 (exhibits 7a and 7b). All of these drugs were distributed in far higher quantities in Baltimore City and County than in DC. Oxycodone was distributed in far higher quantities in both cities than methadone or buprenorphine. Oxycodone distribution nearly doubled, from 31,963.5 grams in 2000 to 60,664.81 grams in 2007 in DC. Distribution more than doubled, from 141,802.5 grams in 2000 to 290,662.41 grams in 2007 in Baltimore City and County. Buprenorphine distribution increased from 224.17 grams in 2005, to 840.57 grams in DC, and from 2,622.65 grams in 2005, to 8,457.31 grams in 2007 in Baltimore City and County.

In Maryland, primary admissions for other opiates to certified drug and alcohol treatment programs increased by 48 percent, from 3,369 in 2006 to 4,982 in 2008 (exhibit 6). Baltimore had the highest number of primary mentions of nonprescription methadone, but oxycodone and other opiates mentions were more widespread. The jurisdictions with the highest numbers of primary mentions of oxycodone were Baltimore and Anne Arundel Counties in the Baltimore metropolitan area, but at least one jurisdiction in each region of the State reported more than 100 primary mentions.

Marijuana

Marijuana was widely available in the District and Maryland, but local production was limited. No indoor grows were dismantled in 2007 (W/B HIDTA 2009), but seizures across the W/B HIDTA region increased slightly, from 4,304 kilograms in 2007 to 4,567 kilograms in 2008 (W/B HIDTA 2008 Annual Report). Commercial-grade and high-grade marijuana were available for wide-ranging but relatively stable prices. Wholesale prices ranged from \$1,000–\$1,500 per pound domestic or Mexican grade, to \$3,000–\$5,000 per pound for hydroponic in DC. Prices in Baltimore covered a broader range: \$800–\$3,250 wholesale, depending on the grade.

NFLIS data for CY 2007 showed that approximately 33 percent of analyzed drug items in DC

and 38 percent of Maryland items tested positive for cannabis/marijuana. This made marijuana the most frequently found drug in Maryland and the second most frequently found drug in DC. The percentage of items testing positive increased in both jurisdictions from 2007 to 2008 (exhibits 1a and 1b).

The results of the 2007 YRBS indicated that alcohol and marijuana were the two most frequently reported substances by public school students. More than 40 percent of public school students in grades 9–12 in DC and Baltimore used marijuana at least once in their lives; 1 in 10 first used marijuana before age 13. Approximately one in five students reported using marijuana at least once in the past month. More than one-third (36.5 percent; CI=31.3–42.0) of Maryland students reported lifetime marijuana use (data not shown). Significantly more DC students than Baltimore students reported alcohol use or driving under the influence.

No marijuana-involved deaths were reported by the District's or Maryland's CME in recent years, but marijuana was the most frequently found illicit drug in DC DUI cases testing positive for illicit drugs. Marijuana was found in nearly one-fourth (21.3 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 increased from 2004 to 2007, after decreasing steadily for 5 years; it remained level in 2008 (exhibits 5a and 5b). Approximately 54 percent tested positive in 2008, and 50 percent were marijuana-positive during the first 4 months of 2009.

Primary marijuana admissions to Maryland treatment programs increased by 11.4 percent, from 9,950 in 2006 to 11,069 in 2008 (exhibit 6). Four of the most populous jurisdictions—Baltimore City, Baltimore County, Prince George's County, and Montgomery County—each had more than 1,000 primary mentions of marijuana in 2008. Together they accounted for nearly half of the primary mentions of marijuana in 2008.

Phencyclidine (PCP)

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

NFLIS data for 2008 showed that 6.5 percent of analyzed drug items tested positive for PCP in DC, making it the fourth most frequently found drug, after cocaine, marijuana, and heroin (exhibit 1a). This is a slight increase from 2007. However, very few items (0.3 percent) in Maryland were positive for PCP.

Forty-seven PCP-positive deaths occurred in DC in 2007, an increase from 33 in 2006 (exhibit 2b). Five overdose deaths in DC involved PCP. Nearly 20 percent of the DUI cases in DC were positive for PCP. In Maryland, there were four intoxication deaths involving PCP in 2007, and six in 2008. Nearly all of these deaths (9 of 10) involved Prince George's County residents (a county bordering DC). There were no intoxication deaths involving PCP of Baltimore residents either year.

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 4a and 4b). Positive tests for PCP among adults increased, from 6.2 percent in 2004 to 9.6 percent in 2008. During the first 4 months of 2009, a slightly lower percentage (8.9 percent) of adults tested positive for PCP. 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. During the first 4 months of 2009, 1.9 percent of juvenile arrestees tested positive for PCP, a low previously reached in 2004 (exhibits 5a and 5b).

Primary treatment admissions involving PCP in Maryland—though much lower than those for other drugs—increased by 39 percent, from 340 in 2006, to 473 in 2008 (exhibit 6). Nearly

three-quarters were from Prince George's and Montgomery Counties and DC.

Methamphetamine/MDMA

Abuse of methamphetamine has remained very low in DC and Maryland. No drug overdose deaths were reported due to either methamphetamine or MDMA/3,4-methylenedioxyamphetamine (MDA) in 2007 in DC, but the 2007 annual report included only the most commonly found drugs. However, 15 decedents tested positive for MDMA and 14 tested positive for methamphetamine/amphetamine at the time of their deaths in the District in 2007 (exhibit 2b). In Maryland, there were no intoxication deaths involving methamphetamine, and only two involving MDMA (one in 2007 and one in 2008). Neither involved a Baltimore resident. Methamphetamine and MDMA accounted for less than 1 percent of the primary drug mentions at admission to treatment in Maryland.

The W/B HIDTA continued to report that methamphetamine use was limited to the DC club scene and rural areas of the HIDTA region. Although methamphetamine continued to be ranked as a secondary threat in the 2009 threat assessment, very little is said about the drug. Substance abuse professionals surveyed in 2008 from the District were more likely to rate methamphetamine as a threat than professionals in Maryland or Virginia. However, none of these professionals felt that methamphetamine was likely to become a primary drug of abuse. Seizures throughout the W/B HIDTA regions remained low and decreased slightly (W/B HIDTA 2008 Annual Report).

NFLIS data for 2008 showed that slightly more items tested positive for MDMA/MDA (2.3 percent) than methamphetamine (2.1 percent) in DC. In Maryland, less than 1 percent of the items tested were positive for methamphetamine or MDMA/MDA. The NDIC reported that powder methamphetamine sold for \$1,700–\$2,000 per ounce mid-level, and \$100 per gram retail in 2008 in DC. MDMA pills sold for approximately twice as much in DC (\$20–\$25) as in Baltimore City

and County (\$10–\$12) in 2007. MDMA sold for \$15–\$20 per tablet in 2008 in DC. No purchases of methamphetamine or MDMA were listed for Baltimore for 2008.

The results of the 2007 YRBS also indicated that significantly more public school students in grades 9–12 reported lifetime use of methamphetamine and MDMA in DC than in Baltimore (6.1 [CI=4.5–8.2] versus 1.9 [CI=1.3–2.9] percent and 7.7 [CI=6.1–9.7] versus 3.5 [CI=2.5–4.8] percent, respectively) (exhibit 3).

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 2.1 percent in 2008. During the first 4 months of 2009, 1.9 percent tested positive. The percentage of juvenile arrestees testing positive for amphetamines also decreased, from 2.7 percent in 2007 to 1.9 percent in 2008. During the first 4 months of 2009, 2.1 percent of juvenile arrestees were positive for amphetamines (data not shown).

ADAM II

The 2007 and 2008 Arrestee Drug Abuse Monitoring II (ADAM II) reports were recently released. ADAM II continues the methodology from the original ADAM in 10 sites, including Washington, DC. ADAM II data in 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 2008 Annual Report p. vi.).

The 2008 DC sample included an eligible sample of 177 male arrestees in 7 facilities. There was a response rate of 59 percent ($n=95$) for the interviews, and a response rate of 58 percent ($n=55$) for the urinalysis. Approximately 33 percent of the arrestees tested positive for cocaine, 30

percent for marijuana, 10 percent for opiates, and 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 ($n=24,375$); the percentages testing positive for methamphetamine were low in both. More than one-half of the arrestees tested through ADAM II were age 36 or older, and approximately 87 percent were African American. The majority of these arrestees had completed a high school or GED diploma and worked full time. Approximately 44 percent owned a house, mobile home, or apartment. Although more than 40 percent had no health insurance, more than one-half of those reporting cocaine use had received inpatient treatment, and more than one-half of those reporting heroin use had received outpatient treatment. Trends from 2007 to 2008 showed decreases in the percentage of arrestees testing positive for cocaine, marijuana, and methamphetamine. The percentage testing positive for opiates remained about the same.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Washington, DC and Maryland both switched from a code-based reporting system to a name-based reporting system as required by the Centers for Disease Control and Prevention (CDC). As a result of this shift, neither DC nor Maryland released HIV case data in 2008. Efforts continue in both jurisdictions 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 is for 2006. DC recently released a new report on AIDS cases and has provided data through 2007.

The HIV/AIDS Epidemiology Update 2008 report indicated that the number of new adult and adolescent AIDS cases in DC decreased from 838 in 2003, to 648 in 2007. The rate of newly reported AIDS cases decreased, while the rate of those living with AIDS increased. Six of the eight wards in

DC have more than 2 percent of residents living with AIDS. CDC considers an epidemic level to be higher than 1 percent. Newly reported injection drug use (IDU)-related and men who have sex with men (MSM)/IDU AIDS cases in DC decreased, from 31.5 percent in 2005, to 21.3 percent in 2007 (exhibit 8a).

Newly reported IDU-related HIV/AIDS cases in Maryland also decreased steadily from 2001 to 2006 (exhibit 8b). IDU-related HIV cases decreased by 87 percent, from 569 in 2001 to 73 in 2006, and AIDS cases decreased by 59 percent, from 752 to 307, respectively. A review of cumulative IDU-related AIDS cases in Maryland's 24 jurisdictions revealed that Baltimore accounted for more cases than any other jurisdiction. Although the percentage of cases in Baltimore that were IDU-related was decreasing, Baltimore accounted for more than 60 percent of the cumulative IDU-related AIDS cases in the State in 2006.

REFERENCES

- A Report on Juvenile and Adult Homicide in the District of Columbia 2001–2005*. Washington, DC: Metropolitan Police Department, 2006.
- Aizenman, N.C. "D.C. May Be Losing Status as a Majority-Black City." *The Washington Post*, May 17, 2007: A1.
- Annual Report 2005, 2006, and 2007*. Washington, DC: Government of the District of Columbia, Office of the Chief Medical Examiner, December 2006.
- Annual Report 2006*. Washington, DC: Government of the District of Columbia, Office of the Chief Medical Examiner, November 2007.
- Annual Report Office of the Chief Medical Examiner, 2006*. Baltimore, MD: State of Maryland, July 2007.
- Centers for Disease Control and Prevention. "Electronic Record Linkage to Identify Deaths Among Persons with AIDS—District of Columbia, 2000–2005." *Morbidity and Mortality Weekly Report*. June 13, 2008. 57(23): 631-634.
- Citywide Comprehensive Substance Abuse Strategy for the District of Columbia, 2003.
- District of Columbia Epidemiologic Profile: Consequences of Illicit Drug, Alcohol, and Tobacco Use*. College Park, MD: Addiction Prevention and Recovery Administration and the Center for Substance Abuse Research, March 2007.
- District of Columbia Epidemiological Profile: Consequences of Alcohol, Tobacco, and Other Drug Use*. College Park, MD: Addiction Prevention and Recovery Administration, DC DOH and CESAR, UMCP, March 2008.
- District of Columbia HIV/AIDS Epidemiology Annual Report 2007*. Washington, DC: DC Department of Health, HIV/AIDS Administration, November 2007.
- District of Columbia HIV/AIDS Epidemiology Update 2008*. Washington, DC: DC Department of Health, HIV/AIDS Administration, February 2009.
- Drug Use in Maryland: A 2003 Update*. College Park, MD: CESAR, UMCP, 2003.
- Haynes, V. Dion, and Emma L. Carew. "In D.C., More Jobs and More Jobless: District Unemployment Surges Past 10% Despite Expanding Government." *The Washington Post*, June 20, 2009.
- Intoxication Deaths Associated with Drugs of Abuse or Alcohol, Baltimore, Maryland, January 1995 Through September 2007*. Baltimore, MD: Baltimore City Health Department, January 2008.
- Maryland Epidemiological Profile: Consequences of Illicit Drug Use, Alcohol Abuse, and Smoking*. College Park, MD: CESAR, UMCP, March 2008 and March 2009.

National Illicit Drug Prices June 2008. Washington, DC: U.S. Department of Justice, National Drug Intelligence Center, March 2008.

Outlooks & Outcomes For Maryland Substance Abuse Prevention, Intervention, and Treatment Fiscal Year 2006. Baltimore, MD: State of Maryland Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration, 2007.

Pach, A.; Brown, J.; Hendrickson, J.; Odom, T.; and Nemes, S. "Patterns and Trends of Drug Abuse in Washington, D.C." *Epidemiologic Trends in Drug Abuse, Volume II: Proceedings of the Community Epidemiology Work Group June 2002.* Washington, DC: National Institute on Drug Abuse, 2002.

Progress Towards a Drug Free DC: 2006 Annual Report. Washington, DC: Addiction Prevention and Recovery Administration, Mayor's Interagency Task Force on Substance Abuse Prevention, Treatment, and Control, in Press.

Rezey, M. and Artigiani, E. *Washington/Baltimore High Intensity Drug Trafficking Area Regional Drug Scan 2008.* College Park, MD: Center for Substance Abuse Research, May 2008.

Substate Estimates from the 2004–2006 National Surveys on Drug Use and Health. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2008.

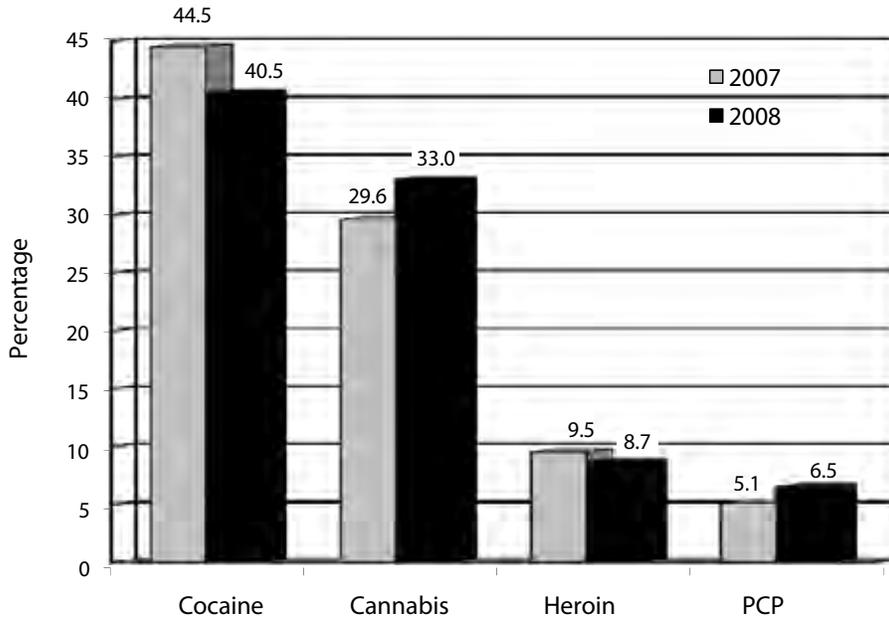
Threat Assessment for Program Year 2008. College Park, MD: Washington/Baltimore High Intensity Drug Trafficking Area, 2007.

Threat Assessment and Strategy for Program Year 2009. College Park, MD: Washington/Baltimore High Intensity Drug Trafficking Area, 2007.

Washington/Baltimore Annual Report 2008. College Park, MD: Washington/Baltimore High Intensity Drug Trafficking Area, 2009

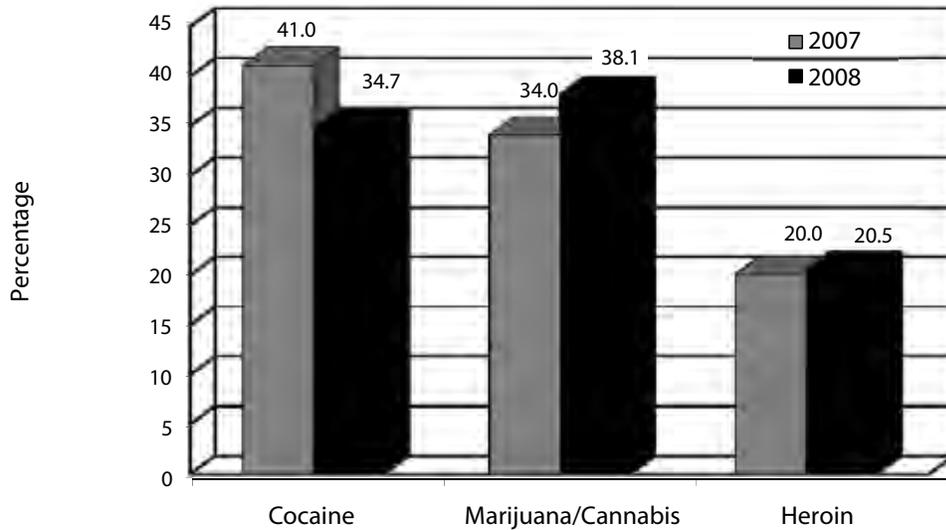
For inquiries concerning this report, contact Erin Artigiani, M.A., Deputy Director for Policy, Center for Substance Abuse Research, University of Maryland, 4321 Hartwick Road, Suite 501, College Park, MD 20740, Phone: 301-405-9794, Fax: 301-403-8342, E-mail: erin@cesar.umd.edu.

Exhibit 1a. Percentage of Drug-Positive Items Identified in NFLIS Analyses¹ for Selected Drugs in Washington, DC: 2007-2008



¹In 2007, N= 4,141 drug items were tested; in 2008, N=3,715 items were tested.
SOURCE: NFLIS, DEA, special data runs May 2008 and May 2009

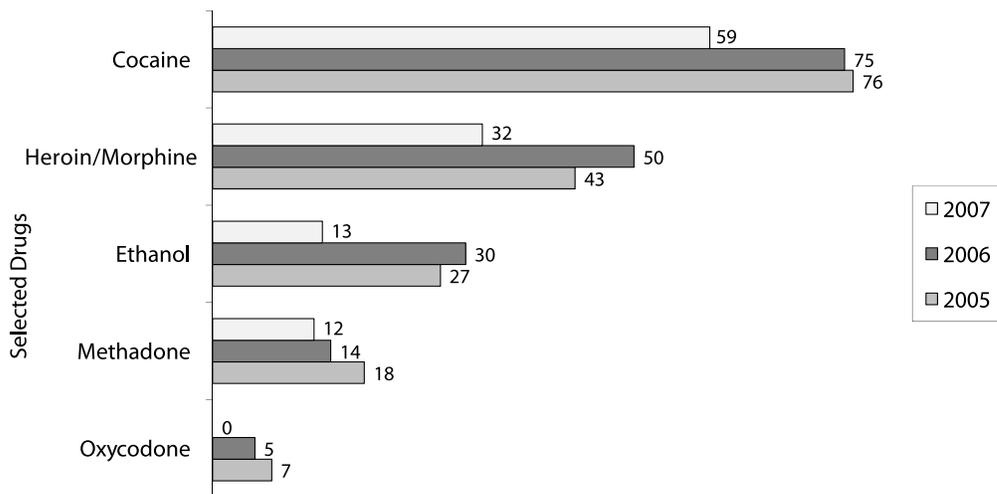
Exhibit 1b. Percentage of Drug-Positive¹ Items Identified in NFLIS Analyses² for Selected Drugs in Maryland: 2007-2008



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

Exhibit 2a. Number¹ of Drug Overdose Deaths in Washington, DC, by Drug²: 2005–2007

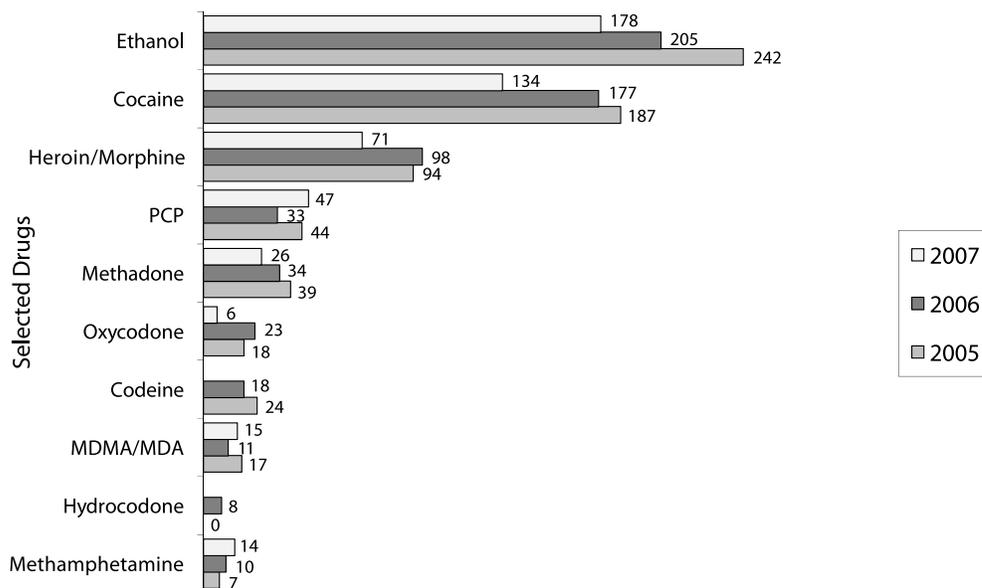


¹In 2005, N=119 deaths; in 2006, N=111 deaths; and in 2007, N=93 deaths.

²Oxycodone overdose deaths were not reported in 2007.

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, and 2007

Exhibit 2b. Number¹ of Drug-Positive Deaths in Washington, DC, by Drug²: 2005–2007

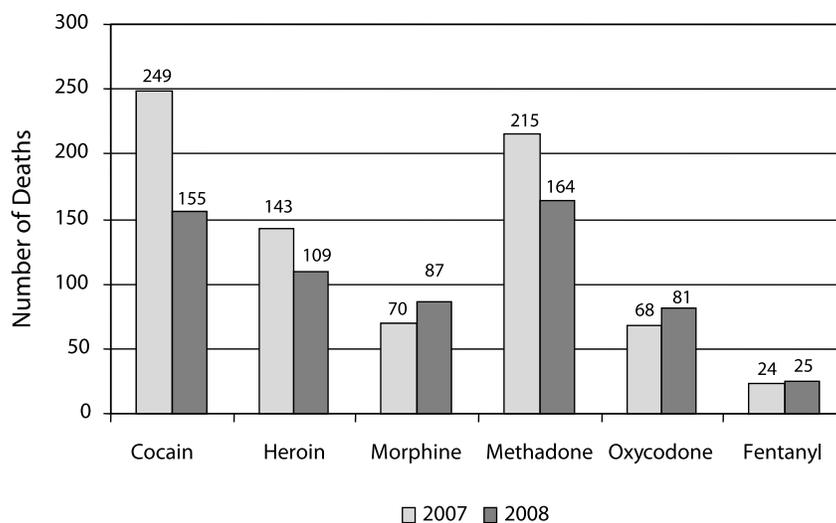


¹In 2005, N=631 positive cases; in 2006, N=503 positive cases; in 2007, N=447 positive cases. Some decedents tested positive for multiple drugs.

²Hydrocodone- and codeine-positive deaths were not reported in 2007.

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

Exhibit 2c. Number of Drug Intoxication Deaths for Selected Drugs, Maryland: 2007–2008¹



¹In 2007, the total number of drug intoxication deaths was 836; in 2008, it was 721.
 SOURCE: Office of the Chief Medical Examiner, special data run May 2009

Exhibit 3. Drug Use Among Baltimore and Washington, DC Public School Students in Grades 9–12, by Percent: 2007

Lifetime Drug Use	Baltimore (N=1,927)	DC (N=1,732)
Cocaine	2.0%	6.2%
Heroin	1.8%	5.4%
Methamphetamine	1.9%	6.1%
MDMA/Ecstasy	3.5%	7.7%
Inhalants	6.9%	10.1%

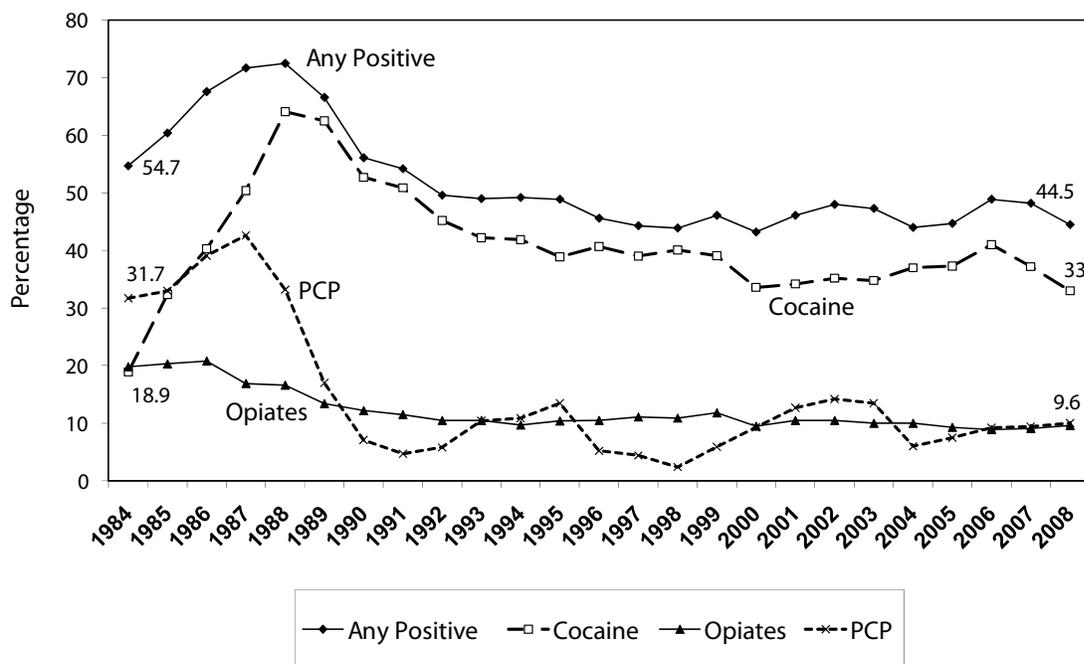
SOURCE: Adapted by the Center for Substance Abuse Research (CESAR), from data from YRBS Online

Exhibit 4a. Percentage of Adult Arrestees in Washington, DC, Testing Positive for Selected Drugs: 2000–2009¹

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 ¹
(N=)	(15,630)	(17,350)	(17,952)	(17,742)	(19,531)	(19,867)	(23,271)	(22,800)	(24,375)	(7,200)
%	%	%	%	%	%	%	%	%	%	%
Cocaine	33.6	34.2	35.2	34.8	36.6	37.3	41.0	37.2	33.0	29.1
PCP	9.3	12.7	14.2	13.5	6.2	7.5	9.2	9.4	9.6	8.9
Opiates	9.5	10.5	10.5	10.0	9.8	9.3	8.9	9.1	10.0	8.4
Any Drug	43.2	46.1	48.0	47.3	43.5	44.7	48.9	48.2	44.5	39.9

¹2009 data are for January–April only.
SOURCE: District of Columbia Pretrial Services Agency

Exhibit 4b. Percentage of Adult Arrestees Testing Positive for Any Drug, Cocaine, PCP, and Opiates, Washington, DC: 1984–2008



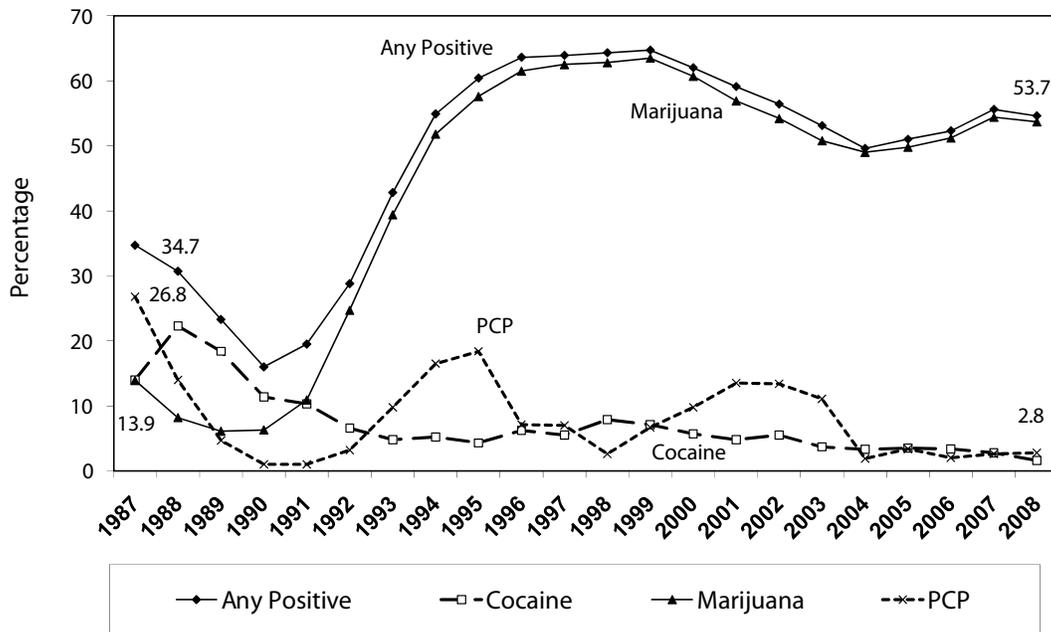
SOURCE: Adapted by the Center for Substance Abuse Research (CESAR) from data from the District of Columbia Pretrial Services Agency

Exhibit 5a. Percentage of Juvenile Arrestees in Washington, DC, Testing Positive for Selected Drugs: 2000–2009¹

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 ¹
(N=)	(2,162)	(2,165)	(1,896)	(1,899)	(2,001)	(2,319)	(2,379)	(2,248)	(2,566)	(805)
%	%	%	%	%	%	%	%	%	%	%
Marijuana	60.7	56.9	54.2	50.8	49.0	49.8	51.2	54.4	53.7	49.9
Cocaine	5.7	4.8	5.5	3.7	3.3	3.5	3.4	2.8	1.6	0.9
PCP	9.8	13.5	13.4	11.1	1.9	3.4	2.0	2.6	2.8	1.9
Any Drug	62.0	59.1	56.4	53.1	49.6	51.0	52.3	55.6	54.6	51.1

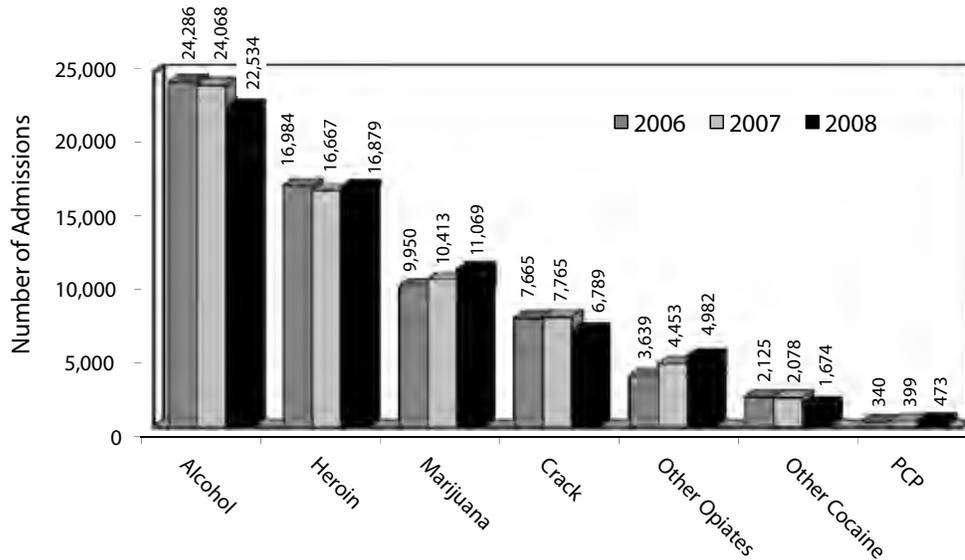
¹2009 data are for January–April only.
SOURCE: District of Columbia Pretrial Services Agency

Exhibit 5b. Percentage of Juvenile Arrestees Testing Positive for Any Drug¹, Cocaine, PCP, and Marijuana, Washington, DC: 1987–2008



¹Any Positive includes opiates from 1987 through mid 1994 (<1 percent).
SOURCE: Adapted by CESAR from data from the District of Columbia Pretrial Services Agency

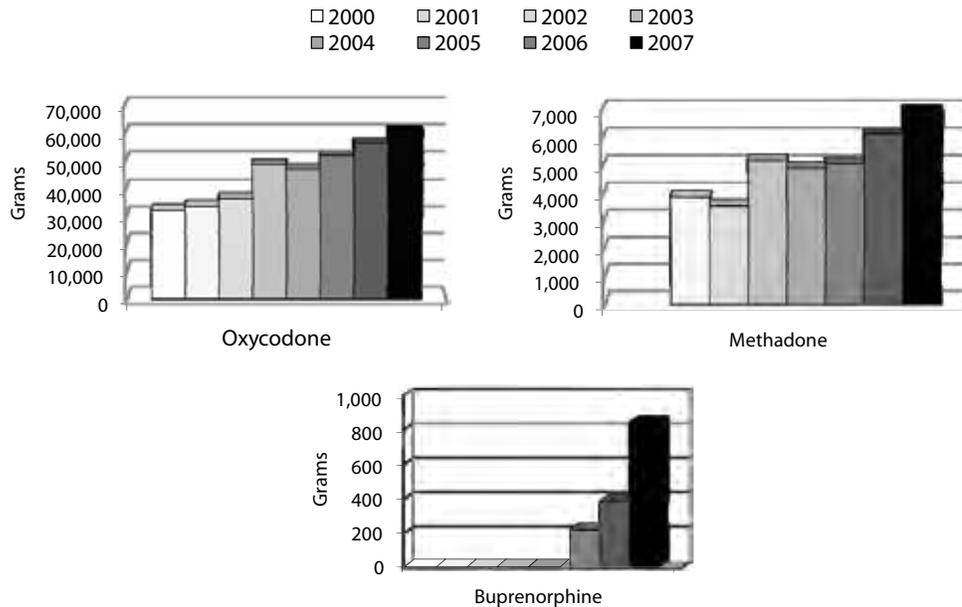
Exhibit 6. Number of Primary Admissions¹ to Certified Alcohol and Drug Treatment Programs in Maryland: 2006–2008



¹In 2006, the N=65,861; in 2007, the N= 66,852; and in 2008, the N=65,375.

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, Substance Abuse Management Information System (SAMIS)

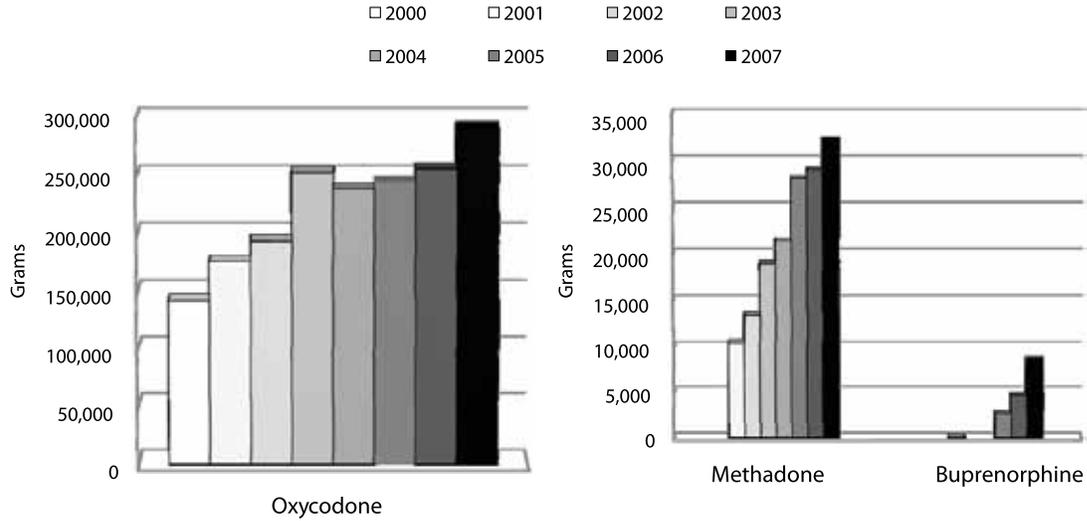
Exhibit 7a. Retail Distribution of Selected Drugs in Washington, DC, by Year and Drug¹: 2000–2007



¹Note: Buprenorphine first became available for treating heroin addiction in May 2003.

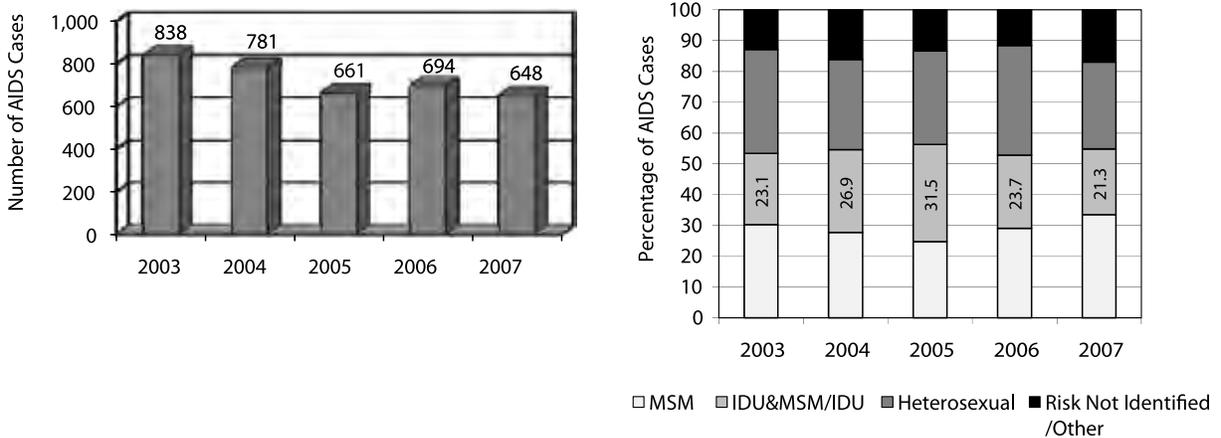
SOURCE: DEA ARCOS Retail Drug Summaries

Exhibit 7b. Retail Distribution of Selected Drugs in Baltimore, by Year and Drug¹: 2000–2007



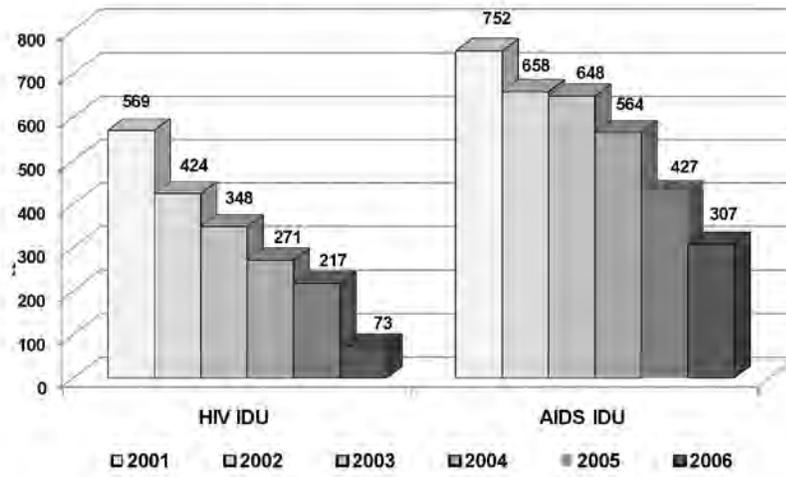
¹Note: Buprenorphine first became available for treating heroin addiction in May 2003.
SOURCE: DEA ARCOS Retail Drug Summaries

Exhibit 8a. New Adult and Adolescent AIDS Cases, by Year and by Mode of Transmission¹, Washington, DC: 2003–2007



¹Note: IDU includes injection drug users (IDUs) and men who have sex with men (MSM) who are also IDUs.
SOURCE: HIV/AIDS Surveillance and Epidemiology Division, Administration for HIV Policy and Programs, DC Department of Health, HIV/AIDS Epidemiology Update 2008

Exhibit 8b. Newly Diagnosed IDU-Related¹ HIV and AIDS Cases in Maryland, by Year: 2001–2006



¹Note: IDU includes IDU and MSM/IDU.

Source: 2008 Maryland AIDS Administration, Maryland Department of Health and Mental Hygiene

Greater Boston Patterns and Trends in Drug Abuse: 2008

Daniel P. Dooley¹

ABSTRACT

Boston's cocaine indicators for 2008 were mixed (stable and decreasing slightly) at high levels. Cocaine (including crack) primary treatment admissions were stable at 8 percent from 2007 to 2008. Approximately three-quarters of these admissions identified crack (as opposed to powder cocaine) as their primary drug. Additionally, approximately one in five (22 percent) of all treatment clients identified cocaine as a secondary drug in 2008. Cocaine helpline calls were stable at 18 percent of the total from 2007 to 2008. The proportion of Class B drug arrests (mainly cocaine) fell from 46 percent in 2007 back to 42 percent in 2008, the same level of the 7 previous years, from 2000 to 2006. Cocaine accounted for 28 percent of all drug laboratory samples in 2008, down from 33 percent in 2007. Heroin abuse indicators also remained at high levels, but with some indicators showing small increases. After 4 years of gradual decreases, the proportion of heroin helpline calls, drug arrests, and laboratory samples increased slightly from 2007 to 2008. However, the proportion of heroin treatment admissions remained stable from 2007 to 2008, with approximately one-half of all treatment clients (49 percent) identifying heroin as their primary drug. In 2008, four-fifths of all heroin clients (80 percent) reported injecting heroin, up from 67 percent in 2000. According to the Drug Enforcement Administration (DEA), heroin average purity decreased from 50 percent in 2002 to 17 percent in 2007. Their most recent report indicated that a bag of heroin cost between \$5 and \$60 retail. Indicators for other opiates were

stable at moderate levels. The proportion of other opiate primary treatment admissions remained between 3 and 4 percent for 7 years from 2002 to 2008. Calls to the helpline with oxycodone drug mentions were stable at 8 percent of the total in 2008. The proportion of oxycodone drug laboratory samples remained stable (between 2 and 3 percent) for 7 years from 2002 to 2008. Benzodiazepine abuse indicators remained at moderate to high levels. Helpline calls were fairly stable in number (between 121 and 188), but increased slightly in proportion (from 3 to 5 percent) from 1999 to 2008. Marijuana indicators were stable, but at varied levels. Treatment admissions citing marijuana as primary drug have remained between 3 and 4 percent from 2000 to 2008. From 1999 to 2008, the proportion of marijuana helpline calls remained stable between 4 and 6 percent. The proportion of Class D drug arrests (mainly marijuana) remained stable at 35 percent from 2007 to 2008. The proportion of marijuana drug laboratory samples was unchanged from 2007 to 2008 at 35 percent. Methamphetamine abuse indicators remained low overall in Boston. The number of treatment clients identifying methamphetamine as either their primary or secondary drug increased from 102 in 2007 to 162 in 2008, but remained less than 1 percent of the total. There were only 22 methamphetamine calls to the helpline in 2008. Methamphetamine drug laboratory samples totaled 36 in 2006, 26 in 2007, and 35 in 2008. The DEA reported that methamphetamine cost between \$100 and \$200 per gram. In 2006, there were 214 adult human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) cases diagnosed in Boston. Primary transmission risk factor of these cases included: 6 percent who were injection drug users (IDUs); 3 percent who had sex with IDUs; and 29 percent with an unknown/undetermined risk factor.

¹The author is affiliated with the Boston Public Health Commission.

INTRODUCTION

Area Description

According to the 2000 U.S. Census, Massachusetts ranks 13th in population (with 6,349,097 people). The 746,914 people in the metropolitan Boston area represent 12 percent of the total Massachusetts population. The 2000 Census data show that there were 589,141 residents of the city of Boston. The racial composition includes: 50 percent White non-Hispanic; 23 percent Black non-Hispanic; 14 percent Hispanic/Latino; and 8 percent Asian.

Several characteristics influence drug trends in Boston and throughout Massachusetts:

- Contiguity with five neighboring States (Rhode Island, Connecticut, New York, Vermont, and New Hampshire), linked by a network of State and interstate highways
- Proximity to Interstate 95, which connects Boston to all major cities on the east coast, particularly New York
- A public transportation system that provides easy access to communities in eastern Massachusetts
- A large population of college students in both the greater Boston area and western Massachusetts
- Several seaport cities with major fishing industries and harbor areas
- Logan International Airport and several regional airports within a 1-hour drive of Boston
- A high number of homeless individuals seeking shelter

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. 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, reductions in treatment funding would likely cause reductions in available services, and ultimately, reductions in the number of admissions at a time when the number of potential clients exceeds the number of available treatment slots. In such a scenario, decreasing admissions numbers are not an indication of reductions in the number of people seeking treatment. How such systemic factors influence totals and subpopulation differences observed within a data source is often unknown. Further, to what degree an individual data source is representative of the larger drug-abusing population is largely unknown. Conclusions drawn from the data sources within this text are subject to these limitations. At best, these data present a partial picture of Boston’s collective drug abuse experience. Overall understanding of drug use and abuse patterns should improve as current data sources improve and new sources develop.

Data sources used in this report include the following:

- **State-funded substance abuse treatment admissions data** for the Boston region comprising the cities of Boston, Brookline, Chelsea, Revere, and Winthrop (Community Health Network Area [CHNA] 19), for calendar years (CYs) 2000 through 2007 were provided by the Massachusetts Department of Public Health (DPH), Bureau of Substance Abuse Services.
- **Drug-related death data** were provided by the Office of the Chief Medical Examiner, Massachusetts Department of Public Safety, and the Drug Abuse Warning Network (DAWN), Office of Applied Studies (OAS), Substance Abuse and Mental Health Service Administration (SAMHSA), for 2006 and 2007 for Suffolk County, Massachusetts.

- **Analysis of seized drug samples** for the Boston CHNA 19 for 1998 through 2008 was provided by the Massachusetts Department of Public Health (MDPH) Drug Analysis Laboratory in Amherst, Massachusetts. The Boston area drug sample counts do not include samples analyzed at the Worcester County or State Police laboratories.
- **Information on drug mentions in helpline calls** for the Boston CHNA 19 for CYs 2000 through 2008 was provided by the Massachusetts Substance Abuse Information and Education Helpline.
- **Drug arrest data** for the city of Boston for 2000 through 2008 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.
- **Drug price, purity, and availability data** for New England were provided by the Drug Enforcement Administration (DEA), New England Field Division Intelligence Group, May 2009.
- **Adult acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data** for 2006, and cumulative data through October 1, 2008, were provided by the MDPH AIDS Surveillance Program.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In Boston, cocaine (including crack) was one of the most heavily abused drugs in 2008. Cocaine/crack indicators for 2008 were mixed at high levels of use and abuse. There were 64 cocaine death reports in Suffolk County in 2008, 86 in 2007, and 77 in 2006.

In 2007, there were an estimated 13,582 cocaine-related visits to Boston area hospital

emergency departments (EDs). The estimated number of cocaine ED visits increased 44 percent from 9,408 in 2004. Males accounted for two-thirds (66 percent) of the cocaine ED visits in 2007. Approximately one-fourth (26 percent) of the visits were by adults age 21–29.

In 2008, 1,440 treatment clients (8 percent of all admissions) reported cocaine/crack as their primary drug, and there were an additional 4,028 (22 percent of all admissions) clients who reported cocaine/crack as their secondary drug (exhibit 1). Approximately three-quarters (74 percent) of cocaine/crack clients identified crack (as opposed to powder cocaine) as their primary drug.

The proportion of clients who reported cocaine/crack as their primary drug has remained fairly stable between 7 and 9 percent from 2001 to 2008 (exhibit 1). The proportion of clients who reported cocaine/crack as their secondary drug fluctuated between 20 and 24 percent from 2000 to 2008 (exhibit 1). Of the 1,440 clients reporting cocaine/crack as their primary drug, 70 percent reported another secondary drug of abuse. Among these, 59 percent reported alcohol, 20 percent reported heroin, and 14 percent reported marijuana as their secondary drug. Since 2000, the percentage of alcohol as secondary drug has decreased from 70 percent, and the percentage of heroin as secondary drug increased from 11 percent (data not shown).

The gender distribution of cocaine/crack primary drug treatment admissions in 2008 (56 percent male and 44 percent female) reflected a decrease in the proportion of males (down from 63 percent in 2005) and an increase in the proportion of females (up from 37 percent in 2005) (exhibit 2). In 2008, 10 percent of cocaine/crack treatment clients were under age 26, 21 percent were age 26–34, and 69 percent were 35 and older. The age distribution changed very little from 2005 to 2008. There was a higher proportion of the 26–34 age group and lower proportion of the 35 and older age group during the 5 previous years, 2000 to 2004 (exhibit 2). The 2008 racial/ethnic distribution for cocaine/crack admissions (44 percent Black, 38 percent White) revealed a

shift toward higher White proportions (up from 25 percent in 2000) and lower Black proportions (down from 63 percent in 2000) (exhibit 2).

In 2008, cocaine or crack was indicated in 558 calls (18 percent) to the substance abuse helpline (exhibit 3). Since 2000, the proportion of helpline calls with mentions of cocaine/crack has fluctuated between 18 percent and 22 percent.

In 2008, 2,397 seized samples of cocaine/crack were analyzed by the MDPH Drug Analysis Laboratory. The proportion of cocaine/crack samples among all drug samples analyzed decreased from 33 percent in 2007 to 28 percent in 2008 (exhibit 4). Close to two-thirds (65 percent) of the cocaine/crack samples were crack. The overall proportion of crack samples decreased from 23 percent in 2007 to 18 percent in 2008.

There were 1,812 Class B (mainly cocaine and crack) drug arrests in 2008 (exhibit 5). Class B arrests accounted for the largest proportion of drug arrests (42 percent) in the city of Boston in 2008. With the exception of 46 percent in 2007, the proportion of Class B arrests remained stable between 42 and 43 percent from 2001 to 2008. The gender distribution of Class B arrestees in 2008 (86 percent male and 14 percent female) was similar to the previous 6 years, 2001 to 2007 (arrestee demographic data not shown). The proportion of Class B arrestees age 40 and older increased steadily from 16 percent in 1998 to 34 percent in 2008. During the same time period, Class B arrestees age 25–39 decreased from 54 percent in 1998 to 41 percent in 2008. The racial/ethnic distribution of Class B arrestees did not change from 2007 to 2008: 62 percent were Black (including Hispanic); 37 percent were White (including Hispanic); and 20 percent were Hispanic.

The DEA reported that retail “street-level” cocaine cost between \$26 and \$100 per gram with variable levels of purity (15–83 percent) in Boston (exhibit 6). A rock of crack cost \$10–\$20. Cocaine was considered available throughout New England.

Heroin

In 2008, heroin remained one of the most heavily abused drugs in Boston. Overall, heroin indicators were at high levels with some beginning to increase.

There were 10 confirmed heroin/morphine death reports in Suffolk County in 2008 and 29 in 2007. In addition, there were 59 drug-related deaths with at least one unspecified narcotic involved in 2008. Heroin could have been among a number of these.

In 2007, there were an estimated 11,003 heroin-related visits to Boston area hospital EDs. The estimated number of heroin ED visits was statistically similar to the 3 previous years, 2004–2006. Males accounted for two-thirds (67 percent) of the heroin ED visits in 2007. More than one-third (39 percent) of visits were by adults age 21–29.

In 2008, 8,641 treatment clients (47 percent of all admissions) reported heroin as their primary drug, and there were an additional 577 clients (3 percent of all admissions) who reported heroin as their secondary drug (exhibit 1). A comparison of 2008 to previous years shows that the proportion of clients who reported heroin as their primary drug fluctuated between 47 and 51 percent from 2003, but increased from 38 percent in 2000 (exhibit 1). The proportion of clients who reported heroin as their secondary drug remained stable, between 3 and 5 percent from 2000 to 2008 (exhibit 1).

Of the 8,641 clients reporting heroin as their primary drug, 57 percent reported a secondary drug of abuse. Among these, 42 percent reported cocaine/crack and 27 percent reported alcohol as their secondary drug. Compared to 2000, the percentage of cocaine as secondary drug increased from 31 percent, and the percentage of alcohol as secondary drug has decreased from 42 percent (data not shown).

Exhibit 7 shows demographic characteristics of heroin primary treatment admissions in Boston. The 2008 gender distribution of heroin/other opiates primary drug treatment admissions (73 percent male and 27 percent female) was similar

to the previous 5 years, 2003 to 2007. The proportion of younger clients (age 18–25) increased from 15 percent in 2000 to 24 percent in 2005 and then decreased to 21 percent by 2008. The racial distribution for heroin admissions remained fairly stable from 2005 to 2008 (63 percent White and 13 percent Black in 2008) after shifting toward higher White percentages (up from 50 percent in 2000) and lower Black percentages (down from 22 percent) since 2000 (exhibit 7).

In 2008, 80 percent ($n=6,901$) of heroin admissions reported injecting as their preferred route of administration, up from 67 percent ($n=6,513$) in 2000.

In 2008, heroin was mentioned in 1,072 calls (34 percent of the total) to the helpline (exhibit 3). The proportion of heroin helpline call mentions fluctuated between 31 and 34 percent from 2005 to 2008.

In 2008, 1,027 seized samples of heroin (12 percent of all drug samples) were analyzed. The proportion of heroin samples among all drug samples analyzed increased from 9 percent in 2007, but remained below levels seen prior to 2004 (exhibit 4).

There were 774 Class A (mainly heroin and other opiates) drug arrests in 2008 (exhibit 5). After decreasing from 27 percent in 2000 to 15 percent in 2007, the proportion of Class A drug arrests increased slightly to 18 percent in 2008. The proportion of male Class A arrestees increased from 82 percent in 2007 to 85 percent in 2008. The proportion of female Class A arrestees decreased from 18 to 15 percent (arrestee demographic data not shown). The proportion of White (including Hispanic) Class A arrestees increased from 63 percent in 2006 to 69 percent in 2008, the highest level in more than 10 years. From 2006 to 2008 the proportion of Black (including Hispanic) Class A arrestees decreased from 35 to 30 percent.

The most recent DEA data indicated that in Boston, street heroin cost \$5–\$60 per bag and \$50–\$100 per gram (exhibit 6). Heroin purity covered a wide range—from 4 to 52 percent, with averages between 15 and 30 percent. Analyzed

samples were overwhelmingly South American in origin, and distributed in wax or colored glassine packets. According to the DEA, heroin was considered readily available throughout New England, and was available in many forms: bag, bundle, gram, ounce, kilogram, and cylinder shaped bullets/fingers of 7–10 gram quantities.

Narcotic Analgesics

Narcotic analgesic abuse indicators appeared stable at moderate levels. In Suffolk County, there were 20 oxycodone-related deaths in both 2007 and 2008. There were 10 fentanyl deaths, 16 methadone deaths, and 59 drug-related deaths with an unspecified narcotic in 2008.

In 2007, there were an estimated 5,346 opiates/opioids-related visits to Boston area hospital EDs. The estimated number of opiates/opioids visits increased 28 percent, from 4,164 in 2006. Males accounted for 56 percent and females 44 percent of the visits in 2007. Fifteen percent of the visits were by adults age 21–29. Of the 5,346 total opiates/opioids visits, an estimated 36 percent involved oxycodone, 20 percent involved methadone, and 25 percent involved unspecified opiates/opioids.

In 2008, 613 treatment clients (4 percent of all admissions) reported other opiates/synthetics as their primary drug, and 366 additional clients reported other opiates/synthetics as secondary drugs (exhibit 1). The proportion of other opiates/synthetics primary drug admissions fluctuated between 3 and 4 percent from 2002 to 2008 (exhibit 1). The proportion of clients who reported other opiates/synthetics as their secondary drug increased from 1 percent in 2007 to 2 percent in 2008 (exhibit 1).

The proportion of younger clients (age 18–25) increased from 22 percent in 2000 to 44 percent in 2002, and then steadily decreased to 29 percent in 2008. The proportion of older clients (35 and older) decreased from 50 percent in 2000 to 29 percent in 2003, then increased to 44 percent by 2008 (data not shown). In 2008, two-thirds (66 percent) of the clients reporting other opiates/

synthetics as their primary drug were male and one-third were female (34 percent). The proportion of female clients increased from 29 percent in 2000 to 38 percent in 2007. In 2008, the overwhelming majority (84 percent) of other opiates/synthetics clients were White, and 7 percent were Black. The racial composition of other opiates/synthetics clients changed little from 2000 to 2008 (data not shown).

In 2008, there were 503 calls (16 percent of the total) to the helpline during which narcotic analgesics (heroin not included) were mentioned (exhibit 3). The proportion of narcotic analgesic calls did not change from 2007. OxyContin® and other drugs containing oxycodone were mentioned in 251 calls in 2008. The proportion of OxyContin®/oxycodone calls decreased from 12 percent in 2004 to 8 percent in 2008.

In 2008, 255 seized samples of oxycodone (3 percent of all drug samples) were analyzed. The proportion of oxycodone samples remained stable between 2 and 3 percent from 2002 to 2008 (exhibit 4). Arrest data were unavailable for narcotic analgesics.

The DEA reported that OxyContin® was widely available throughout New England, and typically cost between \$0.45 and \$1.25 per milligram (exhibit 6). Generic oxycodone sold for as little as \$5 per dosage unit.

Marijuana

Marijuana indicators in 2008 for greater Boston were stable at various levels of use/abuse. In 2007, there were an estimated 6,556 marijuana-related visits to Boston area hospital EDs. The estimated number of marijuana visits increased 21 percent from 5,414 in 2006. Males accounted for 68 percent of the visits in 2007. Thirty-one percent of the visits were by adults age 21–29.

In 2008, 641 treatment clients (4 percent of all admissions) reported marijuana as their primary drug, and an additional 959 clients (5 percent of the total) reported marijuana as their secondary drug in State-funded treatment programs (exhibit 1).

The proportion of all treatment clients that reported marijuana as their primary drug remained relatively stable from 2000, accounting for 3 to 4 percent of total admissions, but the proportion reporting marijuana as their secondary drug decreased from 8 percent in 2000 to 5 percent in 2008 (exhibit 1).

Of the 641 clients reporting marijuana as their primary drug, 70 percent reported a secondary drug of abuse. Among these, 67 percent reported alcohol, and 19 percent reported cocaine/crack as their secondary drug. Since 2000, the percentage of alcohol as secondary drug decreased from 76 percent, and the percentage of cocaine as secondary drug increased slightly from 15 percent (data not shown).

Exhibit 8 shows demographic characteristics of marijuana primary treatment admissions in Boston. The gender distribution of marijuana primary drug treatment admissions in 2008 (71 percent male and 29 percent female) is similar to the 2 previous years. The age distribution of marijuana clients has varied little during the 3-year period from 2006 to 2008. The proportion of clients 35 and older increased from 13 percent in 2001 to 24 percent in 2006. The proportion of clients 17 and younger decreased from 21 to 7 percent during the same period. The 2008 racial distribution for admissions with marijuana as primary drug include 39 percent Black and 29 percent White. While the White percentage remained fairly stable since 2000, the Black percentage decreased from 48 percent in 2000 (exhibit 8).

In 2008, marijuana was mentioned in 127 calls (4 percent) to the helpline (exhibit 3). The proportion of helpline calls with marijuana mentions remained stable between 4 and 6 percent from 2000 to 2008.

There were 3,031 seized samples of marijuana, more than any other drug, analyzed by the forensic laboratory in 2008. The proportion of marijuana samples analyzed in 2008 (35 percent of all drug samples) did not change from 2007 (exhibit 4).

There were 1,512 Class D (mainly marijuana) drug arrests in 2008 (exhibit 5). The proportion of

Class D arrests among all drug arrests remained fairly stable, from 33 percent in 2002, to 37 percent in 2005, to 35 percent in 2008. The gender distribution of Class D arrestees in 2008 (93 percent male and 7 percent female) was similar to the previous 10 years (arrestee demographic data not shown). The proportion of Black (including Hispanic) Class D arrestees remained fairly stable, from 66 percent in 2003 to 69 percent in 2008. Similarly, the proportion of White (including Hispanic) Class D arrestees remained fairly stable, from 32 percent in 2003 to 31 percent in 2008.

The DEA reported that marijuana was readily available throughout the New England States and sold for \$100–\$350 per ounce. A marijuana cigarette, or “joint,” typically cost \$5 (exhibit 6).

Benzodiazepines

As a group, benzodiazepines continue to show moderate to high levels of abuse. In Suffolk County, there were 28 drug-related deaths with benzodiazepines in 2008.

In 2007, there were an estimated 5,321 benzodiazepine-related visits to Boston area hospital EDs. The estimated number of benzodiazepine visits increased 25 percent from 4,241 in 2006. Males and females each accounted for 50 percent of the visits in 2007. Twenty-three percent of the visits were by adults age 21–29. Clonazepam was identified among 2,061 (39 percent) of the 5,321 benzodiazepine visits. Additionally, there were an estimated 846 alprazolam visits, 763 lorazepam visits, and 422 diazepam visits in 2007.

There were 162 calls (5 percent of the total) to the helpline during which benzodiazepines—including clonazepam (Klonopin®, 46 calls), alprazolam (Xanax®, 24 calls), lorazepam (Ativan®, 9 calls), diazepam (Valium®, 9 calls), triazolam (Halcion®, 7 calls), chlordiazepoxide (Librium®, 3 calls), and 64 unspecified benzodiazepines—were mentioned in 2008 (exhibit 3). From 2000 to 2008, the number of helpline calls with benzodiazepine mentions fluctuated between 130 and 188 per year.

Clonazepam accounted for 3 percent ($n=213$) of the laboratory samples in 2008. Arrest data were unavailable for benzodiazepines.

MDMA

3,4-Methylenedioxymethamphetamine (MDMA or ecstasy) indicators showed decreasing numbers at already low levels of abuse.

In 2007, there were an estimated 261 MDMA-related visits to Boston area hospital EDs. The estimated number of MDMA visits decreased 31 percent from 378 in 2006. Males accounted for 64 percent and females accounted for 36 percent of the visits in 2007.

There were only five calls to the helpline during which MDMA was self-identified as a substance of abuse (less than 1 percent of all mentions) in 2008. The number of MDMA helpline calls peaked at 39 in 2001 and has declined since (exhibit 3).

There were 33 MDMA drug laboratory submissions in 2008. The number of MDMA laboratory submissions decreased from 68 in 2006 and 58 in 2007 (exhibit 4).

The DEA reported that one MDMA tablet cost between \$15 and \$40 retail, with lower prices when purchasing in bulk (more than 50 dosage units) (exhibit 6). Distributed at “legitimate nightclubs and Rave parties,” the DEA reported that MDMA remained widely available and in significant quantities.

Other Drugs

Amphetamines

In 2007, there were an estimated 275 amphetamine-related visits to Boston area hospital EDs. Males accounted for 64 percent, and females accounted for 36 percent of the visits.

There were 34 amphetamine samples analyzed in 2008. The number of amphetamine laboratory samples increased from 18 in 2006 and 25 in 2007.

Methamphetamine

Methamphetamine indicators remained stable at low levels of abuse. In 2007, there were an estimated 203 methamphetamine-related visits to Boston area hospital EDs. Males accounted for 91 percent, and females accounted for only 9 percent of the visits.

There were 117 methamphetamine primary treatment admissions in 2008. The number of methamphetamine admissions was the highest in 9 years of data, increasing from 75 in 2007 and 92 in 2006.

There were 22 methamphetamine calls to the helpline in 2008 (exhibit 3). The number of methamphetamine calls was similar to the 3 previous years. There were 35 methamphetamine laboratory samples analyzed in 2008; 26 in 2007; and 36 in 2006 (exhibit 4).

The DEA reported that methamphetamine cost between \$100 and \$200 per gram (exhibit 6). The purity level was unknown.

Ketamine

Ketamine laboratory samples decreased in number from a peak of 43 in 2002 to 3 in 2008. The DEA reported that a vial of ketamine cost \$55 to \$120 (exhibit 6).

Phencyclidine (PCP)

The DEA reported that PCP cost between \$10 and \$20 per bag (1–2 grams) (exhibit 6).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

In 2006, there were 214 adult HIV and AIDS cases diagnosed in Boston. The primary risk factor for these cases included 6 percent who were injection drug users (IDUs), 3 percent who had sex with IDUs, and 29 percent with an unknown/undetermined transmission status. As of October 1, 2008, cumulative adult AIDS cases numbered 6,580. By primary risk factor, these included

25 percent who were IDUs, 7 percent who had sex with IDUs, and 14 percent for whom the risk behavior was unknown/undetermined.

ACKNOWLEDGMENTS

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

- Andrew Hanchett and David Cavanagh, Massachusetts Department of Public Health Bureau of Substance Abuse Services
- Marjorie Bernadeau-Alexandre, Boston Police Department Office of Strategic Planning
- Elizabeth Crane, Drug Abuse Warning Network (DAWN), Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA)
- Sharon Salem, Massachusetts Department of Public Health Drug Analysis Laboratory in Amherst, Massachusetts
- Gary Lever, Massachusetts Substance Abuse Information and Education Helpline
- Deborah Mendoza-Lochrie, Office of the Chief Medical Examiner, Massachusetts Department of Public Safety
- Nancy Farinella, DAWN Area Coordinator, Westat
- Michele D. Frate, Drug Enforcement Agency, New England Field Division

For inquiries concerning this report, contact Daniel P. Dooley, Senior Researcher, Boston Public Health Commission, 1010 Massachusetts Avenue, Boston, MA 02118, Phone: 617-534-2360, Fax: 617-534-2422, E-mail: ddooley@bphc.org.

Exhibit 1. Percentage of Admissions to State-Funded Substance Abuse Treatment Programs¹ by Primary and Secondary Drug, Including Primary Alcohol Admissions, in Greater Boston: 2000–2008

Treatment Admissions	2000	2001	2002	2003	2004	2005	2006	2007	2008
Primary Drug									
Alcohol	45%	42%	38%	36%	35%	34%	36%	34%	34%
Heroin/Other Opiates	40%	45%	48%	51%	53%	52%	51%	54%	52%
Heroin	38%	42%	45%	47%	49%	48%	47%	51%	49%
Other Opiates	1%	3%	3%	3%	4%	4%	4%	3%	4%
Cocaine and/or Crack	10%	9%	8%	8%	7%	9%	8%	7%	8%
Cocaine (powder)	2%	2%	2%	1%	1%	2%	1%	1%	2%
Crack	8%	7%	7%	7%	6%	7%	7%	6%	6%
Marijuana	4%	4%	4%	4%	4%	4%	3%	3%	4%
Other ²	1%	1%	1%	1%	1%	2%	2%	2%	2%
Total (N)	25,332	25,284	25,750	21,463	20,578	20,853	20,936	21,541	18,256
Secondary Drug									
Alcohol	18%	17%	18%	17%	15%	14%	14%	13%	13%
Heroin	4%	5%	4%	4%	3%	3%	3%	3%	3%
Other Opiates	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	1%	2%
Cocaine or Crack	22%	21%	20%	20%	20%	21%	24%	20%	22%
Marijuana	8%	8%	7%	7%	7%	6%	6%	6%	5%
Other	6%	7%	8%	10%	10%	10%	10%	10%	8%
None	42%	42%	43%	42%	45%	45%	44%	47%	48%
Total (N)	25,332	25,284	25,750	21,463	20,578	20,853	20,936	21,541	18,256

¹Excluding prisoners and out-of-State admissions.

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

Note: The total for 2008 (18,256) includes 565 admissions without a primary drug identified.

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

Exhibit 2. Demographic Characteristics of Clients¹ in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Cocaine/Crack, by Percentage: 2000–2008

Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gender									
Male	61	64	60	55	60	63	60	58	56
Female	39	36	40	45	40	37	40	42	44
Race									
White	25	25	26	27	29	30	33	36	38
Black	63	59	60	58	54	52	48	45	44
Latino	10	12	10	11	15	15	15	14	NA ²
Other	2	3	3	4	3	3	4	4	NA
Age at Admission									
17 and younger	<1	<1	<1	<1	<1	<1	1	<1	1
18–25	8	8	7	7	6	9	10	12	9
26–34	36	32	31	29	26	21	22	21	21
35 and older	57	60	62	64	68	70	68	67	69
Total (N)	2,553	2,182	2,167	1,704	1,477	1,807	1,715	1,348	1,440

¹Excludes prisoners and out-of-State admissions.

²NA=Data not available.

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

Exhibit 3. Number and Percentage of Substance-Related Helpline Calls, by Substance, for Boston: 2000–2008

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Number (%)								
Alcohol only	2,051 (38.9)	2,087 (35.4)	1,735 (33.8)	1,411 (28.9)	1,472 (30.9)	1,298 (32.4)	1,240 (32.5)	1,033 (37.9)	1,068 (33.6)
Heroin	1,729 (32.8)	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)	1,072 (33.7)
Cocaine/ Crack	1,011 (19.2)	1,115 (18.9)	986 (19.2)	891 (18.2)	889 (18.6)	820 (20.5)	829 (21.7)	486 (17.8)	558 (17.6)
Marijuana	279 (5.3)	332 (5.6)	296 (5.8)	212 (4.3)	214 (4.5)	185 (4.6)	120 (4.4)	120 (4.4)	127 (4.0)
Narcotic Analgesics ¹	328 (6.2)	724 (12.3)	758 (14.8)	760 (15.6)	859 (18.0)	676 (16.9)	648 (17.0)	433 (15.9)	503 (15.8)
Benzodiazepines ²	146 (2.8)	188 (3.2)	173 (3.4)	165 (3.4)	180 (3.8)	137 (3.4)	174 (4.6)	130 (4.8)	162 (5.1)
Methamphetamine	9 (<1)	7 (<1)	8 (<1)	16 (<1)	11 (<1)	22 (<1)	24 (<1)	18 (<1)	22 (<1)
MDMA	34 (<1)	39 (<1)	36 (<1)	21 (<1)	16 (<1)	15 (<1)	18 (<1)	8 (<1)	5 (<1)
Hallucinogens ³	22 (<1)	13 (<1)	10 (<1)	9 (<1)	5 (<1)	6 (<1)	5 (<1)	0 (<1)	3 (<1)
Inhalants ⁴	85 (2.0)	36 (1.6)	22 (<1)	20 (<1)	16 (<1)	13 (<1)	12 (<1)	9 (<1)	22 (<1)
Total Number of Calls	5,279	5,897	5,134	4,889	4,767	4,006	3,813	2,727	3,178

¹Narcotic Analgesics include codeine, methadone, morphine, oxycodone (including OxyContin®), Percocet®, Roxicet®, Vicodin®, and other opiates.

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

³Hallucinogens include LSD, PCP, psilocybin, and mescaline.

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

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

Exhibit 4. Number and Percentage of Seized Drug Samples from Boston Area Drug Arrests, by Substance: 2000–2008

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Heroin	1,485 (17.0)	1,762 (19.1)	1,376 (15.2)	1,419 (15.4)	1,139 (12.8)	987 (10.1)	950 (9.1)	1,025 (9.4)	1,027 (11.8)
Oxycodone	NA ¹ NA	138 (1.5)	212 (2.3)	275 (3.0)	246 (2.8)	322 (3.3)	234 (2.2)	315 (2.9)	255 (2.9)
Cocaine/ Crack	2,282 (26.0)	3,010 (32.6)	2,694 (29.7)	2,739 (29.7)	2,632 (29.6)	2,875 (29.4)	3,394 (32.6)	3,567 (32.8)	2,397 (27.6)
Crack only	683 (7.8)	953 (10.3)	NA NA	891 (9.7)	1,157 (13.0)	1,939 (19.8)	2,249 (21.6)	2,451 (22.5)	1,562 (18.0)
Marijuana	3,146 (35.9)	3,172 (34.4)	3,366 (37.1)	3,348 (36.3)	3,358 (37.8)	3,974 (40.6)	4,139 (39.7)	3,839 (35.3)	3,031 (34.9)
Methamphet- amine	1 (<1)	19 (<1)	33 (<1)	42 (<1)	17 (<1)	55 (<1)	36 (<1)	26 (<1)	35 (<1)
MDMA	106 (1.2)	69 (<1)	80 (<1)	56 (<1)	24 (<1)	54 (<1)	68 (<1)	58 (<1)	33 (<1)
Total	8,761	9,222	9,070	9,218	8,894	9,781	10,415	10,887	8,685

¹NA=Data not available.

SOURCE: Massachusetts Department of Public Health, Drug Analysis Laboratory, Western Massachusetts Public Health Center, Amherst, MA

Exhibit 5. Number and Percentage of Police Department Arrests by Drug Class¹, Boston: 2000–2008

Drug Class	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Number (%)								
A (Mostly Heroin)	1,022 (27.1)	905 (26.4)	947 (22.5)	939 (22.5)	791 (20.8)	752 (17.4)	789 (16.6)	732 (15.3)	774 (17.9)
B (Mostly Cocaine)	1,532 (40.6)	1,428 (41.7)	1,762 (41.9)	1,736 (41.6)	1,650 (43.3)	1,821 (42.2)	2,033 (42.9)	2,178 (45.6)	1,812 (41.9)
D (Mostly Marijuana)	1,093 (29.0)	982 (28.7)	1,375 (32.7)	1,366 (32.7)	1,247 (32.8)	1,599 (37.1)	1,757 (37.0)	1,677 (35.1)	1,512 (35.0)
Other	123 (3.3)	111 (3.2)	125 (3.0)	133 (3.2)	119 (3.1)	141 (3.3)	165 (3.5)	185 (3.9)	223 (5.2)
Total Drug Arrests	3,770	3,426	4,209	4,174	3,807	4,313	4,744	4,772	4,321
Total Arrests	22,216	20,470	21,025	20,686	19,577	23,035	23,134	22,377	21,811
Drug Percentage of Total Arrests	(17.0)	(16.7)	(20.0)	(20.2)	(19.4)	(18.7)	(20.5)	(21.3)	(21.3)

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).

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

Exhibit 6. Drug Street Price, Purity, and Availability in Boston: As of May 2009

Drug	Price	Purity	Availability
Heroin	\$50–\$100 per gram \$60–\$100 per bundle \$5–\$60 per bag	4%–52%	Readily Available
Cocaine (powder)	\$26–\$100 per gram retail	15%–83%	Available
Crack	\$10–\$20 per rock	NA ¹	Available
Marijuana	\$5 per joint \$100–\$350 per ounce	Commercial Grade	Readily Available
Methamphetamine	\$100–\$200 per gram	NA	Limited
MDMA (Ecstasy)	\$15–\$40 per tablet (retail) \$2.25–\$15 (wholesale)	NA	Widely Available
OxyContin®	\$0.45–\$1.25 per milligram	NA	Widely Available
PCP	\$10–\$20 per bag (1–2 grams)	1.3%–7.2%	Readily Available
Ketamine	\$55–\$120 per vial	NA	Available
GHB	\$150 per ounce	NA	Available

¹NA=Data not available.

SOURCE: DEA, New England Field Division, Drug Enforcement Administration, as of May 2009; Prepared by the Boston Public Health Commission, Research Office

Exhibit 7. Demographic Characteristics of Clients¹ in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Heroin, by Percentage: 2000–2008

Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gender									
Male	75%	77%	76%	73%	73%	74%	74%	74%	73%
	25%	23%	24%	27%	27%	26%	26%	26%	27%
Female	75%	77%	76%	73%	73%	74%	74%	74%	73%
	25%	23%	24%	27%	27%	26%	26%	26%	27%
Race									
White	50%	48%	52%	55%	60%	62%	65%	66%	63%
Black	22%	20%	19%	17%	15%	14%	13%	12%	13%
Latino	23%	28%	23%	24%	21%	20%	18%	19%	NA ²
Other	4%	3%	4%	3%	3%	2%	3%	2%	NA
Age at Admission									
17 and younger	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	1%
18–25	15%	16%	17%	18%	20%	24%	23%	23%	21%
26–34	34%	33%	32%	30%	31%	30%	33%	34%	32%
35 and older	51%	50%	51%	52%	48%	46%	44%	43%	46%
Total (N)	9,713	10,626	11,671	10,178	10,056	10,015	9,886	10,802	8,641

¹Excludes prisoners and out-of-State admissions.

²NA=Data not available.

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

Exhibit 8. Demographic Characteristics of Clients¹ in Greater Boston State-Funded Substance Abuse Treatment Programs with a Primary Problem with Marijuana, by Percentage: 2000–2008

Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gender									
Male	76%	78%	76%	73%	70%	76%	72%	70%	71%
Female	24%	22%	23%	27%	30%	24%	28%	30%	29%
Race									
White	28%	29%	26%	29%	27%	28%	30%	28%	29%
Black	48%	48%	50%	45%	47%	46%	41%	44%	39%
Latino	20%	19%	21%	21%	21%	21%	23%	21%	NA ²
Other	3%	3%	3%	4%	4%	4%	6%	7%	NA
Age at Admission									
17 and younger	17%	21%	16%	16%	6%	14%	7%	7%	9%
18–25	45%	46%	48%	46%	46%	42%	44%	47%	43%
26–34	25%	20%	21%	21%	26%	22%	25%	24%	25%
35 and older	13%	13%	14%	17%	21%	22%	24%	22%	23%
Total (N)	1,122	1,074	1,055	959	783	762	727	701	641

¹Excludes prisoners and out-of-State admissions.

²NA=Data not available.

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

Patterns and Trends of Drug Abuse in Chicago: 2008

Damian J. Denson, M.P.H. and Lawrence Ouellet, Ph.D.

ABSTRACT

Epidemiological indicators suggested that heroin, cocaine, and marijuana continued to be the most commonly used illicit substances in Chicago in 2008. Heroin was the major opiate abused in this region; many heroin use indicators have been increasing or maintaining already elevated levels since the mid-1990s. Drug treatment services for heroin use, which surpassed those for cocaine in fiscal year (FY) 2001, peaked in FY 2005 at 33,662 episodes, and then declined to 26,836 episodes in FY 2007. Cocaine was the second most frequently reported reason for entering publicly funded treatment programs in FY 2007. After 3 years of small increases in treatment episodes for cocaine, FY 2007 saw a small decline to 16,938. According to preliminary unweighted data from DAWN Live!, cocaine, heroin, and marijuana were the illicit drugs most often reported in emergency departments during 2008. These were also the drugs most frequently seized by law enforcement in FY 2008, accounting for 94 percent of all items seized. According to the Youth Risk Behavior Survey, marijuana use by students in grades 9 through 12 in Chicago has declined somewhat since 2001, but the use of 3,4-methylenedioxymethamphetamine (MDMA) has increased. The number of deaths attributed to fentanyl-laced heroin has declined to pre-epidemic levels. Methamphetamine indicators continued to show low but increasing levels of use in Chicago, including an increase among African Americans. Smoking

“ice” methamphetamine appeared to be increasing as a form of methamphetamine administration. Methamphetamine use appeared to remain concentrated among North Side men who have sex with men. Beyond Chicago, methamphetamine use was most common in downstate and western Illinois. MDMA indicators suggested low levels of use, but several indicators increased, including among students in grades 9 through 12. Ethnographic and survey reports suggested MDMA was popular among young low-income African Americans, and the drug was available in street drug markets. Lysergic acid diethylamide (LSD) and phencyclidine (PCP) indicators continued to show levels of use below the national average. African-American injection drug users were an aging cohort, while among Whites, new cohorts of young heroin injectors continued to emerge.

INTRODUCTION

This report is produced annually for the Community Epidemiology Work Group (CEWG) of the National Institute on Drug Abuse. As part of this epidemiological surveillance network, researchers from 21 areas in the United States monitor trends in drug abuse using the most recent data from multiple sources.

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 2000 U.S. Census estimated the population of Chicago at 2.9 million and Cook County (which includes Chicago) at 5.4 million. In June 2003, the U.S. Office of Management and Budget revised definitions for the Nation's Metropolitan Statistical Areas (MSAs). The Chicago/Naperville/Joliet, Illinois, MSA includes Cook, DeKalb, DuPage, Grundy, Kane, Kendall, McHenry,

¹The authors are affiliated with the University of Illinois at Chicago, School of Public Health, Chicago, Illinois.

and Will Counties, and its population size was slightly more than 9 million (ranking third in the Nation), according to the 2000 U.S. Census. In 2006, this population was estimated at 9.5 million, a 4.5-percent increase since 2000.

According to the U.S. Census Bureau, the city population increased approximately 4 percent between 1990 and 2000. The number of Hispanics living in Chicago increased 38 percent between 1990 and 2000, while the number of Whites and African Americans declined by 14 and 2 percent, respectively. Among U.S. cities, Chicago has the second largest Mexican-American and Puerto Rican populations.

Based on the 2000 U.S. Census, the Chicago population was 36 percent African American, 31 percent White, 26 percent Hispanic, and 4 percent Asian American/Pacific Islander. In 2000, the median age of Chicagoans was 31.5; 26 percent of the population were younger than 18, and 10 percent were 65 or older. The unemployment rate was 6.2 percent, and the percentage of families living below the poverty level with children younger than 18 was 11.4 percent.

Data Sources

The following data sources were used to prepare this report:

- **Treatment data** for the State of Illinois and Chicago for fiscal years (FYs) 2002–2007 were provided by the Illinois Division of Alcoholism and Substance Abuse (DASA).
- **Emergency department (ED) data** were derived for calendar year (CY) 2008 from the Drug Abuse Warning Network (DAWN) *Live!* restricted-access, online query system, administered by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA). Eligible hospitals in the Chicago MSA totaled 88; hospitals in the DAWN sample numbered 76, with 79 EDs in the sample (some hospitals have more than one ED). During this 12-month period, between 30 and 35 EDs reported data each month. The completeness of data reported by participating EDs varied by month (exhibit 1). Exhibits in this paper reflect cases that were received by DAWN as of May 5, 2009. Data derived from DAWN *Live!* represent drug reports in drug-related ED visits. The number of drug reports exceeds the number of visits because a patient may report use of multiple drugs (up to six drugs plus alcohol). The DAWN *Live!* data for 2008 are unweighted and, thus, are not estimates for the reporting area. These data cannot be compared with DAWN data from 2007 and before, nor can these preliminary data be used for comparison with future data. Only weighted DAWN data released by SAMHSA can be used for trend analysis. This report provided the first weighted data, however, for the years 2004–2007. A full description of the DAWN system can be found on the DAWN Web site: <http://dawninfo.samhsa.gov>.
- **Drug-related mortality data** on deaths related to accidental drug poisonings were available through 2005 from the Chicago Department of Public Health (CDPH). Where appropriate, 2003 mortality data from DAWN, OAS, SAMHSA, are briefly summarized in this paper. A more detailed account of the DAWN Medical Examiner (ME)/coroner data for five counties in the Chicago metropolitan area was reported in the June 2005 Chicago CEWG report. The 2003 data are the most recent information in this report on drug-related mortality other than death data due to accidental drug poisoning. Updated mortality data will be provided for the January 2010 CEWG report.
- **Incidence data on drug-related calls** were provided by the Illinois Poison Center (IPC) in Chicago for Cook County for 2007. During this period, the IPC staff handled 104,881 calls from all 102 counties in Illinois—a 2-percent decrease from 2006—regarding household products, herbal products, medication overdoses, adverse reactions to medications, alcohol or drug misuse, occupational accidents, chemical spills, and other poisonings.

- **Price and purity data** were provided by the Drug Enforcement Administration (DEA), Heroin Domestic Monitor Program (HDMP), for heroin for 1991–2006. The Illinois State Police (ISP), Division of Forensic Science, provided purity data on drug samples for 2008. Drug price data are reported from the December 2008 report of *National Illicit Drug Prices* by the National Drug Intelligence Center (NDIC). Data from the National Forensic Laboratory Information System (NFLIS) for CY 2008 were used to report on drugs seized by law enforcement in Chicago. Ethnographic data on drug availability, prices, and purity came 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 and household populations** were derived from two sources. Student (8th, 10th, and 12th grades) drug use data were provided by the 2006 Illinois Youth Survey, which is prepared by the Chestnut Health Systems for the Illinois Department of Human Services. The 2007 Youth Risk Behavior Survey (YRBS), prepared by the Centers for Disease Control and Prevention (CDC), provided drug use data representative of students in grades 9 through 12 in Chicago public schools. Data on substance use and abuse for the State of Illinois were provided by SAMHSA's National Survey on Drug Use and Health (NSDUH) for 2005 and 2006.
- **Recent drug use estimates** were derived from the 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 (MSMs) regardless of drug use, and sex partners linked to these groups. Participants ($n=4,344$) in this ongoing 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. The Illinois Department of Public Health surveillance reports provided statistics on STI/HIV infections from June 2007 until April 2008. The CDPH "STD/HIV/AIDS Chicago" Summer 2008 surveillance report provided incidence and prevalence data on STI/HIV infections as of December 31, 2006. Data may be incomplete because of delays in reporting.

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. Because some information has not changed—and to avoid redundancy—this report occasionally refers readers to a previous Chicago CEWG report for more information in a particular area. For a discussion of the limitations of survey data, the reader is referred to the December 2000 Chicago CEWG report.

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. Preliminary unweighted DAWN data showed that 26 percent of all ED drug reports in Chicago in 2008 were alcohol-in-combination. During FY 2007, heroin use was the most often reported reason for seeking treatment in Chicago. Among these treatment episodes, the most common secondary substances reported were cocaine (43 percent) and alcohol (9 percent).

Cocaine/Crack

The majority of quantitative and qualitative cocaine indicators suggest that use remained stable at high levels, and that cocaine continued to be a serious drug problem for Chicago.

The number of treatment services rendered for primary cocaine use in Chicago fluctuated slightly between FY 2000 and FY 2007, peaking in FY 2006 at 17,764, and decreasing slightly in FY 2007 to 16,938 admissions. Generally, numbers of episodes remained stable at high levels (exhibit 2). Cocaine use was the second most common reason to enter treatment in FY 2007; the majority (91 percent) reported treatment for crack cocaine use (exhibit 3). Cocaine was the most commonly mentioned secondary drug among persons treated for primary alcohol, heroin, and other opioid-related problems. In FY 2007, African Americans remained the largest group treated (81 percent) for cocaine abuse, and males accounted for more services rendered (57 percent) than females (exhibit 3).

Preliminary unweighted data accessed from DAWN *Live!* for 2008 showed that almost one-third (32 percent) of total ED reports for major substances of abuse (including alcohol) were cocaine-related. ED cocaine reports totaled 8,132 during this period (exhibit 4). The majority of the cocaine reports involved males (66 percent) and patients 35 and older (77 percent). African Americans represented 65 percent of cocaine ED reports, followed by Whites at 16 percent (race was not documented for 10 percent of the cocaine ED reports).

Weighted data from DAWN *Live!* showed that the rate of cocaine-related ED reports in 2007 was significantly lower than in 2006 (327 versus 367 per 100,000 population, $p < .05$), though not significantly different than the rates in 2004 (331) and 2005 (320).

Data from the CDPH on mortality due to accidental poisoning were available only up to 2005. Cocaine was responsible for the majority of accidental deaths due to poisonings in Chicago for both 2004 and 2005 (67 and 62 percent,

respectively). Readers are referred to the June 2005 Chicago CEWG report for additional information regarding cocaine-related mortality.

Of the 531 calls regarding stimulants and street drugs handled by the IPC in 2007, cocaine-related calls numbered 139, relatively constant from the previous year. As in 2005 and 2006, cocaine continued to generate more calls than any other “street drug” during this period.

State (ISP) and Federal (NFLIS) laboratories reported that cocaine was the drug most often received for testing in CY 2008 after cannabis, constituting 26 percent of the drugs seized (exhibit 5).

The NDIC reported a significant increase at the lower end of the wholesale price of a kilogram of powder cocaine in Chicago, from \$17,000–\$25,000 in 2007 to \$23,000–\$25,000 in 2008. These prices have not changed much since the 2003 estimates of \$18,000–\$22,000. The range in ounce prices for powder cocaine included prices that were the same (\$650) and much lower (\$1,000 versus \$2,400) than reported in 2007. Ounce prices for crack cocaine increased to \$1,300, from \$750–\$870 in 2007. Gram prices for powder and rock cocaine increased to \$150, from approximately \$100 in 2007. Bags of crack cocaine—the typical unit for street-level transactions—typically sold for \$5, \$10, or \$20.

The Illinois State Police analyzed 169,000 grams of cocaine in Cook County (which includes Chicago) in 2008, 26 percent of which was crack cocaine. Cook County seizures represented 56 percent of all cocaine seizures in Illinois. In Chicago, 60 percent purity was reported for an exhibit of cocaine weighing over 980 grams. In addition, five exhibits weighing between 0.1 and 2 grams were analyzed, with an average purity of 88 percent.

Ethnographic reports suggest that the quality of cocaine (and heroin) may be becoming more variable, as police pressure on drug dealing organizations causes decentralization in organizational structures. Leaders in highly centralized drug-dealing gangs have been effectively targeted by police. As they are 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. There is also a trend toward conducting user-level sales through contacts made by telephone or other electronic means rather than in open-air markets, which are more vulnerable to arrests.

The 2007 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 2007, 3.0 (1.7–5.3, 95-percent confidence interval [CI]) percent of Chicago students reported current cocaine use, an increase from 2005 of 1.9 (1.1–3.4). Lifetime use for these students increased from 4.2 (2.4–7.3) percent in 2005 to 5.9 (3.9–8.8) percent in 2007 (exhibit 6).

According to data from SAMHSA's NSDUH, the proportion of past-year cocaine use among Illinois youth age 12–17 increased slightly, from 1.32 percent in 2005 to 1.58 in 2006.

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 Northwest Side.

Heroin

Heroin abuse indicators in this reporting period continued to suggest high levels of use in the Chicago area.

The number of clients treated for heroin use in State-supported programs increased considerably between FY 2000 and FY 2005, declined in FY 2006, and flattened in FY 2007 at approximately 26,800 admissions. Heroin use accounted for 40 percent of all treatment admissions and was the most common reason for seeking treatment in Chicago (exhibit 3). The majority (82 percent) of those treated reported inhalation, or “snorting,” as the primary route of administration, while only 14 percent injected (exhibit 3). In contrast, 46 percent of clients entering treatment programs outside of Chicago reported injection as the primary route of administration. Recent research indicates that injection is declining

among African Americans but increasing among Whites (Armstrong, 2007; Broz and Ouellet, 2008), which may account for some of this difference in injection prevalence. Clients entering treatment in Chicago were more likely to be African American (82 percent), while clients from the remainder of Illinois were more likely to be White (60 percent).

Preliminary unweighted DAWN *Live!* ED data for 2008 indicated that heroin was the third most frequently reported major substance of abuse, following only cocaine and alcohol (exhibit 4). The majority of the 6,472 heroin ED reports involved males (65 percent), those 35 and older (74 percent), and African Americans (60 percent) (race was not documented for 10 percent of the heroin reports).

Weighted data from DAWN *Live!* showed that the rate of heroin-related ED reports in 2007 was significantly lower than in 2006 (206 versus 263 per 100,000 population, $p < .05$), though not significantly different than the rates in 2004 (233) and 2005 (200).

In 2003, the DAWN ME recorded 27 heroin-related deaths, of which 5 were single-drug deaths. The CDPH reported only one accidental death due to heroin use in 2004 and none in 2005. For more information regarding the increase in fentanyl-related deaths in 2006, readers should refer to Chicago's June 2006 and June 2007 CEWG reports.

Based on the 2005 HDMP report, heroin from multiple geographic source areas, including South America, Southeast Asia, Southwest Asia, and Mexico, was consistently available. This makes Chicago unique among other U.S. cities. The purity of street-level heroin peaked in 1997 at about 31 percent. In 2006, South American heroin exhibits purchased by the HDMP in Chicago averaged 12.6-percent pure, a decrease from 17.1 percent in 2005 (exhibit 7). However, the average price per milligram pure was \$0.49 in 2006, a slight increase from 2005 (\$0.45), but not a return to the 2004 price of \$0.56.

The amount of heroin analyzed in Cook County by the ISP laboratory increased from

12 kilograms in 2002 to 21 kilograms in 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, then dropped to 19 kilograms in 2008. According to NFLIS, heroin was the third most often seized drug in Chicago in CY 2008, accounting for 13 percent of all items analyzed (exhibit 5).

The YRBS reported an increase in lifetime use of heroin among Chicago public high school students, from 2.0 (0.9–4.4) in 2005 to 3.7 (2.1–6.2) in 2007, though this increase was not statistically significant (exhibit 6). More use was reported for male (4.7) than for female (2.2) students.

Heroin prices varied depending on type and origin. On the street, heroin was commonly sold in \$10 and \$20 units (bags), though bags for as little as \$5 were available. “China White” heroin was the most common, but brown and tar heroin were also available. 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, and \$30,000–\$80,000 from \$45,000–\$80,000 for Mexican black tar heroin. In comparison, kilogram prices in 2003 ranged from \$100,000–\$125,000. Ounce prices in 2008 for white heroin averaged \$2,500, which is in the 2006 range of \$1,800–\$3,000, but somewhat lower than 2003 prices (\$2,500–\$3,000). The price range of 1 gram of heroin dropped from \$70–\$200 in 2007 to \$75–\$100 in 2008.

The prevalence of heroin use in the past 30 days among SATH-CAP participants was 49 percent, and was highest on the Northwest Side.

Other Opiates/Narcotics

Preliminary unweighted data accessed from DAWN *Live!* showed that there were 2,761 ED reports of other opiates in 2008 that were due to seeking detoxification, overmedication, or “other,” which includes the illegal use of the drug. The majority of the “other opiates” reports were for methadone (26 percent), hydrocodone (20

percent), propoxyphene (8 percent), and oxycodone (6 percent). Males represented more than one-half of the cases (56 percent), while African Americans constituted 43 percent of cases, followed by White and Hispanic reports (34 and 8 percent, respectively). Race was not documented for 15 percent of reports.

Drug treatment for other opiates/prescriptions decreased from 788 episodes in 2006 to 496 in 2007, a 37-percent reduction. Clients seeking treatment were more likely to be females (53 percent), African American (64 percent), and older than 34 (76 percent). Inhalation (59 percent) was reported as the most frequent route of administration, followed by oral (28 percent). Cocaine was reported to be the most common secondary drug (32 percent) when “other opiates/prescriptions” were listed as the primary drug of treatment.

Of the top 25 drugs seized and analyzed by NFLIS in 2008, five were opiates/opioids other than heroin: hydrocodone (365), buprenorphine (86), methadone (79), oxycodone (65), and codeine (56).

Methamphetamine/Amphetamines

Treatment services rendered in Chicago for methamphetamine use steadily increased in FYs 2002–2006, from 29 episodes in FY 2002 to 139 in FY 2006. In contrast, FY 2007 saw a decrease in treatment services to 114 episodes. The city of Chicago was seeing more African Americans seeking treatment for methamphetamine abuse. African Americans comprised 15 percent of treatment episodes in FY 2005, 47 percent in FY 2006, and 30 percent in FY 2007 (exhibit 3). Males continued to be more likely to seek treatment than females (76 percent), probably because the use of methamphetamine in Chicago remains concentrated among MSMs. Smoking was the most often reported primary route of administration (60 percent), followed by injecting (27 percent, a 12-percent increase since FY 2006). A more pronounced increase in methamphetamine treatment episodes was reported in the rest of the State. Treatment episodes increased from 698 in

FY 2000 to peak in FY 2005 at 5,134, but started to decline in FY 2006 to 4,879, and then to 3,029 in FY 2007. Alcohol was the predominant secondary drug used with methamphetamine (25 percent). Ecstasy comprised 12 percent of secondary drugs used with methamphetamine. Excluding phencyclidine (PCP) and hallucinogens, methamphetamine was the drug with which ecstasy was most likely to appear as a secondary drug. Readers are referred to the January 2006 Chicago CEWG report for additional information regarding methamphetamine treatment data.

Treatment services rendered for methamphetamine outnumbered those for amphetamine in Chicago and the State. In FY 2007, 56 amphetamine episodes were reported in Chicago, which was a 53-percent decrease from the previous year. Amphetamine treatment episodes in the rest of the State numbered 335 in FY 2007. Chicago males were more likely than females to seek treatment for amphetamine use (84 percent). African Americans were 63 percent of amphetamine treatment episodes in FY 2006, but only 30 percent in 2007, while Whites constituted 25 percent in FY 2006 and 45 percent in FY 2007. Cocaine was the predominant secondary drug used in conjunction with amphetamine (29 percent) in FY 2007, a shift from alcohol in FY 2006.

In 2008, preliminary unweighted DAWN *Live!* data showed 49 methamphetamine ED reports for Chicago (exhibit 4). ED patient characteristics were similar to patients receiving treatment services in publicly funded programs for methamphetamine. Males (71 percent), patients age 21–54 (82 percent), and Whites (at least 45 percent) accounted for the majority of ED methamphetamine reports (race was not documented for 16 percent of these reports). In 2008, 111 preliminary amphetamine ED reports were registered by DAWN *Live!* (exhibit 4).

Weighted data from DAWN for 2004 through 2007 showed that the rate of methamphetamine-related ED reports remained very low (2–3 per 100,000 in population).

Methamphetamine calls to the IPC in Chicago were infrequent. In 2007, the IPC received

a total of four methamphetamine calls. However, there were 125 amphetamine-related calls during this period.

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. In 2008, there was an increase in methamphetamine seizures to 12.8 kilograms. 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. According to the NFLIS report, 1 percent of the items analyzed in Chicago in CY 2008 were methamphetamine (exhibit 5).

According to the YRBS, lifetime use of methamphetamine among Chicago public high school students increased considerably from 1.5 percent in 2005 to 4.7 percent in 2007 (exhibit 6), and was decidedly greater among male students (7.1 percent) than female students (2.5 percent). Interestingly, methamphetamine use among high school students was less prevalent in the State of Illinois than in the city of Chicago in 2007 (3.6 percent; 95 percent-CI: 2.7–4.8), although this difference could be due to chance. In Chicago, African-American students had the highest rates of use, followed by Hispanic students (5.2 versus 3.7 percent). There were insufficient data on White students in Chicago to estimate use. In contrast, White students (4.3 percent) in the State were more likely to have used methamphetamine than were African-American (2.0) and Hispanic students (3.5 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 recent study of young males (age 16–24) who are MSMs ($n=270$), 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.

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 MSMs, these figures increased to 16 and 8 percent, respectively.

The price for a pound of “ice” methamphetamine increased at the lower end and decreased at the higher end from a range of \$8,000–\$16,000 in 2007 to \$10,000–\$14,000 in 2008, according to NDIC estimates. Ounce prices in both years ranged from \$1,000–\$1,500, approximately the same as 2003 prices (\$1,000–\$1,300). Gram prices for ice were the same in all three time periods, \$80–\$100. Reports of the cost of a bag of methamphetamine ranged from \$10–\$20.

During this reporting period the authors received the first report of what may be a reliable and perhaps organized source of methamphetamine outside the North Side gay community.

Marijuana

Marijuana continued to be the most widely available and used illicit drug in Chicago and Illinois. Marijuana users represented 14 percent of all treatment episodes in Chicago in FY 2007 and 26 percent of episodes elsewhere in the State. Marijuana-related episodes increased as a percentage of total episodes in Chicago between FY 2002 and FY 2007, peaking in 2007 at 9,639 episodes. Alcohol remained the most commonly reported secondary drug among clients receiving treatment for marijuana (38 percent). In Chicago, treatment episodes for marijuana were highest for males (79 percent) and for African Americans (76 percent) (exhibit 3).

Preliminary unweighted data accessed from DAWN *Live!* showed that ED reports of marijuana in 2008 represented 13 percent of all substance abuse reports, including alcohol (exhibit 4). Of the 3,384 marijuana ED reports during this period, 48 percent involved African-American

patients, followed by Whites (24 percent). Race was not documented for 13 percent of the reports. The majority of these patients were male (68 percent) and younger than 35 (64 percent).

According to the DEA, the bulk of marijuana shipments were transported by Mexico-based polydrug trafficking organizations that concealed the drug among legitimate goods in tractor-trailers coming into the Chicago area from the southwest border. The primary wholesalers of marijuana were the same Mexico-based organizations that supplied most of the cocaine, methamphetamine, and Mexican heroin in the Midwest. Marijuana produced locally (indoor and outdoor) by independent dealers was also available.

Available marijuana was of variable quality. The abundance and popularity of marijuana across the city led to an increased array of varieties and prices. Marijuana prices may have increased since 2003. According to the NDIC’s December 2008 report, a pound of marijuana in Chicago cost \$700–\$1,000 for Mexican-produced; these prices were consistent with local street reports. Ounce prices for “hydro” and domestically produced marijuana were \$200–\$300 and \$40–\$50, respectively. 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 2007. Almost 56 percent of the drug samples analyzed by the NFLIS for Chicago in FY 2008 were identified as cannabis/marijuana (exhibit 5).

According to the CDC’s YRBS, current marijuana use among students in grades 9 through 12 in Chicago public schools decreased between 2001 and 2007. Past-30-day use decreased by 24 percent, from 28.7 percent in 2001 to 21.7 percent in 2007. This trend was similar in lifetime use as well. In 2007, male students were only slightly more likely to report lifetime use than female students (45.8 and 42.3 percent, respectively), while 46.1 percent of Hispanic students reported having used marijuana at least once in their lifetime, compared to 41.8 percent of African-American students. Data were insufficient to estimate use

in White students. None of these differences, however, were statistically significant.

Data from SAMHSA's NSDUH for 2005 and 2006 painted a slightly different picture of drug use among Illinois youth. In this survey, marijuana use in the past month and the past year remained relatively constant at 5.4 and 9.4 percent, respectively, for Illinois youth age 12–17. The “perception of great risk of smoking marijuana once a month” among these youth increased in 2006, however, to 39 percent.

Cannabis Control Act drug arrests in Cook County, which includes Chicago, totaled 31,551 in 2006, an increase of 5 percent from 2004. These arrests represented 46 percent of all drug arrests in Cook County in 2006.

Club Drugs

MDMA

In the Chicago area, 3,4-methylenedioxymethamphetamine (MDMA or ecstasy) continued to be the most prominently identified of the club drugs, and its use appeared to have increased among African Americans. In FY 2007, treatment services for MDMA use in Illinois were few, with only 124 episodes 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 episodes for MDMA in 2007 exceeded the number for club drug use by about 50 percent for both FY 2005 and FY 2006. During FY 2007, 70 percent of MDMA treatment episodes were among males. The number of African Americans seeking treatment for ecstasy/club drug use was growing. Eighty-six percent of treatment episodes were among African Americans, an increase from 75 percent for club drug episodes in 2006.

The preliminary unweighted data extracted from DAWN *Live!* showed 179 MDMA reports in 2008 (exhibit 4). MDMA ED reports were more common among male patients (64 percent), Afri-

can Americans (51 percent), and patients younger than 35 (92 percent).

From 2005 to 2007, lifetime use of MDMA among students in grades 9 through 12 in Chicago increased from 3.3 to 6.4 percent, according to the YRBS (exhibit 6). Hispanic students were more likely to report lifetime MDMA use (6.8 percent) than African-American students (4.2 percent). Sufficient data were not available to estimate use in White students. The percentage of male students who reported lifetime use of MDMA was less than that of female students (6.5 versus 5.8 percent). None of these differences, however, were statistically significant.

MDMA samples sent to the ISP laboratory from Cook County decreased from 4.6 kilograms in 2007 to 3.3 kilograms in 2008. In contrast, NFLIS reported an increase in the proportion of all items analyzed for Chicago that were MDMA, from 0.78 percent in FY 2006 to 1.15 percent in FY 2007. In FY 2008, MDMA made up 1.5 percent of all items analyzed (exhibit 5). However, 2008 NFLIS data cannot be trended with data from earlier time periods as the current methodology used to construct MSA data sets differs from previous years.

Ecstasy was increasingly available in street drug markets, though availability varied across the city. In some areas, ecstasy was reported by street sources to be sold by the same dealers selling heroin and cocaine. In other markets, ecstasy was sold by sellers specializing in the drug. Raves featuring ecstasy use were said to be close to nonexistent. Ecstasy continued to be sold in pill or capsule form, and, according to the 2006 NDIC report, prices decreased slightly in recent years. In 2003, per-tablet wholesale prices ranged between \$10 and \$12, but declined to \$5 per tablet in 2006. Retail prices in 2003 ranged from \$25–\$35 per tablet. In 2008, per-tablet wholesale prices ranged from \$5 to \$10. The retail price in 2008 was \$20 per tablet, according to NDIC, which was at the low end of the 2007 range of \$20–\$40.

There were increasing reports of ecstasy use from participants in local studies of drug users. These reports indicated increased use of ecstasy

by African Americans, principally those in their teens and 20s, but some older. This use of ecstasy occurred not only in the context of club going and house parties, but also among street populations, including sex workers. Some users claimed that ecstasy could be obtained in “upper” and “downer” forms, which suggests different combinations of drugs. Likewise, the Cook County Sheriff’s Police Department Forensic Laboratory reported in February 2006 that pills resembling MDMA in color and logo were, upon analysis, identified to be a mixture of methamphetamine and PCP. Marijuana and alcohol were the drugs most often purposely consumed in combination with ecstasy.

GHB

Gamma hydroxybutyrate (GHB), a central nervous system depressant with hallucinogenic effects, was used infrequently in Chicago, and its use was mainly by young White males.

No treatment services were provided specifically for GHB use in FY 2007, and, according to preliminary unweighted data accessed from DAWN *Live!*, there were only 26 GHB ED reports in 2008.

GHB was sold as a liquid (“Liquid G”), in amounts ranging from drops to capfuls. Prices for a capful were reported at \$10, and remained level. Compared with other club drugs, overdoses were more frequent with GHB, especially when used in combination with alcohol. GHB was not tracked in most quantitative indicators, but its use was perceived to be low compared with ecstasy.

Ketamine

Ketamine, an animal tranquilizer, is another depressant with hallucinogenic properties and is often referred to as “Special K.” DASA did not report anyone treated for ketamine use in FY 2007 in publicly funded treatment programs in Illinois. As reported in the June 2004 Chicago CEWG report, street reports indicated that ket-

amine was usually sold in \$5–\$30 bags of powder or in liquid form.

PCP, LSD, and Other Hallucinogens

Treatment services rendered for hallucinogen use in Chicago increased from 30 in FY 2002 to 284 in FY 2003, and then decreased to 133 episodes in FY 2006. In FY 2007, treatment episodes for PCP totaled 60, and “other hallucinogens,” which included lysergic acid diethylamide (LSD), totaled 25. The majority of treatment episodes occurred among African Americans (74 percent) and male clients (68 percent) in FY 2007.

In general, both PCP and LSD use in Chicago remained low, though street reports suggested use of PCP was fairly common in some neighborhoods. According to preliminary unweighted data accessed from DAWN *Live!*, there were 192 PCP and 34 LSD ED reports in 2008 (exhibit 4).

The amount of PCP samples received by the ISP laboratory for analysis decreased significantly between 2002 and 2006, from 4.2 kilograms to 0.16 kilograms, but increased slightly to 0.46 kilograms in 2007. In 2008, there was a slight decrease to 0.26 kilograms. NFLIS LSD seizures totaled 0.04 percent of all items analyzed in FY 2008 (exhibit 5).

Calls into the IPC in Chicago for LSD, PCP, and other hallucinogens totaled 38 in 2007, a 45-percent reduction since 2006.

Ethnographic reports on PCP use suggested that PCP “sticks” about the size of toothpicks were reportedly available for \$10–\$30. LSD hits typically cost \$5–\$10; LSD was available in the city and suburbs. According to some accounts by White youth, hallucinogenic mushrooms remained available. Reported prices were \$20–\$40 per mushroom.

Benzodiazepines/Barbiturates

Depressants, such as benzodiazepines and barbiturates, are commonly taken with narcotics to improve 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).

Chicago treatment data suggested depressants were rarely the primary drugs of choice among clients. In FY 2007, DASA reported 14 treatment episodes for benzodiazepines and 3 episodes for barbiturates in Chicago.

Preliminary unweighted data accessed from DAWN *Live!* showed that 1,336 ED reports were related to the misuse of benzodiazepines in 2008. More than one-third (36 percent) of these reports were classified as overmedication.

Benzodiazepine-related calls to the IPC in Chicago repeatedly represented nearly one-half of all substance misuse calls between 2001 and 2006. Approximately 500 to 600 calls annually were reported during this period; a high of 707 calls were reported in 2007. Calls for barbiturate use remained low during this period, at approximately 40 calls annually.

No updated prices for depressants were available. As stated in past Chicago CEWG reports, alprazolam typically sold for \$2–\$3 for 0.5-milligram tablets and \$5–\$10 for 1-milligram tablets.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

While Chicago accounts for 23 percent of Illinois' population, 68 percent of the State's 35,199 cumulative AIDS cases were from Chicago in 2007. Metropolitan Chicago (Cook County and the collar counties of DuPage, Kane, Lake, McHenry, and Will) accounted for 86 percent of cumulative AIDS cases diagnosed in Illinois.

The Chicago Department of Public Health reported 1,241 cases of new HIV diagnoses in 2006, a figure likely to increase when reporting is complete, but less than the 1,484 cases reported in 2000. MSM contact continued to be the leading mode of transmission (62 percent). HIV diagnoses

associated with injection drug use declined from 548 cases in 2000 to 198 cases in 2006. Non-Hispanic Blacks represented more than one-half of HIV diagnoses (56 percent), despite constituting approximately 35 percent of the city's population. One-quarter of HIV diagnoses in 2005 were among non-Hispanic Whites, and 13 percent were Hispanics.

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. In 2007, 40 percent were currently sexually active, 32 percent did not use a condom during their last intercourse, and 13 percent consumed alcohol or drugs before their last sexual intercourse.

ACKNOWLEDGMENTS

The authors wish 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. We particularly thank site supervisors Sue O'Donnell, Ed Snulligan, Mary Bonilla, Otillo Green, and Otis McCoy, and outreach staff Robert Banks, James Crues, Ben Davis, Julio Garcia, Michelle Giles, Floyd McGee, Angel Ocasio, and Cotrell Richmond, for assisting with preparing the report. The authors also wish to thank staff at the agencies and organizations that contributed data used in this report.

REFERENCES

- Armstrong, G.L. (2007). “Injection drug users in the United States, 1979–2002: An aging population.” *Archives of Internal Medicine*, 167(2):166–173, 2007.
- Broz, D., and Ouellet, L.J. “Racial and ethnic changes in heroin injection in the United States: Implications for the HIV/AIDS epidemic.” *Drug and Alcohol Dependence* 94 (1-3):221–233, 2008.

Garofalo, R., Mustanski, B.S., McKirnan, D.J., Herrick, A., and Donenberg, G.R. "Methamphetamine and young men who have sex with men: Understanding patterns and correlates of use and the association with HIV-related sexual risk." *Archives of Pediatric Adolescent Medicine* 161:591–596, 2007.

For inquiries concerning this report, contact Lawrence Ouellet, Ph.D., Research Associate Professor, Epidemiology and Biostatistics (MC923), School of Public Health, University of Illinois at Chicago, 1603 West Taylor Street, Chicago, Illinois 60612-4394, Phone: 312-355-0145, Fax: 312-996-1450, E-mail: ljo@uic.edu.

Exhibit 1. DAWN ED Sample and Reporting Information: January–December 2008

CEWG Area	Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
				90–100%	50–89%	<50%	
Chicago MSA ³	88	76	79	21–29	3–9	2–6	44–49

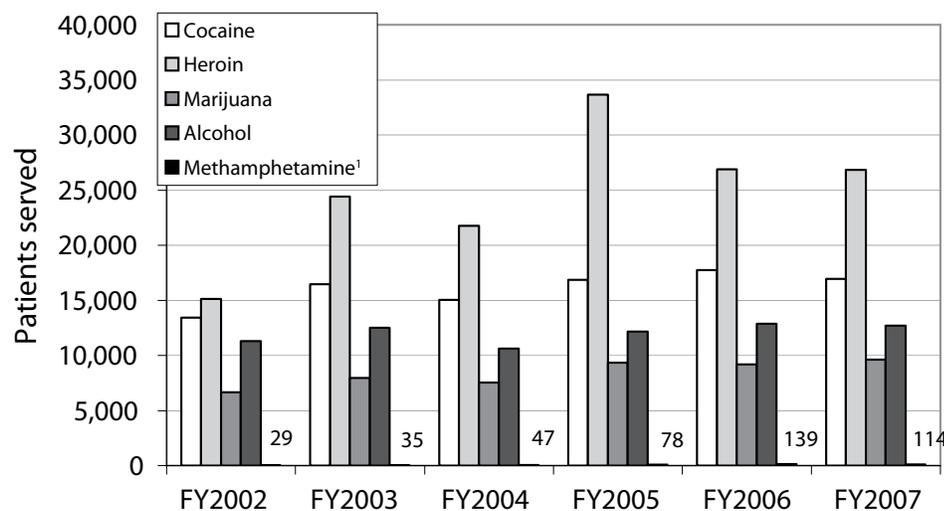
¹Short-term, general, non-Federal hospitals with 24-hour emergency departments based on the American Hospital Association Annual Survey.

²Some hospitals have more than one ED.

³Chicago MSA includes Chicago "Core" and Chicago "Other"

SOURCE: DAWN Live!, OAS, SAMHSA, accessed May 5, 2009

Exhibit 2. Number of Clients Served in Publicly Funded Substance Abuse Treatment Programs by Primary Substance of Abuse, Chicago, by Primary: FYs 2002–2007



¹Methamphetamine values shown in the graph.

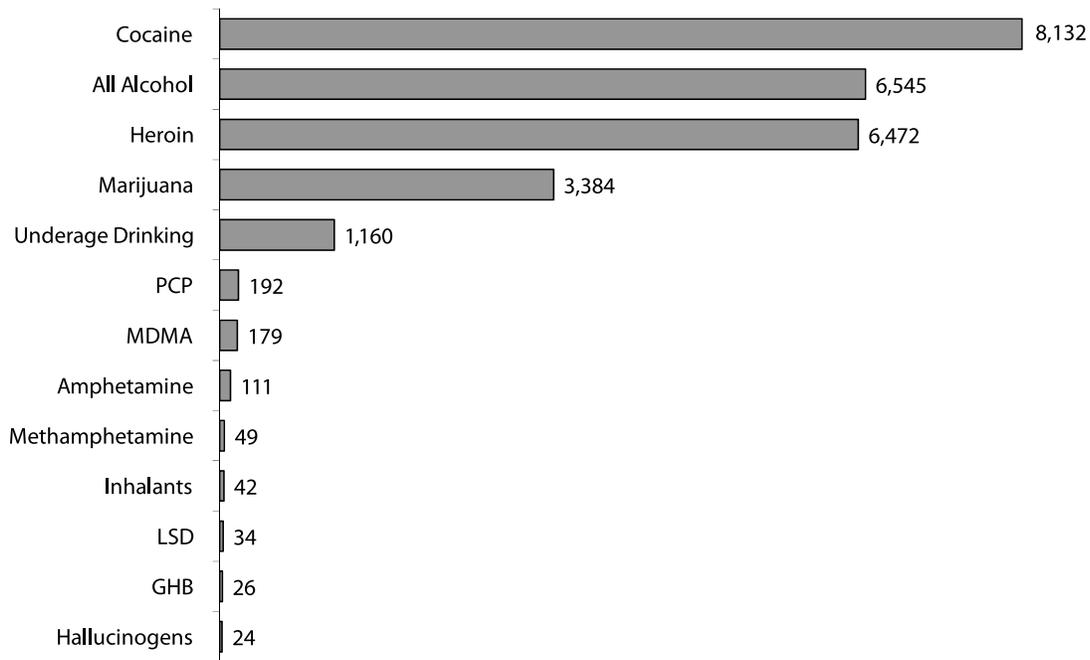
SOURCE: Illinois Department of Human Services, Division of Alcoholism and Substance Abuse

Exhibit 3. Demographic Characteristics of Clients Served in Publicly Funded Treatment Programs, by Primary Substance and Percentage, in Chicago: FY 2007

Characteristics (N=67,788)	Heroin (n=26,836)	Cocaine (n=16,938)	Alcohol (n=12,704)	Marijuana (n=9,639)	Other Opioids (n=496)	Metham- phetamine (n=114)
Percent of Total	40	25	19	14	1	<1
Gender						
Male	54	57	72	79	47	76
Female	46	43	28	21	53	24
Race/Ethnicity						
White	9	9	19	5	22	58
African American	82	81	60	76	64	30
Hispanic	7	7	19	16	10	4
Other	<1	1	1	1	2	4
Other Single Race	1	2	2	2	2	4
Age						
17 or younger	<1	<1	5	44	1	-
18-25	4	6	11	31	10	25
26-34	14	19	20	15	13	41
35 and older	82	75	64	10	76	33
Route of Administration						
Oral	1	1	100	3	28	6
Smoking	2	91	-	96	1	60
Inhalation	82	8	-	1	59	7
Injecting	14	<1	-	<1	11	27
Secondary Drug	Cocaine 43	Alcohol 40	Cocaine 28	Alcohol 38	Cocaine 32	Alcohol 25

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

Exhibit 4. Number of ED Reports (Unweighted¹) for Selected Drugs, Chicago: January–December 2008



¹Unweighted data are from 31–35 Chicago EDs reporting to DAWN in January–December 2008. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted and, therefore, are subject to change.

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed May 5, 2009

Exhibit 5. Drug Seizures Items Analyzed by Forensic Laboratories in Chicago: FYs¹ 2006–2008²

Selected Substance	FY 2006		FY 2007		FY 2008	
	Count	Percent	Count	Percent	Count	Percent
Cannabis	33,153	49.55	44,020	53.68	43,123	55.96
Cocaine	21,317	31.86	24,447	29.81	19,745	25.62
Heroin	10,001	14.95	10,015	12.21	10,121	13.13
Clonidine	612	0.91	611	0.75	NA ³	NA
Methamphetamine	608	0.91	459	0.56	781	1.01
3,4-Methylenedioxy-methamphetamine (MDMA)	519	0.78	943	1.15	1,163	1.50
Phencyclidine (PCP)	76	0.11	115	0.14	195	0.25
Hydrocodone	113	0.17	255	0.31	365	0.47
Methadone	82	0.12	88	0.11	79	0.10
Alprazolam	63	0.09	136	0.17	206	0.25
Psilocin	44	0.07	71	0.09	72	0.09
Codeine	38	0.06	46	0.06	56	0.07
Diazepam	25	0.04	44	0.05	42	0.05
Clonazepam	20	0.03	37	0.05	38	0.05
Oxycodone	12	0.02	57	0.07	65	0.08
Amphetamine	25	0.04	46	0.06	61	0.08
3,4-methylenedioxy-amphetamine (MDA)	9	0.01	3	<0.01	NA	NA
Ketamine	5	0.01	42	0.05	41	0.05
Propoxyphene	NA	NA	15	0.02	NA	NA
Morphine	15	0.02	32	0.04	NA	NA
Psilocybin	5	0.01	1	<0.01	NA	NA
Lorazepam	18	0.03	16	0.02	NA	NA
Pseudoephedrine	7	0.01	5	0.01	NA	NA
Chlordiazepoxide	NA	NA	1	<0.01	NA	NA
Lysergic acid diethylamide (LSD)	7	0.01	17	0.02	33	0.04
Total Items Reported	66,905		81,522		77,050	

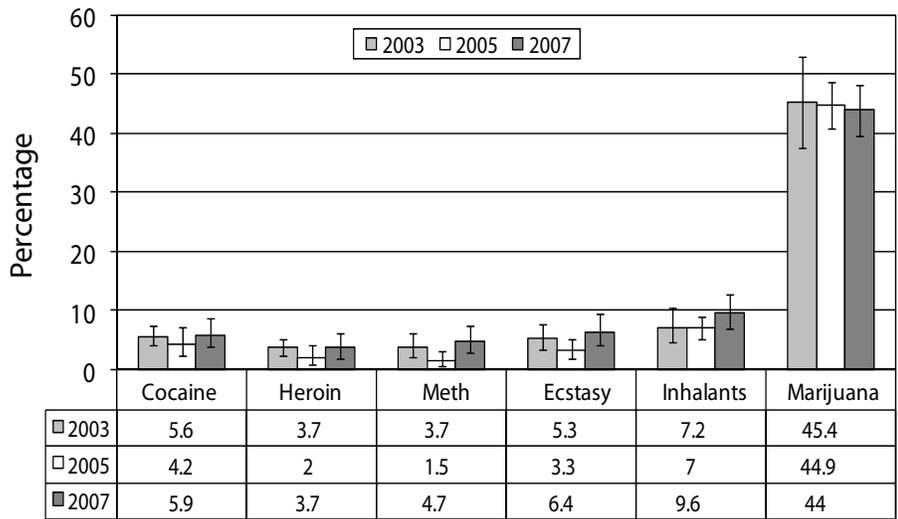
¹Drug items analyzed between October 1 and September 30 of each year.

²NFLIS data for 2007 cannot be trended with data from earlier time periods as the current methodology used to construct MSA data sets differs from previous years.

³NA=Data not available.

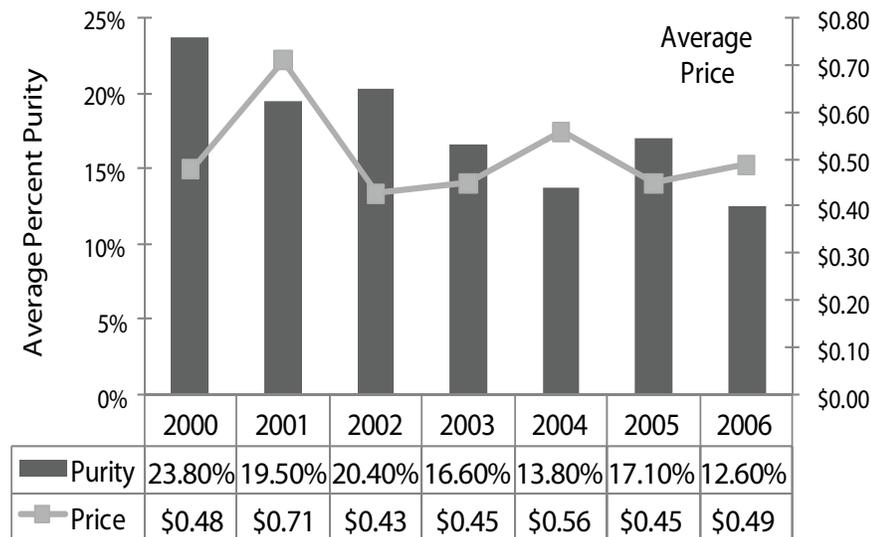
SOURCE: NFLIS, DEA

Exhibit 6. Percentage (With 95-Percent Confidence Intervals) of Lifetime Illicit Drug Use Among Public High School Students, Chicago, IL: By Survey Year—2003, 2005, and 2007



SOURCE: YRBS, National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health, CDC

Exhibit 7. Average Price and Average Purity Trends for Heroin¹, Chicago: 2000–2006



¹South American heroin.
SOURCE: HDMP, DEA

Drug Abuse Patterns and Trends in Cincinnati, Ohio: 2008

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

ABSTRACT

The predominant drug issues in Cincinnati continued to involve both cocaine/crack cocaine and marijuana as primary drugs of abuse. Crack cocaine indicators remained high but decreased slightly during 2008, compared with 2007 data. Large cocaine/crack seizures by Cincinnati law enforcement have been implicated as contributing to the lower availability and quality of cocaine/crack during 2008. Indicators for marijuana in the Cincinnati region were stable at high levels. Marijuana dominated all other reported illicit drugs among treatment admissions, accounting for nearly 29 percent of the admissions during FY 2008. While marijuana availability and use remained high across the Cincinnati region, indicators pointed to a leveling off at a high level. Marijuana accounted for 44.2 percent of submitted items for forensic analysis for Hamilton County, and was second only to alcohol for primary treatment admissions. Indicators for heroin remained fairly stable, with some indicators showing a slight increase during 2008 from the previous year. Treatment for primary heroin use was not delineated from other opiate/opioid admissions, accounting for 17 percent of all admissions. Poison control data showed a 50-percent increase in reported human heroin exposure cases reported in 2008, and the Medical Examiner recorded a 211-percent increase in deaths attributed to heroin from the previous year. Methamphetamine indicators continued to remain low in Cincinnati, with additional decreases noted in 2008.

¹The author is affiliated with the Cincinnati Children's Hospital Medical Center, Cincinnati Drug and Poison Information Center, Cincinnati, Ohio.

A decrease in the number of methamphetamine laboratory seizures, combined with increased pricing, indicated less availability for use during 2008. 3,4-Methylenedioxymethamphetamine (MDMA) indicators remained moderate in Cincinnati, with a noticeable increase in availability and use during 2008, compared with 2007. 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, with a slight increase in 2008 from 2007. The most desirable benzodiazepine abused continues to be alprazolam, according to both users and law enforcement. A 16-percent increase in the number of clonazepam exposures reported to poison control in 2008 from 2007 may be an indicator of clonazepam abuse, but needs to be determined more clearly. A 176-percent increase in human exposure cases reported to poison control with buprenorphine-containing pharmaceuticals during 2008 from the previous year also found that nearly 45 percent of the exposures involved children age 3 or younger. There is a need to educate physicians who prescribe and patients who take buprenorphine-containing pharmaceuticals on safe storage, to decrease the number of children accidentally encountering these medications in the home.

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 there were 308,728 residents of Cincinnati in 2003, along with 823,472 residents in Hamilton County. The Census list that came out in

June 2006 showed Cincinnati at the bottom of the list, as the city losing the highest number of U.S. residents of any city during the previous 5-year period. This finding prompted the mayor of Cincinnati to challenge the U.S. Census Bureau to reevaluate the population, based on several indicators that the population had actually increased in numbers for both the city and county. The mayor approached the U.S. Census Bureau with the following for consideration:

- Statistical analysis from city records, including the following:
 - Building permits
 - Demolition permits
 - Conversion of buildings to apartments or condominiums
- Increased home-building data
- Increased development projects data

The U.S. Census Bureau accepted the challenge and, after review of all data submitted, concluded that the city and county populations had indeed increased in size. The new projections for the population of Cincinnati were revised in October 2006 to record 331,310 residents, an increase of 6.8 percent over previous estimations. Similarly, the estimation of residents within Hamilton County rose 4.3 percent, to 860,652, with the revised Census projections. The Cincinnati population distribution remained consistent, with 53 percent White and nearly 43 percent African American. By comparison, residents of Hamilton County were nearly 73 percent White and 23 percent African American.

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 cut through the State, making transport relatively easy across the State line. Interstate-75 (I-75) is a direct route, running south to north, from the Florida border through four States, including Ohio, and

terminating in Detroit, Michigan. Transport of cocaine through this route has earned the I-75 corridor the nickname of “cocaine lane.” Interstate-80/90 travels east to west across the top of Ohio and contributes to drug travel from Chicago and New York.

Cincinnati is within close proximity of the Northern Kentucky/Cincinnati International Airport to the south and the Dayton International Airport to the north, with a few smaller airports scattered throughout the region. The region is also close to major package delivery centers where air transport of drugs in containers or packages contributes to the supply of imported drugs from Mexico, Texas, and California.

Some drug travel through the ports of Lake Erie occurs as well, but this is a less common route of distribution than ground travel.

Data Sources

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

- **Treatment data** were provided by the Hamilton County Mental Health and Recovery Services Board for fiscal years (FYs) 2005 through 2008 for publicly funded treatment programs within Hamilton County only. Primary drugs of use at admission were determined through billing data submitted by reporting agencies. Data methodology capture differed from previous reporting periods and does not provide for direct comparison to previous reports. Data are captured by group classification and not necessarily by specific drug type or route of administration. Additional changes in reporting of admissions may result in lack of comparison from this report to the next.
- **Poison control center data** were provided by the Cincinnati Drug and Poison Information Center (DPIC) for calendar years (CYs) 2006, 2007, and 2008. Only human case data captured for purposes of illustration of drug exposures were reported. Call data were accessed for the covered area, comprising 38 of 88 counties in

Ohio. 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, 3,4-methylenedioxymethamphetamine [MDMA]), 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.

- **Crime laboratory drug analyses data** were derived from the Drug Enforcement Administration (DEA), National Forensic Laboratory Information System (NFLIS), and the Hamilton County Coroner's Office for 2008.
- **Drug seizure data** were provided by the Cincinnati Police Department for CYs 2004 through September 2008. Additional seizure data was provided by the Regional Enforcement Narcotics Unit (RENU) for the years 2004–2008.
- **Mortality data** were provided by the Hamilton County Coroner's Office for CYs 2006 through 2008.
- **Drug purity and cost data** came from the DEA, Cincinnati Resident Office, National Drug Intelligence Center (NDIC), Warren-Clinton County Drug Task Force, and the Ohio Substance Abuse Monitoring Network (OSAM) for 2008.
- **Methamphetamine laboratory seizure data** were provided by the Ohio Bureau of Criminal Investigation and Identification (BCI&I).
- **Qualitative data** came from focus group interviews conducted for the OSAM Project, funded by the Ohio Department of Alcohol and Drug Addiction Services, through a grant to Wright State University Center for Interventions

Treatment and Addictions Research. Focus groups are conducted in 6-month intervals.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine remained the most serious drug problem in Cincinnati. From FYs 2005 to 2008, the proportion of primary cocaine admissions remained relatively stable, hovering between 17 to 19 percent of all treatment admissions (exhibit 1). Qualitative data indicated that new cocaine users were more likely to be young (some as young as 14) and more likely to start their use by mixing the cocaine, either crack or powder cocaine, with tobacco or marijuana and smoking it. The term "Primo" describes the mix of tobacco or marijuana with cocaine.

Poison control center data showed a total of 102 cocaine (salt/crack) human exposure calls captured by the Cincinnati DPIC during 2008 for the service region. All of the cases involved intentional use of cocaine (salt/crack).

The Hamilton County Coroner's Office recorded 51 deaths in which evidence of cocaine/crack use was documented by the Medical Examiner (ME) during 2008. This number represents a 29-percent decrease from the previous year (2007). Deaths were recorded in one of three categories: accidental, suicide, or homicide. Evidence of cocaine was not necessarily related to manner of death. Nearly 71 percent of the cases with cocaine presence recorded in the decedent were ruled as accidental, 8.3 percent were due to suicide intent, and 20.8 percent were ruled homicide.

The Cincinnati Police Department merged drug seizure data from all municipalities and townships within Hamilton County in 2005. From 2004 to 2007, county-wide law enforcement seizures for powder cocaine increased nearly 50 percent each year (exhibit 2). Data for 2008 were compiled only through September, but appeared to be similar to 2007 through the third quarter of the year. Crack cocaine seizures across

the county remained fairly stable from 2004 to 2006, but they increased approximately ninefold in 2007. Qualitative data indicated a decrease in availability of both powder and crack cocaine during 2008, most likely due to higher amounts of the drug being seized and removed from the street by law enforcement across the region. The quality of available powder or crack cocaine was also cited as having decreased during 2008 from the previous year. A high number of users were reporting that it was commonplace to “re-rock” crack cocaine after a purchase to remove as many impurities as possible.

Of the 13,151 drug items analyzed by NFLIS laboratories in the Cincinnati metropolitan area in 2008, nearly 39 percent were cocaine (exhibit 3). Analysis of the purity of cocaine samples seized by the local DEA in 2008 showed that the average purity of crack cocaine was 45.8 percent, whereas the average purity of cocaine hydrochloride (powder cocaine) was 39.2 percent (exhibit 4).

The retail (street) price of powder cocaine increased from \$25–\$50 per gram in 2007, to \$40–70 per gram in 2008 (exhibit 5). Prices varied depending on ethnicity and geography throughout the Cincinnati region. Mid-level prices for powder cocaine ranged from \$800–\$1,300 per ounce, and wholesale prices ranged from \$24,000–\$28,000 per kilogram. The street price of crack cocaine increased slightly to \$30–\$60 per gram in 2008, from \$25–\$40 a gram in 2007. Mid-level prices for crack cocaine ranged from \$600 to \$1,000 per ounce.

Heroin

Indicators for heroin abuse increased slightly during 2008. Heroin and prescription opioid abuse accounted for nearly 14 percent of all primary treatment admissions during FY 2008 (exhibit 1). Qualitative data indicated a moderate availability of heroin during 2008. Mexican brown powder heroin was the most available form of heroin, but there were reports of increasing availability of both Mexican black tar heroin and South American white powder heroin in the Cincinnati area.

Poison control center data showed that there were 72 heroin exposure calls related to intentional abuse reported during 2008, an increase of 50 percent from 2007, and a 125-percent increase over 2006. Overall, the ME data recorded 28 deaths during 2008 with evidence of heroin abuse as manner of death. This number represented an increase of 211 percent over the previous year. All of the deaths were ruled accidental in nature by the ME.

The Cincinnati Police Department and RENU seized more than 6,800 grams of heroin during 2008, a 43.5-percent increase in recorded seizures since 2004, when more than 4,700 grams were removed from the street (exhibit 6).

Qualitative data indicated that a shift in the heroin market may have contributed to heroin availability as young dealers shifted from dealing cocaine/crack to heroin. Injection remained the primary method of administration among young heroin users. First-time heroin use was reported to occur in the mid to late teens, among primarily White teens, with no identifiable gender predominance.

Heroin accounted for 6.7 percent of the items analyzed by NFLIS in 2008 (exhibit 3). Heroin sold on the street (retail) for \$120–\$175 per gram for Mexican brown powder, \$130–\$160 per gram for Mexican black tar, and \$140–\$160 per gram for South American white powder in 2008 (exhibit 5). Mid-level prices for heroin ranged from \$2,000–\$4,000 per ounce for Mexican brown powder heroin. Wholesale prices for a kilogram of heroin were reported to range from \$40,000–\$70,000.

Other Opiates/Opioids

Primary admissions in FY 2008 for prescription opioid abuse were not separated from heroin users and accounted for nearly 14 percent of total admissions in which a drug was defined (exhibit 1). Qualitative data indicated moderately high availability, with a slight increase during the latter half of 2008. First-time use was reported as young as age 13–14. While most opioids are ingested,

according to users, OxyContin® and immediate-release oxycodone products are 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 abused than other opiates/opioids available. There were a total of 384 exposure calls for intentional abuse, including suicide, of oxycodone products during CY 2008, representing an 8-percent decrease over exposure calls recorded in 2007. The number of hydrocodone combination narcotic exposures in 2008 for intentional abuse, including suicide, totaled 421, representing a nearly 10-percent increase over 2007. The number of intentional methadone cases recorded during 2008 was 69, a decrease of 25 percent from the previous year.

Among the drugs analyzed by NFLIS in 2008, oxycodone accounted for 2.0 percent of the total items, hydrocodone represented 1.5 percent of all items, and other opiates/opioids accounted for 0.66 percent of the top 25 items submitted for analysis (exhibit 3).

The Hamilton County Coroner's Office recorded 102 deaths during 2008 that had evidence of opiate/opioid use on the part of the decedent. Of those reported, 72.5 percent were determined to be accidental, 20.6 percent were involved in a suicide, and 6.9 percent were victims of homicide. In addition, there were 22 recorded cases in which methadone was determined to be contributory to the death. All of the methadone deaths were determined to be from accidental exposure/overdose.

Qualitative data demonstrated that the OxyContin® branded product continued to lead other opioids in both desirability and availability with regard to diversion of pharmaceutical products to the street. In 2008, OxyContin® sold on the streets of Cincinnati for \$50–\$75 for 80 milligrams, \$20–\$35 for 40 milligrams, and \$10–\$20 for 20 milligrams (exhibit 5). Overall prices ranged from \$0.50–\$1.00 per milligram of oxycodone. Sold by hydrocodone content, Vicodin®, Lorcet®, and Lortab® products sold for \$2–\$3

for 5 milligrams hydrocodone; \$4–\$5 for 7.5 milligrams; and \$6–\$8 for 10 milligrams. Qualitative data indicated a rise in availability and use of methadone during 2007. Methadone prices during 2008 ranged from \$5–\$8 for a 10 milligram tablet to \$25–\$40 for a 40-milligram disket.

Methamphetamine/Amphetamines

Methamphetamine abuse indicators continued to decrease in the Cincinnati area. Of the primary illicit drug admissions in FY 2008, methamphetamine/amphetamines accounted for only 0.3 percent of all admissions, excluding primary alcohol admissions (exhibit 1).

Poison control data showed a total of 13 intentional abuse exposures, including suicide, to methamphetamine reported in 2008. The Hamilton County Coroner's Office recorded five deaths in which there was evidence of amphetamines in the decedent.

Methamphetamine items analyzed by NFLIS in 2008 totaled 57, accounting for only 0.43 percent of the total drug items recorded (exhibit 3). In 2008, the retail price for methamphetamine from Mexican sources was \$120 per gram, and the cost was \$85–\$100 per gram for locally-produced powder methamphetamine. Mid-level prices for methamphetamine reportedly cost \$850 per ounce for "ice" (exhibit 5).

The numbers of methamphetamine incidents involving laboratories, dumpsites, and chemical glass findings throughout Ohio have continued to decline since FY 2005, when 444 laboratory sites were discovered, dismantled, and cleaned up. The Ohio BCI&I recorded 124 methamphetamine incidents in FY 2008.

Five methamphetamine items were submitted to the DEA during 2007, with analysis indicating an average purity of 56.3 percent (exhibit 4). In 2008, four samples were submitted to the DEA, with an average purity of 49.3 percent. Dimethyl sulfone (MSM) was found as an impurity in each of the analyzed samples during both years 2007 and 2008.

Qualitative data described local production of methamphetamine in rural areas transported into the city at much lower incidence than seen previously. Smoking methamphetamine was the primary route of administration reported. Users were described as being primarily White, with equal gender distribution.

Marijuana

Marijuana remained another primary drug in the Cincinnati region, reported as both widely available and widely used. Marijuana accounted for nearly 29 percent of the treatment admissions in FY 2008 (exhibit 1). Poison control center data revealed a total of 66 human exposure cases involving intentional abuse of marijuana, including suicide, in 2008.

Cannabis/marijuana was the most frequently reported drug by NFLIS, representing 44 percent of the total drug items analyzed in 2008 (exhibit 3). The Cincinnati Police Department, along with RENU, recorded seizures of more than 2,500 kilograms of marijuana during 2008 (exhibit 7).

High-grade marijuana sold on the streets for \$20–\$60 per gram (exhibit 5). The mid-level price for marijuana from Mexican sources was \$275–\$400 per ounce, and high-grade marijuana sold for \$200–\$500 per ounce. The wholesale price for marijuana from Mexican sources was \$1,200–\$1,500 per pound.

Benzodiazepines

Primary treatment admissions for benzodiazepines accounted for 0.6 percent of all admissions for FY 2008 (exhibit 1).

Benzodiazepines analyzed by NFLIS totaled nearly 1.8 percent of the total items submitted for analysis (exhibit 3). The Hamilton County Coroner's Office recorded 16 cases in which tranquilizers were found in decedents in 2008.

Poison control center data showed 1,057 human exposure cases with reported benzodiazepine use in 2008; nearly 33 percent involved

alprazolam, and another 33.2 percent involved clonazepam.

MDMA

Indicators for MDMA abuse increased slightly in the Cincinnati region during 2008. Primary treatment admissions for stimulants, including MDMA, methamphetamine, and amphetamines, for FY 2008 accounted for nearly 0.3 percent of the total admissions (exhibit 1).

Qualitative data indicated that MDMA availability and use rose to a moderate level during 2008. Poison control center data showed a total of 38 intentional abuse exposures to MDMA for 2008, a 15-percent increase over 2007, and a 443-percent increase over 2006, when only 7 exposure cases involving MDMA were recorded.

Of the NFLIS items analyzed in 2008, there were 194 MDMA items. Together, these items accounted for 1.48 percent of all drug items reported (exhibit 3).

MDMA sold for \$10–\$20 for a single tablet (exhibit 5). Most of the MDMA was sold in tablet form. No wholesale information on MDMA was available. The Cincinnati crime laboratory reported that piperazine-adulterated MDMA tablets were moderately available during the latter half of 2008.

Emerging Patterns

DPIC recorded a higher call volume for identification of buprenorphine-containing pharmaceuticals in 2008, recording 288 calls, a nearly 86-percent increase over 2007. Drug identification calls may be a qualitative measure of diversion of the drug to the street. In addition, the DPIC recorded 58 human exposure calls involving buprenorphine-containing pharmaceuticals. Nearly 51 percent of the exposures involved children younger than 18, with almost 45 percent involving those age 3 or younger. Only three of the adults exposed were reportedly attempting to abuse the buprenorphine. While the num-

bers remain low, this remains an area for future monitoring and evaluation.

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 national agencies. In particular, the author thanks Dr. O'dell Owens and Terry Daly (Hamilton County Coroner's Office), Frank Younker and Richard Gelsomino (DEA, Cincinnati Resident Office), Jim Bertram

(Cincinnati Police Department), Erik Stewart (Hamilton County Mental Health and Recovery Services Board), Chrissie Ross (Ohio Bureau of Criminal Investigation and Identification), the Ohio Department of Drug and Alcohol Addiction Services and Wright State University Center for Interventions Treatment and Addictions Research researchers, and the staff at the Cincinnati Drug and Poison Information Center.

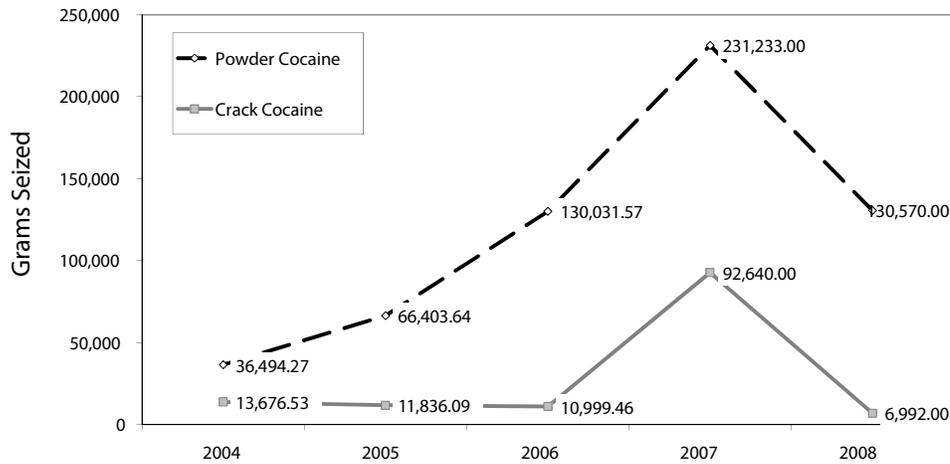
For inquiries concerning this report, contact Jan Scaglione, Cincinnati Children's Hospital, Cincinnati Drug and Poison Information Center, 3333 Burnet Ave., ML-9004, Cincinnati, Ohio 45229, Phone: 513-636-5060, Fax: 814-532-5858, E-mail: Jan.Scaglione@cchmc.org

Exhibit 1. Number of Treatment Admissions by Primary Drug of Abuse, Cincinnati: FYs 2005–2008

Drug	FY 2005	FY 2006	FY 2007	FY 2008
Alcohol	2,033	1,718	1,804	1,994
Cocaine	933	927	957	863
Heroin/Prescription Opioids	517	545	586	701
Marijuana	1,158	1,071	1,264	1,446
Methamphetamines/ Amphetamines	22	14	14	13
Benzodiazepines	15	12	24	28
All Other Drugs	327	356	380	15
Unknown/Missing/Nonchemical	210	178	296	---

SOURCE: Hamilton County Mental Health and Recovery Services Board

Exhibit 2. Seizures of Cocaine Hydrochloride (HCL) or Powder Cocaine and Crack, in Grams, Cincinnati: 2004–2008



SOURCE: Cincinnati Police Department; 2008 data through September

Exhibit 3. Number and Percentage of Total Items Identified for Selected Drugs Analyzed by Forensic Laboratories, Hamilton County: 2007¹–2008²

Drug	2007 Numbers	2007 Percent of Total Items	2008 Numbers	2008 Percent of Total Items
Cocaine	6,573	43.10	5,084	38.66
Cannabis	6,393	41.92	5,814	44.21
Heroin	748	4.90	886	6.74
Oxycodone	320	2.10	272	2.07
Methamphetamine	73	0.48	57	0.43
Hydrocodone	240	1.57	197	1.50
Other Opiates/Opioids	121 ³	0.79	87 ⁴	0.66
Benzodiazepines	294 ⁵	1.93	236 ⁶	1.79
MDMA	192	1.26	194	1.48
Amphetamines	39	0.26	30	0.23

¹Total items analyzed in 2007 = 15,252.

²Total items analyzed in 2008 = 13,151.

³Includes methadone (63), morphine (33), propoxyphene (10), and codeine (15).

⁴Includes methadone (47), morphine (19), dextropropoxyphene (13), and codeine (8).

⁵Includes alprazolam (129), diazepam (88), clonazepam (64), and lorazepam (13).

⁶Includes alprazolam (100), diazepam (61), clonazepam (59), and lorazepam (16).

SOURCE: NFLIS, DEA

Exhibit 4. Purity Analysis of Drug Seizures: 2007–2008

Drug	Number of Items (2007)	Purity (Avg.) (2007)	Number of Items (2008)	Purity (Avg.) (2008)
Crack Cocaine	9	57.5	6	45.8
Powder Cocaine	8	77.0	3	39.2
Heroin	6	68.0	0	---
Methamphetamine	5	56.3	4	49.3

SOURCE: Cincinnati Resident Office, DEA

Exhibit 5. Prices for Selected Drugs¹, by Distribution Level and Quantity², Cincinnati Area: 2008

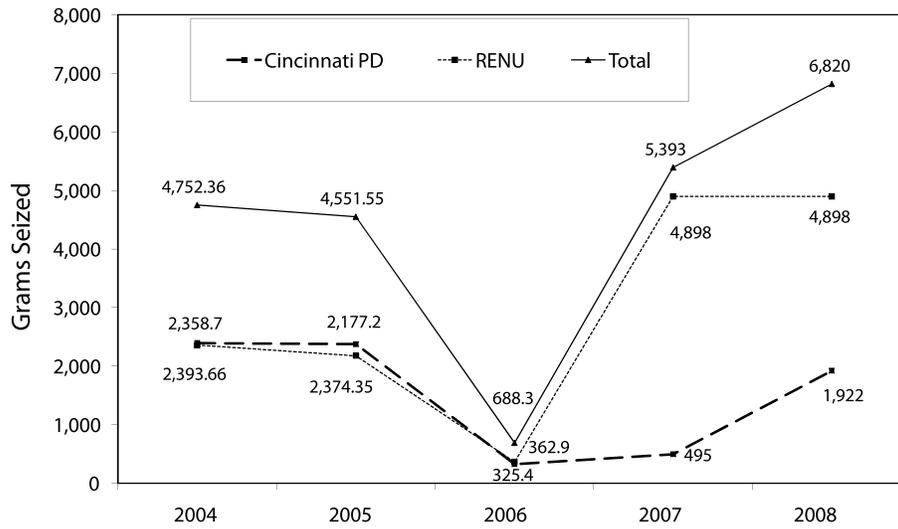
Drug	Wholesale	Midlevel	Retail
Powder Cocaine	\$24,000–\$28,000/kg	\$875–\$1,000/oz \$800–\$1,300/oz	\$40–\$70/g \$130–\$160/8-ball
Crack Cocaine	–	\$600–\$1,000/oz	\$30–\$60/g \$130–\$150/8-ball
Heroin	\$40,000–\$70,000/kg	\$2,000–\$4,000/oz MBP	\$120–\$175/g MBP \$130–\$160/g MBT \$140–\$160/g SA
Marijuana	\$1,200–\$1,500/lb MX	\$275–\$400/oz MX High grade: \$200–\$500/oz	High Grade: \$20–\$60/g
Methamphetamine	–	\$850/oz Ice	\$85–\$100/g PM LP \$120/g MX
MDMA	–	–	\$10–\$20/ tablet
OxyContin®	–	–	80 mg: \$50–\$75 40 mg: \$20–\$35 20 mg: \$10–\$20

¹Key: MX=Mexican; PM=Powder Methamphetamine, LP=Locally Produced; MBP=Mexican Brown Powder, MBT= Mexican Black Tar, and SA= South American.

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

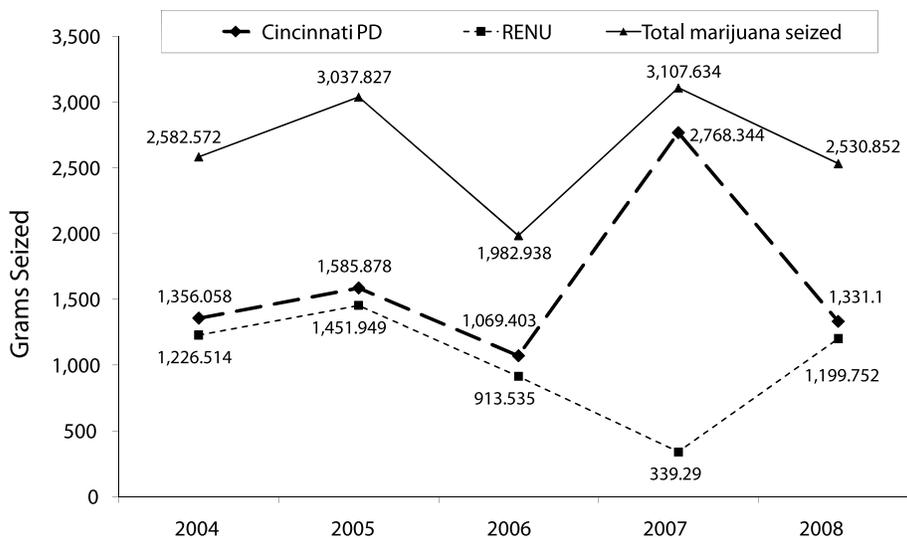
SOURCES: NDIC, DEA, Warren-Clinton County Drug Task Force, Ohio Substance Abuse Monitoring Network (OSAM)

Exhibit 6. Seizures of Heroin, in Grams, Cincinnati: 2004–2008



SOURCE: Cincinnati Police Department and Regional Enforcement Narcotics Unit (RENU), Cincinnati

Exhibit 7. Seizures of Marijuana, in Kilograms, Cincinnati: 2004–2008¹



¹2008 Cincinnati Police Department data are through September.

SOURCE: Cincinnati Police Department and Regional Enforcement Narcotics Unit (RENU), Cincinnati

Patterns and Trends in Drug Abuse in Denver and Colorado: 2008

Bruce Mendelson, M.P.A.¹ and
 Kristen Dixon, M.A., L.P.C.²
 Denver Epidemiology Work Group³

ABSTRACT

Excluding alcohol, marijuana abuse has continued to result in the highest number of treatment admissions in Denver and statewide in Colorado annually since 2000. After decreasing from 42 to 35 percent from 2001 to 2007, statewide marijuana treatment admissions increased to 37 percent in 2008. Likewise, after declining from 39 percent in 2004 to 37 percent in 2007, Denver/Boulder metropolitan area (greater Denver) marijuana treatment admissions increased to 38 percent in 2008, the highest percentage since 2004. Notable increases were also realized in the rate of marijuana hospital discharges in Denver from 2000 (140 per 100,000 population) to 2008 (209 per 100,000), and in the rate of Denver area emergency department (ED) visits from 2004 (50 per 100,000) to 2007 (146 per 100,000). Federal marijuana seizures in Colorado increased 24-fold from 2007 to 2008. In 2008, cocaine ranked third in statewide treatment admissions and second in Denver metropolitan treatment admissions, but admissions for both areas decreased slightly from 2007. Cocaine accounted for the highest number and rate of illicit drug hospital discharges in Denver since 2000, and for the highest number and proportion of Denver area illicit drug ED reports

since 2005. 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 2008. Cocaine had the highest number of statewide illicit drug-related calls to the Rocky Mountain Poison and Drug Center each year from 2004 through 2008, except for 2005. Methamphetamine has exceeded cocaine in statewide treatment admissions since 2003, and it was more common than all but marijuana among drug admissions in the Denver/Boulder area during 2005. However, the proportion of statewide methamphetamine admissions declined each year from 2005 through 2008, and declined in Denver from 2007 to 2008. Most other methamphetamine indicators have shown a downward trend from 2005 through 2008. The Denver area rate of methamphetamine ED visits reached its peak in 2005 (76 per 100,000) and declined in 2006 (57 per 100,000) and 2007 (49 per 100,000). Similarly, the Denver rate of 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). Methamphetamine items seized and identified have declined overall from 2006 (50 kilograms) to 2008 (26 kilograms), while clandestine methamphetamine laboratory closures have decreased steadily since 2003. Moreover, law enforcement crackdowns have also limited methamphetamine coming into Colorado from outside the State, predominantly Mexico. While the statewide and Denver area proportions of heroin treatment admissions declined steadily from 2001 through 2008, the rate of Denver area heroin ED visits increased from 2004 (33 per 100,000) to 2007 (53 per 100,000). Denver heroin mortality was a significant percentage of total Denver drug mortality from 2003 through 2008. Both statewide and Denver area other opioid treatment admissions increased from 2001 through 2008. Likewise, the rate of Denver other opioid hospital discharges has steadily increased, along with the proportion of other opioids among Denver drug mortality cases. While not significant among

¹The author is affiliated with the Office of Drug Strategy, Denver Department of Human Services.

²The author is affiliated with the Division of Behavioral Health, Colorado Department of Human Services.

³The Denver Epidemiology Work Group (DEWG) was formed in 2008 to study and report on Denver metropolitan substance abuse epidemiology. Its first meeting was held in October 2008. DEWG membership is shown in exhibit 2.

statewide or Denver area treatment admissions, benzodiazepine (particularly alprazolam and diazepam) ED visits and mortality have increased from 2003 through 2007 and 2008, respectively. Beyond abuse of illicit drugs, alcohol remained Colorado's most frequently abused substance and accounted for the most treatment admissions, ED reports, poison center calls, drug-related hospital discharges, and drug-related deaths.

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 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 population (2,850,631 out of 5,109,700; 2009 estimates).

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 is 35.5. Males comprise 50.7 percent and females 49.3 of the population. Ethnic and racial characteristics of the area are: Whites 71 percent; African American 11 percent; Native American Indian 1 percent; Asian 3 percent; and Native Hawaiian and Other Pacific Islanders less than 1 percent. Hispanics or Latinos of any race compose 35 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
- A growing population and expanding economic opportunities
- A large tourism industry that draws millions of people to Colorado each year
- Remote, rural areas that 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 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 2008.
- **Drug-related emergency department (ED) reports** for the Denver metropolitan area were provided by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA), through its Drug Abuse Warning Network (DAWN) *Live!* system. This includes both unweighted data (i.e., proportions only) for January through December

2008, and weighted data (i.e., rates per 100,000) for CYs 2004 through 2007. The unweighted data were accessed on and reflect cases received by DAWN as of April 15, 2009 and are subject to change in future OAS quality reviews. Because these data were unweighted, they cannot be used as estimates of the reporting area. Only weighted DAWN data released by SAMHSA can be used for trend analysis. To that end, weighted ED trends for selected drugs from 2004 through 2007 were prepared by OAS and are included in this report. The total number of eligible DAWN hospitals for the time period measured was 15, and 9 to 11 hospitals reported monthly during 2008. A “completeness” table appears in exhibit 1. Because a patient may report more than one drug, the number of drug reports may exceed the number of cases. 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 2003 through 2008 came from the Denver Office of the Medical Examiner.
- **Hospital discharge data** for the Denver metropolitan area for 2000–2008 were provided by the Colorado Hospital Association. 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 2004 through 2008.
- **National Forensic Laboratory Information System (NFLIS) data** are presented for Denver, Jefferson and Arapahoe Counties for CY 2008. 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.
- **Additional drug-specific crime laboratory statistics** for 2001 through 2008 were obtained from the Denver Crime Laboratory, Denver Police Department.
- **Statistics on seized drug items** were obtained from *Colorado Fact Sheet Reports* published by the DEA.
- **Statistics on prescriptions filled** for Denver residents by drug type, from the third quarter 2007 through the fourth quarter 2008, 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 March 2009 National Drug Intelligence Center’s report, *National Illicit Drug Prices—December 2008*.
- **Intelligence data** were obtained from the Denver Epidemiology Work Group, whose membership includes clinicians, outreach workers, researchers, medical examiner’s office staff, public health, and regional and local law enforcement officials (exhibit 2).
- **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 September 2008.
- **Population statistics** were obtained from the Metropolitan Denver Economic Development Corporation, Colorado Demography Office, Census 2000, including estimates and projections, and <http://factfinder.census.gov>.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—cocaine ranked third in statewide and second in Denver metropolitan area treatment admissions, first in statewide calls to the RMPDC, first in the proportion of Denver metropolitan area ED visits, first in Denver County mortality and hospital discharges, and first in drug samples analyzed in Denver metropolitan area crime laboratories. However, despite the high ranking in virtually all the indicators, cocaine trends were either stable or slightly downward.

During 2008, cocaine was reported as a primary drug in 19.7 percent of treatment admissions (excluding alcohol) statewide (exhibit 3). Since 2000, cocaine comprised 18.3 to 21.1 percent of statewide admissions each year, and through 2002, was second to marijuana in volume of treatment admissions. Since 2003, methamphetamine admissions have exceeded cocaine admissions.

In the Denver metropolitan area, cocaine was reported in 22.0 percent of treatment admissions (excluding alcohol) during 2008 (exhibit 4). While cocaine surpassed methamphetamine in treatment admissions in 2003, methamphetamine admissions slightly exceeded cocaine admissions in 2005; cocaine surpassed methamphetamine again in 2006, 2007, and 2008 admissions.

Statewide, the proportion of male cocaine admissions rose from 55.4 percent in 2000, to 61.5 percent in 2004, and declined to 57.1 percent in 2008 (exhibit 5). Likewise, in the Denver metropolitan area, the proportion of male cocaine admissions increased from 50.8 percent in 2000, to 62.9 percent in 2004, and declined to 60.3 percent in 2007. In 2008, males comprised 56.0 percent of Denver area cocaine admissions (exhibit 6).

Historically, Whites have accounted for the largest proportion of cocaine admissions statewide (44.0 percent overall, 2000 through 2008). However, the proportion of Hispanics/Latinos,

which is 32.0 percent of admissions overall, has been mostly on an upward trend, from 27.4 percent in 2001 to 34.6 percent in 2008. Likewise, in Denver, the proportion of Hispanics/Latinos increased almost steadily from 23.0 percent in 2000 to 32.2 percent in 2007 (28.4 percent overall). In 2008, Hispanic/Latinos comprised 30.6 percent of Denver area cocaine admissions. From 2000 to 2008, the proportion of African-American treatment admissions declined from 21.9 to 18.4 percent statewide and from 30.7 to 22.9 percent in the Denver metropolitan area.

Statewide, 1.5 percent of all primary cocaine admissions in 2008 were for clients younger than 18, and 13.4 percent were for clients age 18 to 24 (exhibit 5). Roughly 70 percent of cocaine admissions from 2000 through 2005 were for clients age 25 to 44. However, that age group's proportion declined steadily from 76.0 percent in 2000 to 61.7 percent in 2008, while the proportion of those older than 44 increased from 8.1 to 23.4 percent during that time, which may be indicative of a cohort that is aging.

The Denver metropolitan area showed similar trends with a decline in total cocaine admissions of clients 25 to 44 (80.0 to 62.8 percent from 2000 to 2008) and a rise in clients older than 44 (7.5 to 24.2 percent from 2000 to 2008). The Denver area also reported a small increase from 9.2 to 11.7 percent in admissions for clients age 18 to 24 from 2000 through 2008.

Statewide, in 2008, the proportions of all admitted clients who smoked, inhaled, or injected cocaine were 61.5, 31.2, and 5.3 percent, respectively (exhibit 5). The proportion who smoked has been on the rise from 2000 (57.9 percent), to 2007 (58.3 percent), to 2008 (61.5 percent). From 2002 through 2007, the proportion inhaling cocaine increased from 25.7 to 33.0 percent. In 2008, the proportion inhaling cocaine decreased slightly to 31.2 percent. The proportion injecting fell from 12.0 in 2002 to 5.3 percent in 2008.

The Denver area proportions in 2008 were 57.6, 36.4, and 3.9 percent respectively of cocaine users who smoked, inhaled, or injected the drug (exhibit 6). However, while smoking has been

fairly stable statewide, in the Denver area, the proportion of cocaine smokers declined steadily from 68.8 percent in 2000 to 55.9 percent in 2007. In 2008, there was a slight increase to 57.6 percent for cocaine smokers in the Denver area. Compared with Colorado overall, the Denver area had a more dramatic rise in inhaling cocaine (from 21.8 percent in 2002 to 36.4 percent in 2008), and a larger decline in injecting (11.9 to 3.9 percent from 2002 to 2008).

Treatment data showed that cocaine users most often used alcohol as a secondary drug (exhibits 5 and 6), and treatment providers have indicated that marijuana is commonly used with cocaine to enhance its effects or lessen the effects of withdrawal.

In addition to traditional demographics, the proportion of users entering treatment for the first time (clients with no prior treatment episodes), as well as those first-time users who had been using less than 3 years (new users), were examined.

Statewide, the proportion of first-time treatment admissions (those having no prior treatment episodes, or first-timers) declined from 36.0 percent in 2000 to 33.4 percent in 2008. In the Denver area, first-timers increased from 29.4 percent of 2000 cocaine-related admissions to 34.4 percent in 2008 (exhibit 7).

Statewide, approximately 18.9 to 20.9 percent of first-time cocaine admissions had been using less than 3 years from 2000 through 2004. This proportion increased to 24.2 percent in 2005 and again to 25.8 percent in 2006, but declined to 20.0 percent in 2007. In 2008, the decline continued to 17.1 percent (exhibit 7). In the Denver area, the proportion of new users in treatment increased from 16.0 percent in 2003 to 23.8 percent in 2006, but declined sharply to 17.3 percent in 2007, and even further to 14.9 percent in 2008.

In 2008, first-time cocaine admissions statewide and for Denver only reported average onset ages of 22.8 and 22.9, respectively (both had a median age of 21.0, exhibit 7). From 2000 onward, the mean age of onset for first-time admissions was between 21.7 and 23.8 statewide and

between 22.2 and 23.8 in the Denver metropolitan area.

In 2008, the mean number of years from reported onset of cocaine use to the first treatment episode was 12.1 years for statewide admissions and 13.1 years for Denver area admissions (exhibit 7), an increase from 10.6 years (for both State and Denver area admissions) in 2004. Before 2004, the mean time to enter treatment remained between 10.0 and 10.2 years statewide and 10.0 and 10.8 years in the Denver metropolitan area.

Excluding alcohol, cocaine accounted for the most illicit drug-related ED reports in the unweighted DAWN *Live!* data for the Denver area in 2008. There were 2,996 ED reports for cocaine, which comprised 37.5 percent of illicit drug ED reports (exhibit 8). Also, the Denver metropolitan area rate for cocaine ED visits is compared with that of the entire United States. The Denver rate more than doubled from 92.9 to 204 visits per 100,000 from 2004 to 2007. The United States rate increased by only 12.3 percent during the same time period (from 161.9 to 181.8 per 100,000), and was substantially behind the Denver rate in 2006 and 2007 (exhibit 9).

Excluding alcohol, cocaine was the most common drug found in Denver drug-related decedents from 2003 to 2008 (exhibit 10). However, as a proportion of total decedents, cocaine increased from 38.1 percent in 2003 to 50.3 percent in 2006, but declined to only 28.3 percent in 2008. Likewise, cocaine in combination with other drugs (i.e., morphine, codeine, alcohol, and heroin) was among the most common combinations found in Denver drug-related decedents in the 2003 to 2008 time period (exhibit 11).

Cocaine has been second only to alcohol in Denver drug-related hospital discharges since 2000, and cocaine-related hospital discharges rose relatively steadily from 2000 (241 per 100,000) through 2006 (324 per 100,000), but declined to 282 per 100,000 in 2007 and to 258 per 100,000 in 2008 (exhibit 12).

During the 2004 to 2008 time period, cocaine was second only to alcohol in 4 of the 5 reporting years in the number of "street drug" calls to the

RMPDC. Only in 2005 did cocaine drop to number three after methamphetamine. During the 5-year time period, the number of cocaine calls remained relatively stable (exhibit 13).

Federal drug seizures for cocaine across Colorado (exhibit 14), after decreasing from 65.5 kilograms to 36 kilograms from 2003 to 2004, increased substantially in 2005 (131.5 kilograms) and 2006 (135.1 kilograms), declined sharply in 2007 (44.0 kilograms), but rebounded somewhat to 52.6 kilograms in 2008.

Drug samples analyzed in Federal, State, and local forensic laboratories and reported to the DEA's NFLIS system are shown for 2008 for the Denver area (in this case consisting of Denver, Arapahoe, and Jefferson Counties) compared with all of the United States (exhibit 15). As indicated, cocaine samples were the most common among the top 25 drugs analyzed in the Denver area, comprising nearly 2 in 5 (39.6 percent) of total, as compared with 30.6 percent for the United States (ranking second).

Cocaine was supplied primarily by the Mexican polydrug trafficking organizations (DTOs). Large cocaine loads were transported to Colorado from the southwest border and Mexico. From Colorado, much of the cocaine was then distributed to markets throughout the United States. In late summer 2008, investigative activity began to reveal that the DTOs were experiencing difficulty in consistently obtaining cocaine. Prices began to rise. As cocaine became more difficult to obtain, local distributors began using cutting agents (exhibit 16). This trend continued into early 2009, with some ounce quantities as low as 20 percent pure. Traffickers have been repackaging cocaine to make it appear like it was just "broken directly off" a kilogram, and then using a press to repackage after it has been "stepped on." Intercepted conversations indicated that customers were complaining about poor quality.

Events in Mexico, such as increased Mexican law enforcement, and increased military activity and trafficker infighting, have impacted cross-border flow of cocaine. Some DTOs waited consistently for weeks at a time to get "loads" across

the border. Some Mexican DTOs would rent a "stash house" for only 1 month and then move to a new location.

In the third quarter of 2008, the Denver Police Department Vice and Drug Control Bureau reported increased shootings and three execution-style homicides related to the tight cocaine supply specifically, and other drugs in general. Some street outreach workers also reported that cocaine street trafficking increased significantly, along with violence among traffickers.

For several years, the Denver Crime Laboratory (DCL) has received many cocaine submissions in which levamisole is used as a cutting agent. The DCL estimated that 50 percent of their cocaine exhibits were cut with levamisole. Levamisole is primarily a veterinary medication used to control worms in livestock. It had been used in the United States for treatment of rheumatoid arthritis, and colorectal cancer, but is no longer available for human consumption in North America. In February 2009, a healthy adult Denver man, who had been using cocaine cut with levamisole, developed mouth pain over 5 days along with fever, chills, and night sweats. Upon further examination, his neutrophil (also called granulocytes which are a type of white blood cell that fights infections) count was found to be zero. His diagnosis was agranulocytosis, an autoimmune disorder, which has recently been linked to levamisole.

Based on conversations with their clients, a few Denver area clinicians reported that powder cocaine was easy to obtain and the price remained about the same. However, predominant impressions were that crack cocaine was more available and that powder cocaine was harder to find. They also reported that the quality of the powder cocaine had decreased.

Despite the ready availability of crack, clinicians said their clients still saw crack as a "poor person's drug with ties to prostitution." Crack was viewed as a "street drug," while powder cocaine was more for the "upscale scene." Some were still concerned about the marketing of powder cocaine to adolescent and young adult inhalers who may

be fueling an overall increase in cocaine use (see prior discussion of cocaine route of administration among treatment admissions).

One clinician heard that some powder cocaine users addressed the low quality situation by combining powder cocaine and crystal methamphetamine, calling the compound a “high ball.” This was usually injected. Denver cocaine price and purity information for 2008 and 2009 are presented in exhibits 16 and 17.

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, fifth in statewide calls to the RMPDC, fourth in the proportion of Denver metropolitan area ED visits, third in Denver County mortality, and fourth in drug samples analyzed in Denver metropolitan area crime laboratories. Overall, heroin trends were mixed with some up, some down, and some stable.

During 2008, heroin was reported as a primary drug in 7.1 percent of treatment admissions (excluding alcohol) statewide and 10.1 percent in the Denver metropolitan area (exhibits 3 and 4). From 2001 to 2008, treatment admissions fell from 14.7 to 7.1 percent statewide and from 23.6 to 10.1 percent in the Denver area. Since 2001, the volume of heroin admissions has been behind marijuana, methamphetamine, and cocaine admissions statewide. In Denver, the volume of heroin admissions exceeded admissions for cocaine and methamphetamine until 2002; however, in 2003, it dropped below cocaine admissions; in 2004, it dropped even further, below both cocaine and methamphetamine admissions.

Heroin admissions have been predominately male, and from 2000 to 2008, the proportion of male admissions out of all heroin admissions declined from 67.0 percent in 2007 to 63.8 percent in 2008 statewide and from 67.0 to 63.9 percent in the Denver area (exhibits 5 and 6).

Historically, Whites have accounted for the largest proportion of heroin admissions, and in 2008 that proportion was the highest it had been since 1997. Statewide the 2008 proportions for Whites, Hispanics, and African Americans, respectively, comprised 70.6, 20.5, and 5.1 percent of total admissions. In Denver in 2008, the proportions of White, Hispanic, and African-American admissions were 67.9, 22.6, and 6.2 percent, respectively.

Statewide in 2008, the average age of heroin users admitted to treatment was 37.0 (median age=35.0). Since 2000, less than 1 percent of heroin users entering treatment were younger than 18, and in 2008 the proportion under 18 was 0.4 percent. Changes in two age ranges over time are indicative of an aging cohort. From 2000 to 2008, the proportions of clients age 35 to 44 declined from 34.2 to 22.1 percent, while clients 45 and older increased from 24.7 percent in 2000 to 32.5 percent in 2006. In 2008, 30.2 percent of statewide heroin admissions were for clients older than 44 (exhibit 5).

In Denver in 2008, the average age of heroin users entering treatment was 38.9 (median age=38.0). The Denver metropolitan area showed a decline in heroin admissions of clients age 35 to 44 (32.9 percent in 2000 to 21.3 percent in 2008) and rises in clients 45 and older from 2000 to 2006 (26.7 to 36.0 percent). In 2007, the 45 and older group comprised 32.9 percent of heroin admissions and rose to 35.6 percent in 2008 (exhibit 6).

Heroin is a drug that is predominantly injected. Statewide, the proportion of heroin injectors remained between 85.9 and 88.2 percent between 2000 and 2004; the proportion declined to 79.4 in 2008 (exhibit 5). The proportion smoking heroin more than doubled from 5.8 percent in 2000 to 11.7 percent in 2008. The proportion inhaling heroin ranged from 4.1 to 7.6 percent from 2000 through 2008. In 2008, 7.2 percent inhaled heroin statewide.

Denver’s proportions were similar to statewide figures. The proportion injecting declined from 88.2 percent in 2001 to 78.8 percent in 2008 (exhibit 6). The proportion that smoked heroin

remained between 5.5 and 6.9 percent from 2000 to 2004, and then rose to 9.5 percent in both 2006 and 2007. Denver's proportion smoking heroin has also more than doubled from 5.5 percent in 2000 to 12.6 percent in 2008. The proportion inhaling increased from 4.9 percent in 2000 to 7.1 percent in 2008 (exhibit 6).

Overall, treatment data showed that heroin users most often used cocaine as a secondary drug, followed by marijuana (exhibits 5 and 6).

In 2008, the proportion of heroin treatment admissions in treatment for the first time was 20.7 percent statewide and 20.1 percent in the Denver metropolitan area (exhibit 6). Statewide, from 2000 through 2008, the proportion of first-timers remained between a low of 17.9 percent in 2007 and a high of 23.7 in 2002. During that time period in Denver, the proportion of first-timers stayed between a low of 17.0 percent in 2007 and a high of 22.5 in 2002.

Statewide in 2008, 37.8 percent of heroin users in treatment for the first time had been using less than 3 years (exhibit 7), rising from 19.4 percent in 2004. In Denver, the proportion of new users in treatment decreased from 37.1 to 18.9 percent from 2000 to 2004, and rose to 35.8 percent in 2008.

Heroin users tended to be the oldest drug-using group (second to other opioid drug users) and started using at the oldest age. Among 2008 first-time heroin admissions, the mean and median ages of onset statewide were 24.6 and 21.5, respectively (exhibit 7). The mean and median onset ages decreased slightly from 2000 to 2003 (mean, 24.1 to 21.6 and median, 23.0 to 18.5), but have increased since. In Denver, the mean and median age of onset for 2008 was 25.4 and 22.0, respectively. Similar to the statewide trend, there was a decrease in onset age from 2000 to 2003 (mean, 25.2 to 21.9; median 24.0 to 18.0), with a subsequent increase.

Among 2008 first-time heroin admissions, the mean time to enter treatment was 8.5 years for the State and 8.8 for the Denver metropolitan area (exhibit 7). Statewide, the mean time to enter treatment rose from 8.9 to 14.0 years from 2000

to 2004. During that same period, Denver showed a similar trend with an increase from 7.8 to 14.8 years.

DAWN *Live!* unweighted data showed 930 heroin-related ED reports in 2008, accounting for 11.6 percent of illicit drug reports, excluding alcohol (exhibit 8). Also, the Denver metropolitan area rate for heroin ED visits is compared with that of the entire United States. The Denver rate increased from 32.9 to 53.1 per 100,000 population from 2004 to 2008 (or by 61.4 percent). The United States rate decreased by 15.3 percent during the same time period, even though it was higher than the Denver rate for each year shown (exhibit 9).

Heroin was found in 4.0 percent (2004) to 12.7 percent (2008) of Denver drug-related decedents from 2003 to 2008 (exhibit 10). However, it is likely that this percentage was much greater. 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."

The combination of heroin and cocaine (typically called a "speedball") was found among 3.8 percent of Denver drug-related decedents in 2008 (exhibit 11). Again, it is likely that the combination of heroin with other drugs among Denver drug decedents was a much higher percentage

than indicated for the same reason as described above

Denver metropolitan hospital discharge data from 2000–2007 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 for all opioids increased overall from 133 per 100,000 in 2000 to 178 per 100,000 in 2008. This is a 34 percent increase (exhibit 12).

During the 2004 to 2008 time period, statewide heroin/morphine drug-related calls to the RMPDC were far behind those of alcohol, cocaine, marijuana, and methamphetamine. Heroin calls were relatively stable from 2004 through 2008, ranging from 20 to 25 calls (exhibit 13).

As shown in exhibit 14, only small quantities of heroin were seized in Colorado from 2003 to 2008, ranging from 2.5 to 4.6 kilograms. As shown in exhibit 15, heroin samples analyzed and reported to NFLIS were the fifth most common drug among the top 25 drugs analyzed in 2008 in the Denver area, comprising only 3.5 percent of total, as compared with 6.4 percent for the United States (ranking fourth).

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 California into Colorado and the Denver metropolitan area. From Denver, heroin was further distributed to markets in the Midwest and on the East Coast. Heroin DTOs within the jurisdiction of the Denver DEA were generally tied directly to sources of supply in Mexico. Command and control elements based there dispatch cells to operate in various locations throughout the United States, rotating them frequently to evade law enforcement.

Local clinicians and outreach workers pointed to a variety of reasons for the marked decline in heroin treatment populations. Some said that heroin users won't enter treatment because of the stigma of methadone maintenance. Others

asserted that the cost of treatment is a deterrent. Still others believed that younger users haven't felt the "stressors of addiction" necessary to push them into treatment. Some younger users, many who are inhaling or smoking heroin, may not be fully aware of the variety of treatment options available. For example, there is some indication that younger users may be more open to the Suboxone® (buprenorphine) medication option, which they view as less stigmatizing than methadone. Some street outreach workers reported that users were finding Suboxone® on the street and are attempting to treat themselves to stay out of formal treatment.

As previously discussed, older heroin users were coming into treatment more frequently. Some of the older clients said they'd decided on the treatment alternative because they had a "harder time hustling" than they used to and that treatment was an easy way to not be "dope sick." One older client was quoted as saying "I'm too old and tired to shoot heroin anymore, and I have "no veins left."

While there was an increase in young prescription opioid users in 2008 (see next section), there did not seem to be a trend in heroin users switching to prescription opioids. In fact, some local clinicians and outreach workers said it was more likely that prescription opioid users switched to heroin because it was cheaper. In many cases, those who made this switch became the young heroin inhalers and smokers. More typically, heroin users prefer short-acting prescription opioids (e.g., Vicodin® or Percocet®) only to avoid withdrawal when they aren't able to get their usual heroin supply. Once the supply is available, they will stop using the prescription opioids.

Regarding the increase in heroin smoking and inhaling, local clinical and outreach workers reported that some younger heroin users felt that injection was something "old people do," and that there was less stigma in using a route of administration other than injection. Also, many new heroin users thought that they would not become addicted if they smoked or inhaled. Some EDs

reported patients having administered heroin using eye drops.

Some clinicians and outreach workers described a decrease in speedball use, while others saw no decrease. Some local clinicians reported an increase in clients who smoked crack and injected heroin. Denver heroin price and purity information for 2008 are presented in exhibits 16 and 17.

Other Opioids

This 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, second in proportion of Denver metropolitan area ED visits, and second in Denver County mortality. Other opioid trends were mostly upward.

During 2008, opioids other than heroin were reported as primary drugs in 6.6 percent of statewide treatment admissions, excluding alcohol (exhibit 2); this proportion rose from a low of 3.9 percent in 2001. In Denver, other opioids had comprised between 4.8 and 6.3 percent of treatment admissions (excluding alcohol) since 2001. Other opioids have since reached a high of 6.3 percent of admissions in 2008 (exhibit 4).

Treatment admissions related to nonheroin opioids have always had higher proportions of females than the other four major illicit drugs. Statewide, females comprised 55.4 percent of other opioid treatment admissions in 2001, but this proportion dropped to 49.8 percent in 2008 (exhibit 4). In Denver, females comprised 55.5 percent of nonheroin opioid treatment admissions in 2001; however, this proportion declined to 51.1 percent in 2008 (exhibit 6).

Statewide and in Denver, Whites accounted for the largest proportion of treatment admissions related to other opioids. Since 2000, the proportion of Whites fluctuated between 81.3 and 87.8

percent statewide, reaching a low of 78.0 percent in 2008 (exhibit 5). African-American treatment admissions for other opioids declined from 3.4 percent in 2002 to 1.6 percent in 2007. In 2008, African-American other opioid admissions were at 2.2 percent. The proportion of Hispanic other opioid admissions in Colorado rose from 6.5 percent in 2003 to 13.9 percent in 2006, but declined slightly to 12.7 percent in 2007. The proportion of Hispanic other opioid admissions in Colorado reached a high of 17.0 percent in 2008.

In the Denver metropolitan area, the proportion of White admissions for other opioids declined from 86.3 to 80.3 percent between 2000 and 2002, jumped up to 89.0 percent in 2003, and decreased to 83.8 percent in 2004. In 2008, the proportion of White other opioid admissions was 78.4 percent, down from 85.0 percent in 2007 (exhibit 6). In 2008, African Americans comprised 4.2 percent of admissions, down from a high of 5.3 percent in 2002. However, the moderate change in proportion is influenced by the small numbers of African American other opioid admissions (between 8 and 20 from 2000 through 2008). Hispanics reached a high of 13.8 percent of Denver area opioid admissions in 2008. However, the Hispanic proportions vacillated between 5 percent and 13.8 percent during the entire 2001 to 2008 time period, which may also be based on the small numbers of admissions (between 15 and 44 over the 8-year period).

Like heroin users, users of other opioids tended to be older than other drug-using groups. Statewide, the average age of other opioid users entering treatment in 2008 was 35.0 (median age=33); slightly less than 1 percent were younger than 18, and 23.1 percent were older than 44. Two age ranges demonstrated a possible trend toward younger users. From 2000 to 2008, the proportion of clients age 18 to 34 increased from 33.6 to 53.9 percent, while clients 35 and over declined from 64.5 percent in 2000 to 45.3 percent in 2008 (exhibit 5). Likewise, in Denver there was an overall increase in admissions of users of other opioids in clients age 18 to 34 (31.5 to 53.0 percent from 2000 through 2008) (exhibit 6).

Nonheroin opioids were most often taken orally. Statewide in 2008, 82.5 percent of admissions for other opioids ingested the drugs orally, and 8.2 and 7.3 percent, respectively, inhaled and injected the drugs (exhibit 5). From 2000 to 2005, the proportions injecting declined from 12.3 to 8.3 percent, increased some in 2006 to 9.4 percent, but declined again in 2007 and 2008 to 7.6 and 7.3 percent, respectively. The proportion inhaling increased from 0.6 to 7.9 percent from 2000 through 2006, but declined slightly to 4.7 percent in 2007. The proportion inhaling increased to 8.2 percent in 2008. Perhaps the overall increase in other opioid inhalation reflects the practice of crushing and inhaling OxyContin®.

Denver's proportions for preferred route of administration were similar to statewide figures. The proportion of other opioid admissions ingesting orally ranged from 89.0 percent in 2000 to 79.1 percent in 2008 (exhibit 6). The 2008 proportions that inhaled and injected were 9.7 and 8.3 percent, respectively. The Denver area had not shown the same decline as seen statewide in the numbers injecting between 2000 (7.7 percent) and 2006 (10.2 percent), but did realize a decline in 2007 (7.8 percent). There was a slight increase from 2007 in injecting other opioids in 2008, from 7.7 to 8.3 percent. Inhalation in the Denver area more than doubled over 2007, to 9.7 percent in 2008. Treatment data, overall, showed that other opioid users most often used alcohol as a secondary drug (exhibits 5 and 6), followed by marijuana.

In 2008, first-time other opioid admissions comprised 39.6 percent of treatment admissions statewide and 34.6 percent in the Denver metropolitan area (exhibit 7). Statewide, the proportion of first-timers increased from 32.5 to 37.6 percent from 2002 to 2005. In 2008, it dropped to 26.8 percent. In Denver, from 2000 to 2008, the proportion of first-timers fluctuated widely between 29.3 and 38.4 percent with no clear trend.

In 2008 first-time opioid treatment admissions, the mean and median ages of onset statewide were 26.0 and 23.0, respectively (exhibit 7),

decreasing since 2001 from a mean onset age of 28.8 (median 28).

Denver showed a similar trend, with a decrease from 2001 to 2007 in the mean age of onset from 29.4 to 26.2, and in the median age from 30.0 to 24.0. In 2008, the mean and median onset age of Denver area first-time opioid admissions continued the downward trend to 25.6 and 23.0, respectively (exhibit 7).

In 2008, the mean time to enter treatment for first-time other opioid admissions was 7.2 years statewide, and 7.4 years for the Denver metropolitan area (exhibit 7). Statewide, the mean time to enter treatment declined from 12.1 years in 2003. Denver showed a similar decline from 13.4 years in 2003. In 2008, 26.8 percent of users of other opioids entering their first treatment in Colorado and 25.0 percent in Denver had been using less than 3 years (exhibit 7). Statewide, this proportion was at its lowest (19.5 percent) in 2002 and jumped to 26.3 percent in 2004. In Denver, the proportion of new users in treatment increased from 17.5 to 27.9 percent from 2002 through 2006.

Though not shown as a separate drug category in exhibit 8, narcotic analgesics (prescription opioids) constituted 25 percent of Denver metropolitan area ED visits in 2008 ($n=2,601$). In exhibit 18, narcotic analgesic ED visits are broken out by specific drug. As indicated, in 2008, hydrocodone (e.g., Vicodin®) and oxycodone (e.g., Percodan®) accounted for almost two-thirds of all narcotic analgesic ED visits. In exhibit 9, the Denver metropolitan area rate for narcotic analgesic ED visits is compared with that of the entire United States. The Denver rate nearly tripled from 30.0 to 87.1 visits per 100,000 from 2004 to 2007. The Denver narcotic analgesic rate was higher than the United States rate from 2006 to 2007.

Other opioids were among the most common drugs found in Denver drug-related decedents from 2003 to 2008 (exhibit 10). Morphine was involved in 23.1 to 37.9 percent of Denver drug-related deaths during the 2003 to 2008 time period, and codeine was involved in 9.0 to 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 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. Oxycodone accounted for only 8.6 percent of Denver drug-related deaths in 2003, but increased to 20.1 percent by 2007, declining slightly to 15.6 percent in 2008. Likewise, oxycodone in combination with any other drug accounted for only 7.9 percent of Denver drug mortality in 2003 (11 deaths), but increased to 10.1 percent in 2007 (19 deaths), and to 13.7 percent (29 deaths) in 2008 (exhibit 11).

As noted earlier, Denver metropolitan hospital discharge data from 2000–2008 combined all opioids, including heroin, and increased 34 percent from 133 per 100,000 in 2000 to 178 per 100,000 in 2008 (exhibit 12).

Data from the PDMP showed substantial increases in the number and rate of hydrocodone and oxycodone prescriptions filled for Denver residents. Exhibit 19 details hydrocodone prescriptions filled for Denver residents from the third quarter of 2007 through the fourth quarter of 2008. Although hydrocodone prescriptions peaked at 90,367, or 155.5 per 1,000 population, in the second quarter of 2008, there was an overall rate increase from 130.6 to 150.4 per 1,000, or 15.2 percent, from the third quarter of 2007 through the fourth quarter of 2008. Oxycodone increased steadily from 85.8 to 110.5 prescriptions per 1,000 population, or by 28.8 percent, from the third quarter of 2007 to the fourth quarter of 2008 (exhibit 20). There were no poison control center calls reported for opiates other than heroin and morphine.

The DEA Denver (i.e., Tactical Diversion Squad, or TDS) encountered organized traffickers of prescription opioid controlled substances in 2008. These trafficking groups were not limited by gender, age, race/ethnicity, or nationality. There were also many individuals who illicitly obtained prescription opioids, most often for personal use (i.e., abusers). The traffickers and abusers used similar methods to obtain their prescription

opioids. Most commonly they identified “lolly-pop doctors” who were considered “easy marks” for readily obtaining prescriptions. The TDS also determined that some medical professionals (e.g., doctors, nurses, pharmacists, physician assistants) were “acting outside the scope of their ethical practices by providing controlled substance prescriptions for profit.” The TDS stated that the Internet did not appear to be the main source of supply for prescription drug traffickers, although there were many individuals who used the Internet to fraudulently obtain prescriptions, typically for their own use.

The TDS reported that the prescription opioids most commonly sold illegally were oxycodone, hydrocodone, and fentanyl. They stated that the sales took place in the usual spots where illicit drug transactions transpire, such as parking lots, street corners, private residences, and night clubs. According to the TDS, common prices for prescription opioids were as follows: \$1 per milligram for OxyContin® (e.g. \$40 for a 40-milligram pill, and \$80 for an 80-milligram pill); \$5–\$8 for Percocet®; \$3–\$5 for Vicodin®; \$15 per 40-milligram diskette for methadone; \$10–\$30 per pill for morphine, depending on the milligram/pill; and \$70–\$100 for a 3-day fentanyl patch.

Some local clinicians and outreach workers report that a portion of heroin users are switching to prescription narcotics. However, this does not seem to be widespread and other outreach workers claim that it doesn’t happen at all, or that those who do switch eventually return to the “street drugs” (i.e., heroin). Conversely, clinicians in a local treatment program heard that some users who are addicted to prescription opioids will start to use heroin if they can’t get opiates on the street. One outreach worker said that heroin users may use prescription narcotics to “stay well” if they periodically are unable to obtain heroin.

Most local clinicians and outreach workers reported that methadone on the street was not diverted from treatment programs (i.e., liquid form), but rather was in the diskette and tablet form prescribed as pain medication. Also, most agreed that it was unlikely that clients wanted to divert

“takeout” methadone, as they feel “sick” without their methadone, and were unsure of the ability of prescription drugs to prevent withdrawal.

Some clinicians and outreach workers claimed that there were many inexperienced illicit prescription opioid users who placed themselves in danger by not understanding the potency of such drugs that can easily lead to an overdose. This is especially true if prescription opioids are mixed with alcohol or benzodiazepines.

Methamphetamine

Of the five major drugs—cocaine, heroin, marijuana, methamphetamine, and other opioids—methamphetamine ranked second in statewide and third in Denver metropolitan area treatment admissions, third in statewide calls to the RMPDC, fifth in proportion of Denver metropolitan area ED visits, fourth in Denver County mortality, and third in drug samples analyzed in Denver metropolitan area crime laboratories. Most methamphetamine indicators showed downward trends.

In 2008, methamphetamine was the primary drug reported for 27.0 percent of all treatment admissions (excluding alcohol) statewide (exhibit 3), down from 30.4 percent in 2006. Prior to 2006, methamphetamine admissions rose steadily from 16.5 percent in 2001 to a high of 31.7 percent in 2005. Methamphetamine admissions have been second to marijuana admissions since 2003.

In the Denver metropolitan area, methamphetamine comprised proportionately fewer treatment admissions (20.4 percent in 2008) than statewide admissions (exhibit 4). While the proportion of methamphetamine admissions (excluding alcohol) in Denver rose each year from 11.3 to 21.6 percent from 2000 through 2006, there was only a slight increase to 21.7 percent in 2007. This was followed by the slight decrease to 20.4 percent in 2008. Moreover, while Denver area methamphetamine admissions exceeded heroin admissions in 2004 and surpassed heroin and cocaine admissions in 2005, the volume of Denver area methamphetamine admissions

dropped below cocaine admissions again in 2006, 2007, and 2008 (exhibit 4).

After admissions for nonheroin opioids and sedatives, methamphetamine admissions had the highest proportion of female admissions statewide (44.5) in 2008 (exhibit 5). Statewide, the proportion of female admissions stayed between 45.1 and 50.4 percent from 2000 through 2003, decreased to 44.0 percent in 2004, and rose to 46.0 and 46.7 percent in 2005 and 2006, respectively. However, the proportion of females declined slightly to 46.2 in 2007, and then to 44.5 in 2008. In the Denver area, the proportion of female methamphetamine admissions was at 50.0 and 50.4 percent in 2000 and 2001, then decreased to 45.9 percent in 2002, jumped to a high of 52.7 percent in 2003, and has since declined to a low of 40.1 percent in 2008 (exhibit 6).

In 2008, methamphetamine admissions in Colorado and Denver were predominately White (exhibits 5 and 6). From 2000 to 2008, the proportion of White treatment admissions declined from 87.8 to 78.0 percent statewide, and from 90.1 to 78.3 percent in the Denver area. At the same time, the proportion of Hispanic/Latino methamphetamine admissions rose from 8.5 to 16.8 percent statewide, and from 7.0 to 15.5 percent in Denver.

Compared with cocaine, methamphetamine admissions tended to be younger. In 2008, the average age of clients entering treatment was 32.6 (median age=31.0) statewide, and 32.4 (median age=31.0) for Denver admissions. Also, 19.6 percent of statewide admissions and 19.9 percent of Denver admissions were younger than 25. Statewide, 69.0 percent of admissions were clients age 25 to 44, compared with 68.9 percent for the Denver area.

In 2008, the proportions of clients statewide who smoked, injected, or inhaled methamphetamine were 64.8, 22.7, and 10.1 percent, respectively (exhibit 5). The proportion who smoked increased dramatically from 2000 (38.7 percent) to 2008 (64.8 percent), while the proportions who inhaled decreased substantially during that time, from 21.5 in 2000 to 10.1 percent in 2008. Injectors decreased from 33.9 percent in 2000 to 20.2

percent in 2007, and then increased to 22.7 in 2008.

During 2008 in the Denver area, the proportions that smoked, injected, or inhaled methamphetamine were 59.4, 25.4, and 12.2 percent, respectively (exhibit 6). As with the State overall, the proportion who smoked increased substantially from 35.6 to 65.7 percent from 2000 to 2006. However, this proportion dropped to 61.4 percent in 2007, and to 59.4 percent in 2008. Similarly, those who injected declined from 38.5 to 18.2 percent from 2000 to 2006. This percentage also been on the rise to 20.1 percent in 2007, and then to 25.4 percent in 2008. While there appears to be an overall downward trend, the proportion of inhalers declined from 19.8 to 9.4 percent from 2000 to 2003, but during 2004 through 2008, the proportions were 12.7, 15.1, 12.3, 15.1 and 12.2 percent, respectively. Treatment data, overall, showed that methamphetamine users most often used marijuana as a secondary drug, followed by alcohol (exhibits 5 and 6).

Statewide and in Denver, 33.1 and 33.4 percent, respectively, of 2008 methamphetamine admissions were first-timers (exhibit 7). Statewide, the proportion of first-time admissions declined from 44.9 in 2000 to 33.1 in 2008. In Denver, the proportion of first-time methamphetamine admissions remained between 33.0 and 35.8 percent between 2000 and 2008.

Statewide, the proportion of new users in first-time admissions rose from 19.5 to 27.8 percent from 2000 to 2003. In 2004, the proportion of new users declined to 24.9 percent, and in 2005 increased to 26.0 percent. Since 2006, the proportion of new users in first-time admissions has been on a steady decline, from 21.5 to 17.8 in 2007, to a low of 13.4 percent in 2008 (exhibit 7). In Denver, the proportion of new users in treatment increased from 14.3 percent in 2000 to 28.2 percent in 2003, declined to 23.4 percent in 2004 and was at 26.1 and 20.8 percent, respectively, in 2005 and 2006. However, like the State, the Denver metropolitan methamphetamine new user proportion also reached a new low in 2008 (10.8 percent).

Statewide, the average age of onset for methamphetamine use reported in 2008 first-time admissions was 21.7 (median age=19.0), and for Denver, 21.2 (median age=19.0) (exhibit 7). Since 2000, the mean age of onset for methamphetamine admissions statewide and Denver stayed between 20 and 23. The median age remained at 19, both statewide and in the Denver area (exhibit 7).

From 2000 to 2005, the average time for methamphetamine abusers to enter treatment decreased from 8.7 to 7.5 years statewide and from 9.1 to 7.6 years in Denver. In 2006, the average time to enter treatment was at 8.5 and 8.4 years, respectively, for statewide and Denver area admissions, and remained at approximately these durations in 2007 for both statewide (8.6 years) and Denver (8.5 years). In 2008, the average time for methamphetamine abusers to enter treatment increased to 10.1 years statewide and 10.3 years in the Denver area (exhibit 7).

Excluding alcohol, methamphetamine accounted for 7.6 percent ($n=607$) of drug-related ED visits in the unweighted DAWN *Live!* data for the Denver area in 2008 (exhibit 8). Also, the Denver metropolitan area rate for methamphetamine ED visits is compared with that of the entire United States. The Denver rate more than doubled, from 32.4 to 76 visits per 100,000 from 2004 to 2005, but then declined to 57.3 and 49.4 visits per 100,000 in 2006 and 2007, respectively. From 2005 through 2007, the Denver methamphetamine rate per 100,000 was substantially higher than the United States rate (exhibit 9).

While methamphetamine was not among the most common drugs found in Denver drug-related decedents, it still accounted for 4.6 percent (in 2006) to 8.6 percent (in 2003) of Denver drug-related mortality from 2003 to 2008 (exhibit 10). In 2008, it accounted for 7.1 percent.

Methamphetamine could not be identified separately, but rather was included in the stimulants category in hospital discharge data. Overall, Denver metropolitan stimulant-related hospital discharges nearly tripled from 2000 to 2005 from 44 per 100,000 to 129 per 100,000, but then

dropped steadily to only 60 per 100,000 by 2008 (exhibit 12).

Methamphetamine was fourth after alcohol, cocaine and marijuana in the number of state-wide drug-related calls to the RMPDC in 2008 (exhibit 13). Methamphetamine had been second only to alcohol in RMPDC calls in 2005.

Federal drug seizures for methamphetamine across Colorado (exhibit 14) increased each year from 2003 (14.8 kilograms) to 2006 (50.3 kilograms), but then declined to only 8 kilograms in 2007. However, in 2008 methamphetamine seizures increased to 26.4 kilograms. Despite the increase in methamphetamine seizures from 2007 to 2008, methamphetamine laboratory seizures continued to decline in Colorado from 345 in 2003 to only 33 in 2008.

The proportion of methamphetamine samples analyzed in NFLIS reporting laboratories accounted for 13.3 percent. Methamphetamine ranked third among the top 25 drugs analyzed in 2008 in the Denver area, compared with 10.5 percent (also ranking third) across the United States (exhibit 15).

Despite the precursor crackdown in Mexico, local law enforcement officials reported that most methamphetamine was produced and supplied by Mexican DTOs. DEA Denver stated that methamphetamine remained among the highest investigative priorities. Large loads were transported from Mexico, Texas, Arizona, and California to Colorado. From Colorado, much of the methamphetamine was redistributed throughout the United States. Active investigations pointed to price increases and purity decreases (exhibits 16 and 17). At times, high-quality methamphetamine in Colorado was being cut significantly with methylsulfonylmethane (MSM) and benzylamine.

Many local clinicians and outreach workers said that there were still methamphetamine users. However, considerable prevention efforts and media attention have led to a growth in the methamphetamine stigma, which in combination with reduced supply, has some methamphetamine users switching to other drugs.

Many Denver metropolitan area clinicians and outreach workers reported that many stimulant users preferred methamphetamine over cocaine because of its cheaper price, ready availability, and longer lasting high. Because of this longer lasting high, it continued to be described as a drug that gives users the energy to work multiple jobs.

Clinicians said that the increase in Latino methamphetamine treatment admissions was largely due to several things: 1) the association with trafficking by Mexican cartels and the drug's increased presence in neighborhoods with substantial percentages of Latinos; 2) cultural delays which took longer to break strong Latino family bonds; and 3) the acculturation process itself in which Latinos engage in activities that other parts of American society are involved, such as drug use. Some clinicians and outreach workers spoke of continuing acceptability of methamphetamine use among gay men, including use in "bathhouses" and "sex parties."

Some methamphetamine users described different recipes of methamphetamine being available for males versus females and smokers versus injectors. Also, users reported that some methamphetamine "snorters" employed the "hot railing" inhalation method, in which the tip of a short glass stem, or the middle of a longer stem, is heated until it is red-hot. The end of the stem is placed over a bump or line. The heat vaporizes the "speed," and the vapor is inhaled through the nose. Denver methamphetamine price and purity information for 2008 are presented in exhibits 16 and 17.

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, second in statewide calls to RMPDC, third in proportion of Denver metropolitan area ED visits, second in Denver County hospital discharges, and second in drug samples analyzed by Denver

metropolitan area crime laboratories. All marijuana indicators were either stable or increasing.

Statewide, the percentage of marijuana treatment admissions decreased from 42.3 percent in 2001 to 36.6 percent in 2008 (exhibit 3). In Denver, the proportion of marijuana admissions also declined from 37.3 percent in 2001 to 32.3 percent in 2003, but jumped up to 38.5 percent in 2004, was at 37.0 percent in 2006, and declined to 36.6 percent in 2007. In 2008, marijuana admissions in Denver increased to 38.2 percent (exhibit 4).

Historically, marijuana admissions have represented the highest proportion of males among drug groups. In 2008, 76.4 percent of marijuana admissions statewide and 77.4 percent in Denver were male (exhibits 5 and 6). In prior years, the proportion of males comprised anywhere from 72.3 to 76.9 percent of admissions statewide; however, in Denver, the proportion of males increased substantially from 69.3 percent in 2003 to 78.5 percent in 2007.

In 2008, Whites, Hispanics, and African-Americans comprised 50.9, 31.0, and 13.5 percent of marijuana admissions, respectively, statewide (exhibit 5). From 2000 to 2008, the proportion of White admissions decreased from 58.3 to 50.9 percent. However, the proportion of African-American marijuana admissions has risen since 2000 (7.4 percent) to 2008 (13.5 percent). The proportion of Hispanics 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, but increased again in 2007 and 2008 to 30.2 and 31.0 percent, respectively.

In Denver, there was a clear downward trend in the proportion of White marijuana admissions from 2000 to 2005 (58.2 to 41.6 percent), with an increase in 2006 to 44.4 percent, followed by declines to 43.2 percent in 2007 and 42.9 percent in 2008 (exhibit 6). 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 2008, African-American admissions in the Denver area increased to 22.1 percent. 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. This was followed by a decline to 29.9 percent in 2006, an increase to 32.3 percent in 2007, and a slight decrease to 30.7 percent in 2008.

In both Colorado and the Denver metropolitan area, marijuana users were typically the youngest of the treatment admissions groups. In 2008, the average age of marijuana users entering treatment was 25.0 (median age=23) statewide and 24.4 (median age=22) in Denver. For both the State and Denver, there appeared to be slight upward trends in the age of treatment admissions. From 2000 to 2008, the median age increased from 18 to 23 statewide and from 17 to 22 in Denver.

Treatment data, overall, showed that marijuana users most often used alcohol as a secondary or tertiary drug (exhibits 5 and 6). Statewide in 2008, 52.9 percent of admissions were in treatment for the first time, declining from 59.7 percent in 2001. Of 2008 Denver area admissions, 52.5 percent entered their first treatment episode, a decline from 60.2 percent in 2001 (exhibit 7).

Marijuana users not only tended to be the youngest of drug-using groups, but they also started to use at the youngest age. In 2008, the mean and median ages of onset for first-time admissions statewide were 14.3 and 14.0. For the Denver area, the mean and median ages of onset for those in treatment the first time were 14.2 and 14.0, respectively. Since 2000, age of onset has remained stable statewide and for Denver area admissions (exhibit 6).

Statewide in 2008, 20.4 percent of marijuana users had been using less than 3 years before entering treatment for the first time, decreasing from 33.4 percent in 2003. In Denver, the proportion of new users entering their first treatment decreased from 37.8 to 20.6 percent from 2003 to 2008 (exhibit 7).

In 2008, the mean time to enter treatment for the first time was 9.6 years statewide and 9.3 years for Denver area admissions. For the State as a whole and the Denver area, both the mean and median times to enter treatment increased since

2000 (by more than 2 years statewide, and more than 3 years in Denver) (exhibit 7).

In 2008, there were 2,581 ED marijuana visits in the Denver metropolitan area; these accounted for 32.3 percent of the illicit drug reports, excluding alcohol (exhibit 8). In exhibit 9, the Denver metropolitan area rate for marijuana ED visits is compared with that of the entire United States. The Denver rate nearly tripled from 50.3 to 146.2 visits per 100,000 from 2004 to 2007. The United States rate increased by only 5.6 percent during the same time period, and was substantially behind the Denver rate in 2006 and 2007.

Denver metropolitan marijuana-related hospital discharges increased steadily from 2000 (140 per 100,000) to 2006 (207 per 100,000), decreased to 181 per 100,000 in 2007, but then increased to 209 per 100,000 in 2008, the highest level in the 9-year time period (exhibit 12).

Marijuana was fourth behind alcohol, other stimulants/amphetamines, and cocaine in the number of State drug-related calls to the RMPDC from 2004 to 2005, and third behind alcohol and cocaine from 2006 through 2008 (exhibit 13).

Federal drug seizures for marijuana across Colorado (exhibit 14), after being relatively stable from 2003 (444.1 kilograms) to 2006 (656.8 kilograms), nearly doubled to 1,149.5 kilograms in 2007, and increased nearly 24-fold to 24,089.2 kilograms in 2008.

In the Denver area samples, cannabis/marijuana ranked second at 28.4 percent of the top 25 drugs analyzed in 2008 in the NFLIS laboratory system, compared with 37.3 percent for the United States, where it ranked first (exhibit 15).

Local law enforcement reported encountering marijuana from both Mexico and Canada in Colorado. Mexican sources came across the southwest border in passenger vehicles, commercial busses, and tractor trailers. High-grade Canadian marijuana was transported across the border in Montana and from the Pacific Northwest. A significant amount of high-grade, indoor-grown marijuana was produced in Colorado. Users claimed that there was no shortage of marijuana (e.g., increased marijuana trafficking in

downtown Denver), and what was available was more potent. Reports were that even the “schwag” (cheap, typically low-quality marijuana) had improved.

Local clinicians reported that “pro-marijuana” campaigns were normalizing marijuana use. With changes in marijuana laws, people were less fearful of carrying small amounts, and felt police wouldn’t do anything to them if they are caught. Paradoxically, both adult and juvenile marijuana arrests for both sales and possession have been increasing in Denver since 2004. In fact, increased marijuana arrests have led to marijuana being one of the few drugs that has actually increased in the number and proportion of treatment admissions statewide and in the Denver metropolitan area.

Clinicians reported that the increase in African-American treatment admissions for marijuana related to the “normalization” of marijuana among African-American families and communities, and within the hip-hop and rap culture. However, it has also become more acceptable for African Americans to seek help, which has boosted the treatment numbers and proportions.

“Blunts” (marijuana rolled in up in an outer layer of a cigar) were still common among African-American and Latino males, and have provided a way for young people to smoke more openly in public. Outreach workers described the use of “candy blunts,” or blunts dipped in cough syrup. There continued to be reports of marijuana soaked with embalming fluid (i.e., smoking “wet”). Marijuana price information for 2008 is shown in exhibit 17.

Benzodiazepines

Benzodiazepines are a class of psychoactive drugs with varying sedative, hypnotic, and anti-anxiety (i.e., anxiolytic) properties. Most common are the benzodiazepine tranquilizers (diazepam, alprazolam, and lorazepam). Benzodiazepines presented a “mixed picture” in the Denver metropolitan area drug scene. This drug category is not shown as a separate breakout on exhibits 3

or 4. From 2001 to 2008, benzodiazepines were somewhat infrequent among Colorado treatment admissions, accounting for a high of 106 admissions in 2002 (1 percent of total drug admissions, excluding alcohol) to a low of 39 in 2001 (or 0.4 percent of nonalcohol admissions). There were 87 statewide benzodiazepine admissions in 2008, constituting 0.5 percent of all drug admissions, excluding alcohol.

Denver metropolitan benzodiazepine admissions from 2001 to 2008 were also somewhat infrequent, accounting for a high of 56 admissions in 2002 (1.3 percent of total drug admissions excluding alcohol) to a low of 18 in 2001 (or 0.4 percent of nonalcohol admissions). There were 43 Denver metropolitan benzodiazepine admissions in 2008, constituting 0.5 percent of all drug admissions, excluding alcohol.

Denver metropolitan area benzodiazepine ED visits for 2008 are shown in exhibit 21. Alprazolam (at 24.6 percent of total benzodiazepines) was the most common benzodiazepine in 2008, followed by clonazepam (at 19.5 percent), lorazepam (at 16.4 percent), and diazepam (at 12.1 percent). In exhibit 9, the Denver metropolitan area rate for benzodiazepine ED visits is compared with that of the entire United States. The Denver rate nearly tripled from 23.6 to 68.5 visits per 100,000 from 2004 to 2007.

While benzodiazepines were not among the most common drugs found in Denver drug-related decedents, diazepam accounted for 5.9 to 10.1 percent of Denver drug-related mortality from 2003 to 2008 (7.5 percent in 2008). Alprazolam constituted 1.4 to 7.1 percent of Denver drug-related mortality during the same time period (exhibit 10).

Taken together, alprazolam, clonazepam, and diazepam accounted for 1.1 percent of the top 25 drugs submitted for testing to the NFLIS in 2008 in the Denver area, compared with 3.3 percent in the entire United States.

In exhibit 22, PDMP data show similar steady increases in the rate of diazepam, lorazepam, and alprazolam prescriptions filled for Denver residents. As indicated, among the three

benzodiazepines, diazepam had the highest rate of prescriptions filled for Denver residents for the entire time period shown, followed by lorazepam, with alprazolam third.

As is the case with prescription narcotics (see discussion on trafficking in Other Opioids section), local clinicians and outreach workers described the easy availability of prescription benzodiazepines (e.g., Valium®, Xanax®, Ativan®) and related drugs. The drugs were easy to get on the street, in college dorms, on the Internet, at parties and Raves, through doctor shopping, or at home in the medicine cabinet. One outreach worker said that almost all those who abused opioids were also using benzodiazepines. Xanax®, which sold for \$3–5 a pill on the street, was reported to be the most popular illicitly used benzodiazepine, followed by Ativan®.

3,4-Methylenedioxymethamphetamine (MDMA)

MDMA, or ecstasy, morbidity and mortality remained relatively low in Denver. Of the 67 statewide “club drug” treatment admissions shown in 2008 (exhibit 3), which was 0.4 percent of total nonalcohol admissions, 58 were for MDMA. In the Denver metropolitan area, club drugs accounted for 42 treatment admissions in 2008 (0.6 percent of total nonalcohol admissions) (exhibit 4). Of these, 39 were for MDMA.

There were 247 ED visits for MDMA in Denver in 2008, accounting for 3.1 percent of the total visits (excluding alcohol) shown in exhibit 8. In exhibit 9, the Denver metropolitan area rate for MDMA ED visits is compared with that of the entire United States. The Denver rate more than doubled from 4.5 to 11 visits per 100,000 from 2004 to 2007, while the United States rate increased slightly from 3.5 to 4.2 visits per 100,000 from 2004 to 2007. The Denver MDMA rate was higher than the United States rate from for the entire 2004 to 2007 time period.

MDMA accounted for 2.3 percent of the top 25 drugs submitted for testing to NFLIS in 2008 in the Denver area, compared with 1.6 percent

across the United States (exhibit 15). In analyzing MDMA exhibits from 2001 through 2008, the Denver Police Department crime laboratory found that 110 of the 112 MDMA exhibits (98.2 percent) in 2001 were pure MDMA. However, while total MDMA exhibits increased to 192 and 173 in 2007 and 2008, respectively; the percentage that were pure MDMA dropped to 52.6 percent in 2007 and 61.3 percent in 2008. Those that were not pure MDMA were made up of a variety of single and combination of substances, including cocaine, methamphetamine, ketamine, 1-benzylpiperazine (BZP), dextromethorphan (DXM), prescription opioids, vitamins, and other substances.

According to law enforcement/intelligence, over the last 5 or 6 years, the supply of MDMA has shifted from Europe to Canada. The MDMA found in Colorado in 2008 was almost exclusively produced in Canada, and was often transported and distributed by Asian DTOs. In general, law enforcement/intelligence reports that there has been an overall increase in MDMA supply in Colorado over the past 2 years. In Colorado, MDMA sold for \$5–6 per tablet wholesale, \$6–13 retail, and \$20–25 a tablet on the street (exhibit 17).

As previously described, clinicians said that they did not see many MDMA abusers in treatment; and that clients usually came into treatment for some other primary drug (e.g., alcohol or marijuana) with MDMA being a secondary drug. In some cases, clients came into treatment for MDMA because they were court ordered.

1-Benzylpiperazine (BZP)

In 2008, there were 14 BZP exhibits analyzed in the Denver Crime Laboratory. Through April 2009, the Denver Crime Laboratory had analyzed 17 BZP and 2 TFMPP (1-3-(trifluoromethyl-phenyl)piperazine) exhibits. There were no BZP exhibits from 2001 through 2007. Unfortunately, BZP was not reported in treatment, ED, mortality, or hospital discharge data. It appears that only the crime laboratories were isolating this drug,

making it difficult to determine actual BZP usage levels.

According to the DEA, BZP was first synthesized in 1944 as a potential anti-parasitic agent, and was subsequently shown to have amphetamine-like effects. Though much less potent than amphetamine, BZP acts like a stimulant in humans, producing euphoria and increased heart rate and blood pressure. It appears that 1996 was the first year BZP use was initiated by drug abusers in the United States, as measured mostly by encounters with law enforcement. BZP is usually taken orally as a powder, tablet, or capsule. BZP street names include A2, Legal E, or Legal X. BZP is often taken in combination with TFMPP, which is touted as a substitute for MDMA.

Though probably not a significant 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.

The DEA reported an investigation on a vehicle bound from California to Denver which was alleged to be transporting MDMA. The vehicle was stopped and 4,000 pills were discovered. However, once analyzed, the pills actually turned out to be BZP and TFMPP.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS Among Injection Drug Users

Of the 9,247 cumulative AIDS cases reported in Colorado through September 30, 2008, 9.1 percent were classified as injection drug users (IDUs), and another 10.6 percent were classified as homosexual or bisexual males and IDUs

⁴Bauman, et al. N-Substituted Piperazines Abuse by Humans Mimic the Molecular Mechanism of 3,4-Methylenedioxy-methamphetamine. *Neuropsychopharmacology*, 2005, 30: 550-560

(exhibit 23). The proportion of newly diagnosed HIV and AIDS cases (not cumulative cases as shown in exhibit 17) attributed to injection drug use has stayed fairly stable since 2001 (exhibits 24 and 25).

For inquiries concerning this report, contact Bruce Mendelson, Senior Data Consultant, Denver Department of Human Services, Office of Drug Strategy 1200 Federal Boulevard, Denver, CO 80204, Phone: 720-944-2158, Fax: 720-944-3083, E-mail: bruce.mendelson@denvergov.org.

Exhibit 1. Data Completeness for the Denver Metropolitan Area DAWN Live! Emergency Departments (EDs) (n=15) ¹, by Month: January–December 2008

Data Completeness	Number of EDs by Month											
	Jan 08	Feb 08	Mar 08	Apr 08	May 08	Jun 08	Jul 08	Aug 08	Sep 08	Oct 08	Nov 08	Dec 08
Basically Complete (90% or greater)	9	9	9	9	9	8	8	9	10	10	11	11
Partially Complete (< 90%)	0	0	0	0	0	1	0	0	1	0	0	0
No Data Reported	6	6	6	6	6	6	6	6	6	6	6	6
Total EDs in Sample	15	15	15	15	15	15	15	15	15	15	15	15

¹Total eligible hospitals in area = 15; hospitals in DAWN sample = 15; emergency departments in DAWN sample = 15. Tables reflect cases received by DAWN as of 5/14/07. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted. Therefore, these data are subject to change.

SOURCE: DAWN Live!, OAS, SAMHSA, accessed 4/15/09

Exhibit 2. Denver Epidemiology Work Group Membership

Name	Agency	Field
Jim Adams-Berger	Omni Institute	Research and evaluation
Kendra Bernard	Westat	Drug Abuse Warning Network
Kerry Broderick	Denver Health and Hospitals	Emergency medicine
Kristen Dixon	State Division of Behavioral Health	Data analysis and evaluation
Eric Ennis	Addiction Research and Treatment Services	Substance abuse treatment
Vanessa Fenley	Denver Office of Drug Strategy	Substance abuse prevention
Mark Fleecs	Denver Police and HIDTA	Drug control and intelligence
Jonathan Gray	Arapahoe House	Substance abuse treatment
Ron Hollingshead	National Drug Intelligence Center and HIDTA	Drug control and intelligence
Eric Lavonas	Rocky Mountain Poison and Drug Center	Drug toxicology
John Lundin-Martinez	Denver Behavioral Health Services	Substance abuse treatment
Karla Maraccini	Denver Office of Drug Strategy	Substance abuse planning and administration
Amy Martin	Denver Office of the Medical Examiner	Chief Medical Examiner
Andrew McClure	Urban Peak	Outreach counselor
Bruce Mendelson	Denver Office of Drug Strategy	Substance abuse epidemiology
Wendi Roewer	Drug Enforcement Administration	Drug control and intelligence
Mark Royer	Project Safe	Injection drug use outreach and research
Allison Sabel-Soteres	Denver Health and Hospitals	Medical biostatistics
Sarah Schmiede	Omni Institute	Research
Donald Shriver	Denver Police Department Crime Laboratory	Forensic chemistry
Dale Wallis	Denver Police Department	Narcotics
Jamie Van Leeuwen	Denver Drug Strategy Commission	Substance abuse planning and administration

Exhibit 3. Number and Percentage of Treatment Admissions by Primary Drug Type in Colorado: 2001–2008

Drug		2001	2002	2003	2004	2005	2006	2007	2008
Alcohol	<i>n</i>	6,325	6,890	7,263	9,873	10,189	11,481	10,977	11,755
	%	38.6	38.8	37.8	40.7	38.8	40.9	39.7	41.1
Marijuana	<i>n</i>	4,255	4,367	4,236	5,305	5,568	5,653	5,783	6,156
	%	26.0	24.6	22.0	21.9	21.2	20.1	20.9	21.5
	<i>(excluding alcohol)</i> %	42.3	40.2	35.4	36.8	34.7	34.0	34.7	36.6
Methamphetamine	<i>n</i>	1,664	2,078	2,794	3,846	5,084	5,053	4,914	4,543
	%	10.2	11.7	14.5	15.8	19.4	18.0	17.8	15.9
	<i>(excluding alcohol)</i> %	16.5	19.1	23.3	26.7	31.7	30.4	29.5	27.0
Cocaine	<i>n</i>	1,889	2,215	2,368	3,034	2,929	3,476	3,374	3,319
	%	11.5	12.5	12.3	12.5	11.2	12.4	12.2	11.6
	<i>(excluding alcohol)</i> %	18.8	20.4	19.8	21.1	18.3	20.9	20.3	19.7
Heroin	<i>n</i>	1,483	1,425	1,676	1,273	1,421	1,271	1,223	1,201
	%	9.0	8.0	8.7	5.2	5.4	4.5	4.4	4.2
	<i>(excluding alcohol)</i> %	14.7	13.1	14.0	8.8	8.9	7.6	7.3	7.1
Other Opiates ¹	<i>n</i>	395	412	541	614	713	824	961	1,113
	%	2.4	2.3	2.8	2.5	2.7	2.9	3.5	3.9
	<i>(excluding alcohol)</i> %	3.9	3.8	4.5	4.3	4.4	5.0	5.8	6.6
Depressants ²	<i>n</i>	64	159	131	101	97	121	127	141
	%	0.4	0.9	0.7	0.4	0.4	0.4	0.5	0.5
	<i>(excluding alcohol)</i> %	0.6	1.5	1.1	0.7	0.6	0.7	0.8	0.8
Other Amphetamines/ Stimulants	<i>n</i>	91	105	78	56	57	52	36	55
	%	0.6	0.6	0.4	0.2	0.2	0.2	0.1	0.2
	<i>(excluding alcohol)</i> %	0.9	1.0	0.7	0.4	0.4	0.3	0.2	0.3
Hallucinogens ³	<i>n</i>	73	43	31	27	33	35	31	38
	%	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1
	<i>(excluding alcohol)</i> %	0.7	0.4	0.3	0.2	0.2	0.2	0.2	0.2
Club Drugs ⁴	<i>n</i>	NA	12	37	56	50	47	59	67
	%	NA	0.1	0.2	0.2	0.2	0.2	0.2	0.2
	<i>(excluding alcohol)</i> %	NA	0.1	0.3	0.4	0.3	0.3	0.4	0.4
Other ⁵	<i>n</i>	151	59	77	90	92	88	142	181
	%	0.9	0.3	0.4	0.4	0.4	0.3	0.5	0.4
	<i>(excluding alcohol)</i> %	1.5	0.5	0.6	0.6	0.6	0.5	0.9	1.1
Total	<i>N</i>	16,390	17,765	19,232	24,275	26,233	28,101	27,627	28,569
<i>(excluding alcohol)</i>	<i>N</i>	10,065	10,875	11,969	14,402	16,044	16,620	16,650	16,814

¹ Includes nonprescription methadone and other opiates and synthetic opiates.

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

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

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

⁵ Includes 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. Number and Percentage of Treatment Admissions by Primary Drug Type in the Denver/Boulder Metropolitan Area: 2001–2008

Drug		2001	2002	2003	2004	2005	2006	2007	2008
Alcohol	<i>n</i>	2,496	2,009	2,360	3,551	3,575	4,408	4,321	4,586
	%	33.4	31.9	29.1	33.6	33.1	36.0	35.9	37.8
Marijuana	<i>n</i>	1,855	1,466	1,859	2,703	2,695	2,901	2,824	2,882
	%	24.8	23.3	22.9	25.6	24.9	23.7	23.5	23.7
	<i>(excluding alcohol)</i> %	37.3	34.2	32.3	38.5	37.2	37.0	36.6	38.2
Methamphetamine	<i>n</i>	564	516	946	1,271	1,494	1,696	1,672	1,540
	%	7.5	8.2	11.7	12.0	13.8	13.8	13.9	12.7
	<i>(excluding alcohol)</i> %	11.3	12.1	16.4	18.1	20.6	21.6	21.7	20.4
Cocaine	<i>n</i>	1,028	960	1,264	1,619	1,460	1,849	1,807	1,662
	%	13.8	15.3	15.6	15.3	13.5	15.1	15.0	13.7
	<i>(excluding alcohol)</i> %	20.7	22.4	21.9	23.1	20.2	23.6	23.4	22.0
Heroin	<i>n</i>	1,176	979	1,226	922	1,007	810	807	761
	%	15.7	15.6	15.1	8.7	9.3	6.6	6.7	6.3
	<i>(excluding alcohol)</i> %	23.6	22.9	21.3	13.1	13.9	10.3	10.5	10.1
Other Opiates ¹	<i>n</i>	238	208	300	340	434	412	400	472
	%	3.2	3.3	3.7	3.2	4.0	3.4	3.3	3.9
	<i>(excluding alcohol)</i> %	4.8	4.9	5.2	4.8	6.0	5.3	5.2	6.3
Depressants ²	<i>n</i>	32	79	55	47	45	57	48	62
	%	0.4	1.3	0.7	0.4	0.4	0.5	0.4	0.5
	<i>(excluding alcohol)</i> %	0.6	1.8	1.0	0.7	0.6	0.7	0.6	0.8
Other Amphetamines/ Stimulants	<i>n</i>	25	34	31	24	21	34	17	28
	%	0.3	0.5	0.4	0.2	0.2	0.3	0.1	0.2
	<i>(excluding alcohol)</i> %	0.5	0.8	0.5	0.3	0.3	0.4	0.2	0.4
Hallucinogens ³	<i>n</i>	31	15	18	16	17	25	17	16
	%	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.1
	<i>(excluding alcohol)</i> %	0.6	0.4	0.3	0.2	0.2	0.3	0.2	0.2
Club Drugs ⁴	<i>n</i>	NA	5	22	29	24	24	39	42
	%	NA	0.1	0.3	0.3	0.2	0.2	0.3	0.3
	<i>(excluding alcohol)</i> %	NA	0.1	0.4	0.4	0.3	0.3	0.5	0.6
Other ⁵	<i>n</i>	29	19	39	41	40	37	75	87
	%	0.4	0.3	0.5	0.4	0.4	0.3	0.6	0.7
	<i>(excluding alcohol)</i> %	0.6	0.4	0.7	0.6	0.6	0.5	1.0	1.2
Total	<i>N</i>	7,474	6,290	8,120	10,563	10,812	12,253	12,027	12,138
<i>(excluding alcohol)</i>	<i>N</i>	4,978	4,281	5,760	7,012	7,237	7,845	7,706	7,552

¹Includes nonprescription methadone and other opiates and synthetic opiates.

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

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

⁴Includes Rohypnol®, ketamine (Special K), gamma hydroxybutyrate (GHB), 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 5. Demographic Characteristics of Clients Admitted to Treatment, by Percentage, in the State of Colorado: 2008

Characteristics	Alcohol ¹ Only or in Combo	Mari- juana	Cocaine	Meth- amphet- amine	Heroin	Other Opioids	Seda- tives	Other Stimu- lants ²	Hallu- cino- gins	Club Drugs	All Other ³
Total (N=28,569)	(11,754)	(6,156)	(3,319)	(4,543)	(1,201)	(1,113)	(141)	(55)	(38)	(67)	(181)
Gender											
Male	68.7	76.4	57.1	55.5	63.8	50.2	39.7	60.0	86.8	68.7	70.7
Female	31.3	23.6	42.9	44.5	36.2	49.8	60.3	40.0	13.2	31.3	29.3
Race/Ethnicity											
White	66.4	50.9	43.4	78.0	70.6	78.0	77.3	78.2	76.3	64.2	53.6
African American	5.3	13.5	18.4	1.7	5.1	2.2	5.7	3.6	2.6	11.9	9.4
Hispanic	23.7	31.0	34.6	16.8	20.5	17.0	15.6	18.2	21.1	17.9	30.9
Other	4.6	4.5	3.7	3.6	3.8	2.8	1.4	0.0	0.0	6.0	6.1
Age at Admission											
Under 18	3.6	28.6	1.5	1.3	0.4	0.9	4.3	12.7	21.1	26.9	11.6
18 to 24	17.3	28.7	13.4	18.3	17.8	19.0	10.6	16.4	39.5	28.4	21.0
25 to 34	27.1	26.2	30.0	41.7	30.4	34.9	30.5	40.0	21.1	28.4	29.8
35 to 44	25.8	11.1	31.7	27.3	21.1	22.2	22.7	18.2	15.8	10.4	18.8
45 to 54	19.8	4.6	20.5	10.5	20.0	16.8	22.0	12.7	2.6	4.5	12.2
55 and older	6.4	0.9	2.9	0.9	10.2	6.3	9.9	0.0	0.0	1.5	6.6
Route of Ingestion											
Smoking	0.3	93.8	61.5	64.8	11.7	2.1	13.5	20.0	15.8	17.9	13.8
Inhaling	3.0	4.0	31.2	10.1	7.2	8.2	5.7	9.1	10.5	10.4	14.9
Injecting	0.1	0.1	5.3	22.7	79.4	7.3	5.0	21.8	5.3	9.0	1.1
Oral/Other	96.7	2.1	1.9	2.4	1.8	82.5	75.9	49.1	68.4	62.7	70.1
Secondary Drug	Marijuana 23.9	Alcohol 42.3	Alcohol 33.7	Marijuana 31.0	Cocaine 26.3	Alcohol 15.7	Alcohol 25.5	Alcohol 21.8	Mari- juana 28.9	Mari- juana 32.8	Mari- juana 14.9
Tertiary Drug	Cocaine 4.9	Alcohol 7.8	Alcohol 12.4	Alcohol 14.4	Mari- juana 10.6	Mari- juana 7.4	Alcohol 10.6	Cocaine & Mari- juana 10.9	Mari- juana 23.7	Alcohol 20.9	Alcohol 6.6

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. Demographic Characteristics of Clients Admitted to Treatment, by Percentage, in the Denver/Boulder Metropolitan Area: 2008

Characteristics	Alcohol ¹ Only or in Combo	Mari- juana	Cocaine	Meth- amphet- amine	Heroin	Other Opioids	Seda- tives	Other Stimu- lants ²	Hallu- cino- gins	Club Drugs	All Other ³
Total (N=12,138)	(4,586)	(2,882)	(1,662)	(1,540)	(761)	(472)	(62)	(28)	(16)	(42)	(87)
Gender											
Male	66.4	77.4	56.0	59.9	63.9	48.9	35.5	46.4	93.8	66.7	77.0
Female	33.6	22.6	44.0	40.1	36.1	51.1	64.5	53.6	6.3	33.3	23.0
Race/Ethnicity											
White	66.2	42.9	42.7	78.3	67.9	78.4	71.0	78.6	62.5	61.9	41.4
African American	8.2	22.1	22.9	2.0	6.2	4.2	9.7	3.6	6.3	11.9	14.9
Hispanic	21.2	30.7	30.6	15.5	22.6	13.8	17.7	17.9	31.3	16.7	39.1
Other	4.4	4.3	3.8	4.2	3.3	3.6	1.6	0.0	0.0	9.5	4.6
Age at Admission											
Under 18	2.9	32.6	1.3	1.8	0.1	0.4	1.6	21.4	25.0	33.3	9.2
18 to 24	16.9	27.3	11.7	18.1	14.5	18.9	12.9	14.3	43.8	31.0	18.4
25 to 34	28.2	24.9	29.5	42.0	28.5	34.1	29.0	35.7	18.8	19.0	32.2
35 to 44	26.3	10.7	33.3	26.9	21.3	21.4	22.6	14.3	12.5	9.5	20.7
45 to 54	19.6	3.8	21.4	10.1	21.9	18.0	19.4	14.3	0.0	4.8	13.8
55 and older	6.0	0.6	2.8	1.2	13.7	7.2	14.5	0.0	0.0	2.4	5.7
Route of Ingestion											
Smoking	0.2	91.4	57.6	59.4	12.6	3.0	17.7	17.9	12.5	14.3	3.4
Inhaling	6.2	6.2	36.4	12.2	7.1	9.7	9.7	10.7	6.3	9.5	11.5
Injecting	0.1	0.0	3.9	25.4	78.8	8.3	3.2	14.3	6.3	9.5	1.1
Oral/Other	93.5	2.4	2.1	3.0	1.5	79.1	69.3	57.1	75.0	66.7	83.9
Secondary Drug	Marijuana 23.7	Alcohol 41.1	Alcohol 35.0	Marijuana 29.5	Cocaine 26.1	Alcohol & Mari- juana 14.6	Alcohol 25.8	Alcohol & Mari- juana 17.9	Mari- juana 25.0	Alcohol 31.0	Alcohol 8.0
Tertiary Drug	Cocaine 5.4	Alcohol 8.2	Alcohol 11.3	Alcohol 13.1	Mari- juana 9.5	Alcohol & Mari- juana 6.8	Alcohol 6.8	Mari- juana 14.3	Mari- juana 25.0	Mari- juana 19.0	Mari- juana 3.4

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 7: Age of Onset, Years to Treatment, and Proportions of New Users (< 3 Years) and New to Treatment (Tx) Admissions for Colorado and the Denver Area: 2008

Area		Cocaine	Heroin	Other Opiates	Methamphetamine	Marijuana
Statewide		(n=3,319)	(n=1,201)	(n=1,113)	(n=4,543)	(n=6,156)
Age at Onset ¹	Mean	22.8	24.6	26.0	21.7	14.3
	Median	21.0	21.5	23.0	19.0	14.0
Years to 1st Tx ¹	Mean	12.1	8.5	7.2	10.1	9.6
	Median	10.0	4.5	5.0	8.0	7.0
% New Users ¹		17.1	37.8	26.8	13.4	20.4
% New to Tx. ²		33.4	20.7	39.6	33.1	52.9
Denver Area		(n=1,662)	(n=761)	(n=472)	(n=1,540)	(n=2,882)
Age at Onset ¹	Mean	22.9	25.4	25.6	21.2	14.2
	Median	21.0	22.0	23.0	19.0	14.0
Years to 1st Tx ¹	Mean	13.1	8.8	7.4	10.3	9.3
	Median	12.0	5.0	5.0	8.0	7.0
% New Users ¹		14.9	35.8	25.0	10.8	20.6
% New to Tx ²		34.4	20.1	34.6	33.4	52.5

¹Computed for first-time treatment admissions/no prior treatment admissions only.

²Proportion of clients with no prior treatment admissions, out of all treatment admissions.

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

Exhibit 8. Number and Percentage of Reports in Drug-Related ED Visits in Denver¹, by Drug Category (Unweighted²): 2008

Category/Drug	Number	% Incl. Alcohol	% Excl. Alcohol
Alcohol	5,888	42.4	NA ³
Cocaine	2,996	21.6	37.5
Heroin	930	6.7	11.6
Marijuana	2,581	18.6	32.3
Methamphetamine	607	4.4	7.6
Amphetamines	283	2.0	3.5
MDMA	247	1.8	3.1
GHB	24	0.2	0.3
Flunitrazepam (Rohypnol [®])	2	0.014	0.03
Ketamine	9	0.06	0.1
LSD	83	0.6	1.0
PCP	30	0.2	0.4
Miscellaneous Hallucinogens	99	0.7	1.2
Other ⁴	94	0.7	1.2
Total Illicit Drugs⁵ (Excluding Alcohol)	7,985		100.0
Total Illicit Drugs and Alcohol	13,873	100.0	

¹Misuse cases only, which exclude adverse reaction and accidental ingestion cases.

²Unweighted data from seven Denver area hospital EDs reporting to DAWN. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted. Therefore, these data are subject to change.

³NA=Not available.

⁴Includes inhalants and other combinations not tabulated above.

⁵Includes cocaine, heroin, marijuana, methamphetamine, other amphetamines, MDMA, and Other.

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed 4/16/09

Exhibit 9: Rates per 100,000 Population for Selected Drug-Related Visits, Denver Metropolitan Area, Compared With the United States: 2004–2007

ED Visit Rates per 100,000	2004	2005	2006	2007
Cocaine:				
Denver Metropolitan Rate	92.9	172.7	205.2	204.0
U.S. Rate	161.9	163.2	181.5	181.8
Heroin:				
Denver Metropolitan Rate	32.9	44.6	52.8	53.1
U.S. Rate	73.0	63.3	62.8	61.8
Marijuana:				
Denver Metropolitan Rate	50.3	90.0	136.5	146.2
U.S. Rate	95.9	94.4	96.1	101.3
Methamphetamine:				
Denver Metropolitan Rate	32.4	76.0	57.3	49.4
U.S. Rate	45.1	37.0	26.4	22.3
Narcotic Analgesics:				
Denver Metropolitan Rate	30.0	53.1	67.3	87.1
U.S. Rate	49.3	56.8	66.6	77.9
MDMA				
Denver Metropolitan Rate	4.5	6.8	10.0	11.0
U.S. Rate	3.5	3.8	5.5	4.2
Benzodiazepines				
Denver Metropolitan Rate	23.6	44.4	57.3	68.5
U.S. Rate	48.9	64.0	64.7	71.8

SOURCE: DAWN, OAS, SAMHSA, updated 11/2008

Exhibit 10: Most Common Drugs in Denver Drug-Related Decedents, Percentage of All Cases, Denver: 2003–2008

	2003		2004		2005		2006		2007		2008	
	<i>n</i>	%										
Drug Contributing to Cause of Death												
Cocaine	53	38.1	58	38.4	82	48.2	85	50.3	75	39.7	60	28.3
Morphine	42	30.2	57	37.7	60	35.3	64	37.9	43	22.8	48	22.6
Alcohol	41	29.5	60	39.7	44	25.9	65	38.5	66	34.9	75	35.4
Codeine	29	20.9	25	16.6	36	21.2	36	21.3	18	9.5	19	9.0
Heroin	17	12.2	6	4.0	18	10.6	17	10.1	18	9.5	27	12.7
Methadone	11	7.9	13	8.6	17	10.0	16	9.5	14	7.4	15	7.1
Oxycodone	12	8.6	6	4.0	12	7.1	7	4.1	38	20.1	33	15.6
Methamphetamine	12	8.6	7	4.6	12	7.1	9	5.3	12	6.3	15	7.1
Acetaminophen	10	7.2	9	6.0	11	6.5	2	1.2	14	7.4	13	6.1
Diazepam	11	7.9	11	7.3	10	5.9	11	6.5	19	10.1	16	7.5
Alprazolam	2	1.4	3	2.0	10	5.9	5	3.0	13	6.9	15	7.1
Hydrocodone	7	5.0	4	2.6	7	4.1	10	5.9	8	4.2	22	10.4
Dihphenhydramine	5	3.6	2	1.3	7	4.1	1	0.6	11	5.8	11	5.2
Decedents	139		151		170		169		189		212	

SOURCE: Denver Medical Examiner's Office Autopsy Reports

Exhibit 11: Most Common Combinations of Drugs in Decedents, Percentage of All Cases, Denver: 2003–2008

	2003		2004		2005		2006		2007		2008	
	<i>n</i>	%										
Combinations												
Morphine and Codeine	27	19.4	24	15.9	33	19.4	35	20.7	13	6.9	16	7.5
Cocaine and Morphine	19	13.7	23	15.2	28	16.5	31	18.3	18	9.5	15	7.1
Cocaine and Codeine	15	10.8	12	7.9	18	10.6	18	10.7	8	4.2	7	3.3
Morphine and Alcohol	16	11.5	25	16.6	17	10.0	30	17.8	9	4.8	11	5.2
Cocaine and Alcohol	12	8.6	16	10.6	16	9.4	26	15.4	22	11.6	15	7.1
Cocaine and Heroin	7	5.0	2	1.3	8	4.7	9	5.3	5	2.6	8	3.8
Oxycodone and any other drug	11	7.9	4	2.6	0	0.0	1	0.6	19	10.1	29	13.7
Total Decedents	139		151		170		169		189		212	

SOURCE: Denver Medical Examiner's Office Autopsy Reports

Exhibit 12. Number and Rate per 100,000 Population of Drug-Related Hospital Discharge Reports, for Selected Drugs, Denver: 2000–2008

Drug	2000	2001	2002	2003	2004	2005	2006	2007	2008
Alcohol (n)	10,013	10,606	10,429	9,812	10,560	10,060	10,288	10,116	11,361
Rate	1,802	1,893	1,859	1,733	1,856	1,759	1,788	1,747	1,948
Stimulants (n)	244	261	323	407	549	738	489	438	350
Rate	44	47	58	72	97	129	85	76	60
Cocaine (n)	1,338	1,298	1,369	1,423	1,753	1,843	1,862	1,634	1,502
Rate	241	232	244	251	308	322	324	282	258
Marijuana (n)	778	846	837	842	1,100	1,163	1,188	1,050	1,218
Rate	140	151	149	149	193	203	207	181	209
Opioid ¹ (n)	741	744	720	818	804	987	916	1,038	1,040
Rate	133	133	128	145	141	173	159	179	178
Population	555,781	560,366	560,884	566,174	568,913	571,847	575,294	579,177	583,238

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

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

Exhibit 13. Number of Statewide Drug-Related Calls to the Rocky Mountain Poison and Drug Center (Human Exposure Calls Only), Denver: 2004–2008

Drug	2004	2005	2006	2007	2008
Alcohol	762	884	868	858	916
Cocaine/Crack	120	107	129	91	104
Heroin/Morphine	20	24	25	21	23
Marijuana	68	78	45	70	61
Methamphetamine	95	127	29	31	51
Other Stimulants/ Amphetamines ¹	321	308	318	257	373
Club Drugs	43	49	47	49	55

¹Other stimulants/amphetamines includes amphetamines, methylphenidate, caffeine, and other unknown stimulants.

SOURCE: Rocky Mountain Poison and Drug Center

Exhibit 14. Federal Drug Seizures in Colorado: 2003–2008

Drug	Quantity Seized					
	2003	2004	2005	2006	2007	2008
Cocaine	65.5 kgs ¹	36.0 kgs	131.5 kgs	135.1 kgs	44.0 kgs	52.6 kgs
Heroin	3.9 kgs	4.6 kgs	3.0 kgs	4.0 kgs	2.5 kgs	3.2 kgs
Methamphetamine	14.8 kgs	28.8 kgs	34.4 kgs	50.3 kgs	8 kgs	26.4 kgs
Methamphetamine laboratories	345	228	145	85	44	33
Marijuana	444.1 kgs	774.6 kgs	765.6 kgs	656.8 kgs	1,149.5 kgs	24,089.2 kgs
Ecstasy	1,128 tablets	0 tablets	0.6 kgs/ 2,104 du ²	0.0 kgs/ 1,103 du	0.0 kgs	0.0 kgs

¹kgs=kilograms.

²du=dosage units.

SOURCE: State Factsheets for Colorado 2003–2008, DEA

Exhibit 15. Denver¹ and United States NFLIS Samples Analyzed by Drug Type, Based on Top 25 Drugs: 2008

Drug	Denver Area		U.S.	
	N	%	N	%
Cocaine	3,069	39.6	392,305	30.6
Cannabis	2,202	28.4	478,129	37.3
Methamphetamine	1,034	13.3	134,853	10.5
Noncontrolled Non-Narcotic Drug	454	5.9	6,429	0.5
Heroin	270	3.5	81,595	6.4
3,4-Methylenedioxymethamphetamine (MDMA)	177	2.3	19,966	1.6
Oxycodone	113	1.5	30,055	2.3
Hydrocodone	83	1.1	32,790	2.6
All Other Drugs in Top 25	348	4.5	107,421	8.4
Total Top 25	7,750	100.0	1,283,543	100.0

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

SOURCE: NFLIS, DEA

Exhibit 16: Average Percent Purity of Selected Drugs, in Denver: As Of April 2009

Drug	2004	2005	2006	2007	2008	2009
Cocaine	88% (kilogram quantity)	79% (kilogram quantity)	77% (kilogram quantity)	65% (kilogram quantity)	67% (kilogram) 37.3% (ounce)	NA ¹
Heroin	24% (ounce quantity)	64% (ounce quantity)	70% (ounce quantity)	56% (ounce quantity)	69.3% (kilogram quantity)	NA
Methamphetamine	54% (kilogram quantity)	94% (kilogram quantity)	94% (kilogram quantity)	84% (kilogram quantity)	82.9% (kilogram) 51.13% (ounce)	36% (ounce quantity)

¹NA=Not available.

SOURCE: "Denver Substance Abuse Trends: Proceedings of the Denver Epidemiology Work Group," April 2009, The Denver Office of Drug Strategy and the Denver Drug Strategy Commission

Exhibit 17. Average Prices of Selected Drugs in Denver: December 2008

Drug	Wholesale Price	Retail Price	Street Price
Powder Cocaine	\$17,500–\$24,000 kg	\$600–\$1,000 oz	\$70–\$150 gm
Crack Cocaine	\$15,000–\$20,000 kg	\$650–\$900 oz	\$20 rock \$70–\$120 gm
Heroin	\$24,000–\$35,000 kg (MBT) \$30,000–\$35,000 kg (MBP)	\$800–\$1,600 oz (MBT)	\$130–\$250 gm (MBT)
Methamphetamine	\$12,000–\$20,000 lb (PM, MX) \$16,000–\$25,000 lb (Ice, MX)	\$1,000–\$1,500 oz (Ice, MX) \$500–\$1,000 oz (PM,LP,STL) \$500–\$800 oz (PM, MX)	\$100–\$150 gm (Ice, DO or LP MX)
Marijuana	\$2,600–\$5,000 lb BC \$2000 lb (DO, LP IG) \$300–\$500 lb (MX)	\$80–\$100 oz (MX) \$300–\$400 oz (BC)	\$30–\$60 ¼ oz (MX)
Ecstasy/MDMA	\$5–\$6 tablet	\$6–\$13 tablet \$7–\$17 tablet United States (DO or LP)	\$20–\$25 tablet United States (DO or LP)

Notes: 1. kg=kilogram; gm=gram; MBT=Mexican Black Tar; PM=Powder Methamphetamine; MX=Mexican Produced, LP=Locally Produced; STL=small toxic laboratory; 2. DO=Domestic, HY=Hydroponic, IG=Indoor Grown, CG=Commercial Grade, BC=BC Bud from Canada.

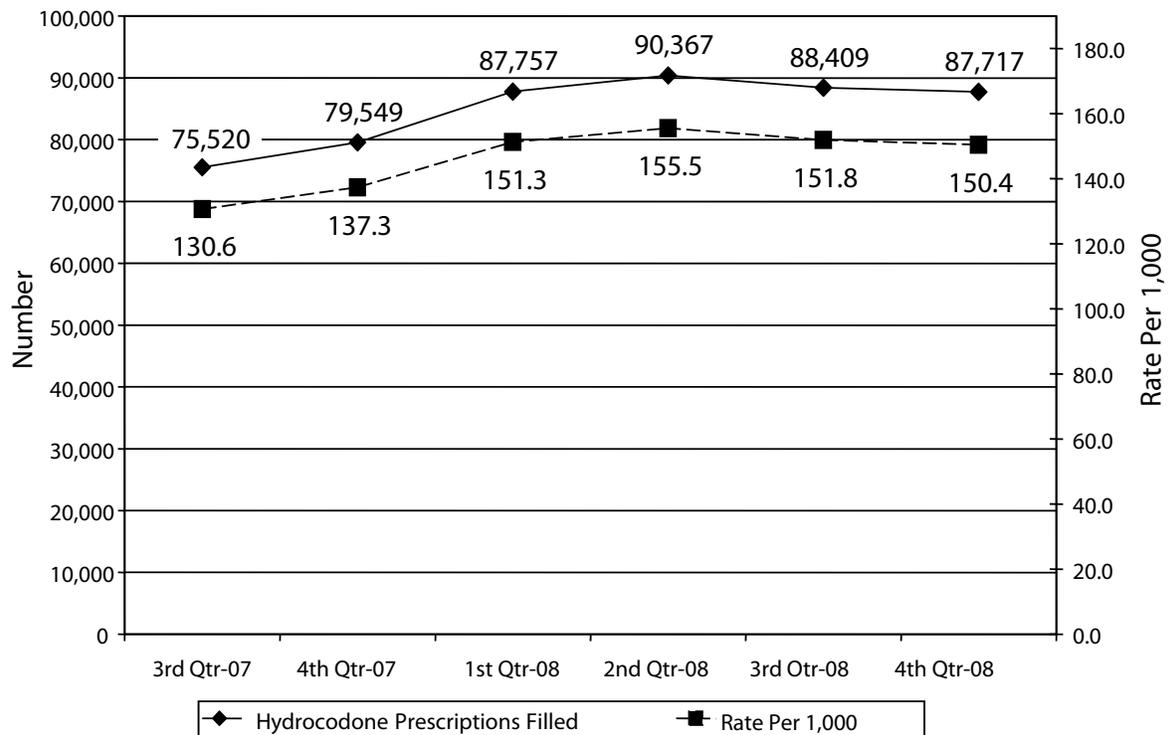
SOURCES: DEA, Denver Police Department, Front Range Task Force

Exhibit 18: Number and Percentage of Narcotic Analgesic Reports in Drug-Related ED Visits in Denver, by Specific Drug (Unweighted): 2008

Drug	2008	
	N	Percentage
Codeine	68	2.6
Fentanyl	153	5.9
Hydrocodone	581	22.3
Hydromorphone	132	5.1
Methadone	239	9.2
Morphine	241	9.3
Oxycodone	1,104	42.4
Propoxyphene	38	1.5
Other	45	1.7
Total	2,601	100.0

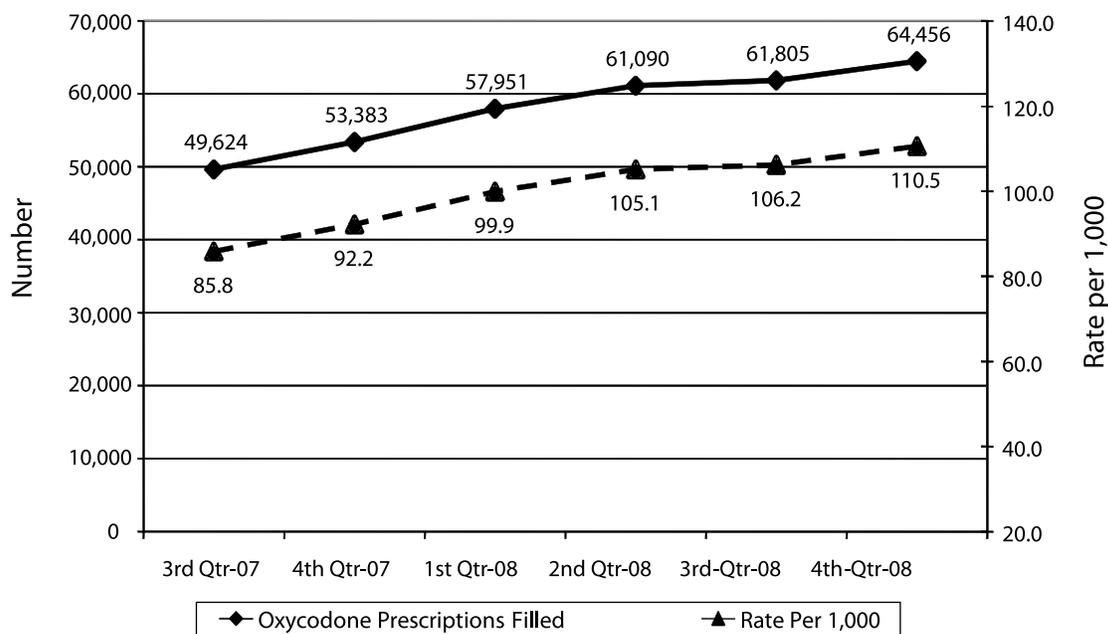
SOURCE: DAWN Live!, OAS, SAMHSA, accessed 4/16/2009

Exhibit 19: Number of Hydrocodone Prescriptions Filled and Rate per 1,000 Population, Denver: Third Quarter 2007 through Fourth Quarter 2008



SOURCE: Colorado Department of Public Health and Environment

Exhibit 20. Number of Oxycodone Prescriptions Filled and Rate Per 1,000 Population, Denver: Third Quarter of 2007 Through Fourth Quarter of 2008



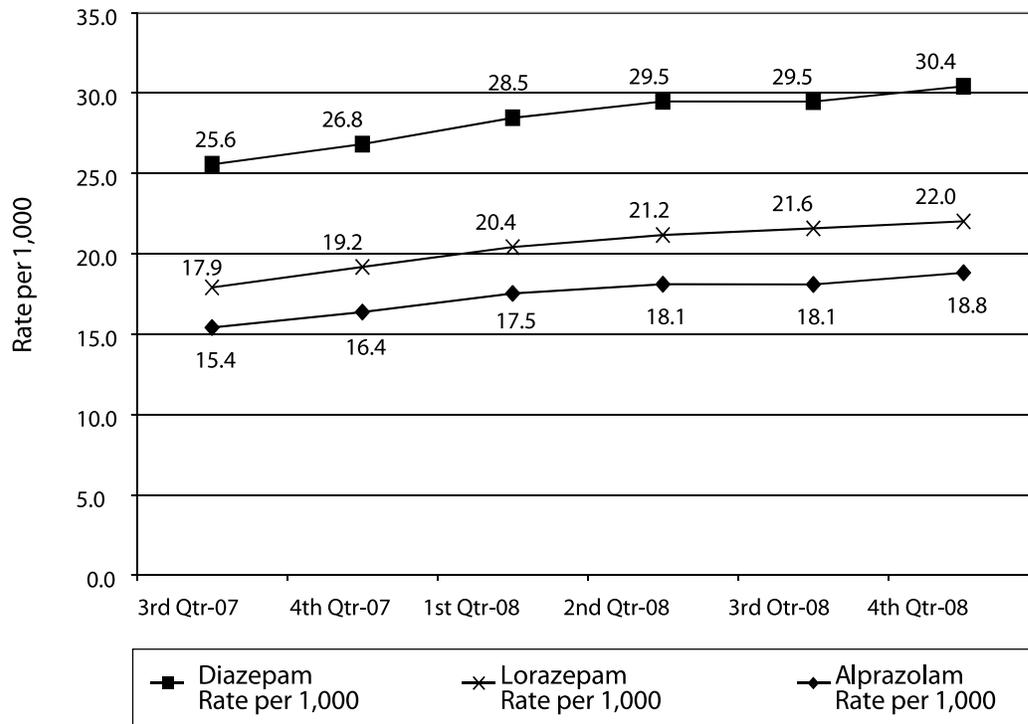
SOURCE: Colorado Department of Public Health and Environment

Exhibit 21: Number and Percentage of Benzodiazepine Reports in Drug-Related ED Visits, by Specific Drug (Unweighted), in Denver: 2008

Drug	2008	
	N	Percentage
Alprazolam (Xanax®)	436	24.6
Clonazepam	346	19.5
Benzo-NOS	367	20.7
Lorazepam (Ativan®)	291	16.4
Diazepam	214	12.1
Temazepam (Restoril®)	63	3.6
Clorazepate (Tranxene®)	34	1.9
Chlordiazepoxide (Librium®)	9	0.5
All Others	11	0.6
Total	1,771	100.0

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed 4/16/2009

Exhibit 22: Selected Benzodiazepine Prescriptions Filled as a Rate per 1,000 Population, Denver: Third Quarter 2007 Through Fourth Quarter 2008



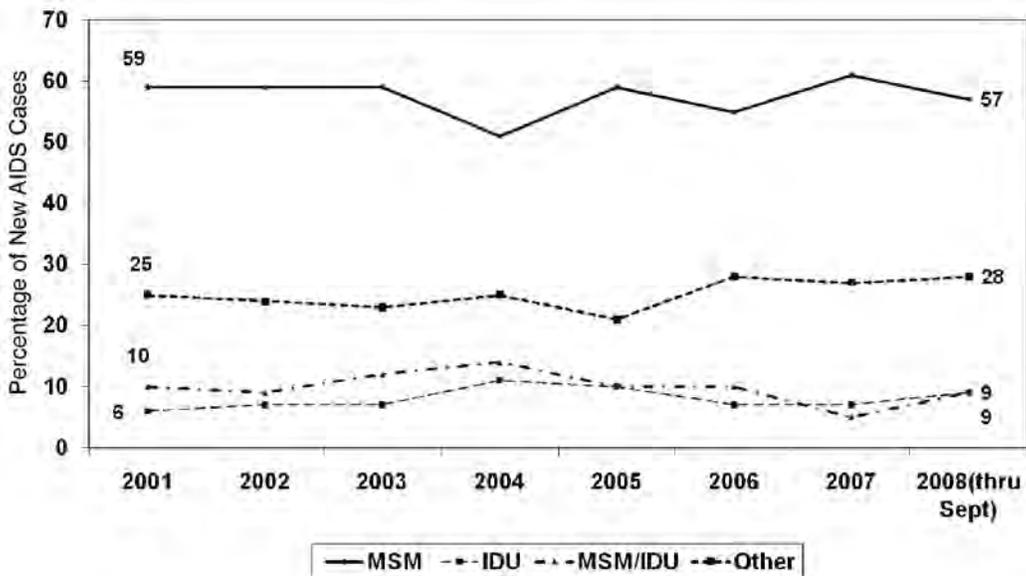
SOURCE: Colorado Department of Public Health and Environment

Exhibit 23. Number and Percentage of AIDS Cases, by Exposure Category, Colorado: Cumulative Through September 30, 2008

	Number of AIDS Cases	Percentage of AIDS Cases
Gender		
Male	8,442	91.3
Female	805	8.7
Total	9,247	100.0
Exposure Category		
Men who have sex with men (MSM)	6,129	66.3
Injection drug user (IDU)	838	9.1
MSM and IDU	984	10.6
Heterosexual contact	663	7.2
Other	663	6.8

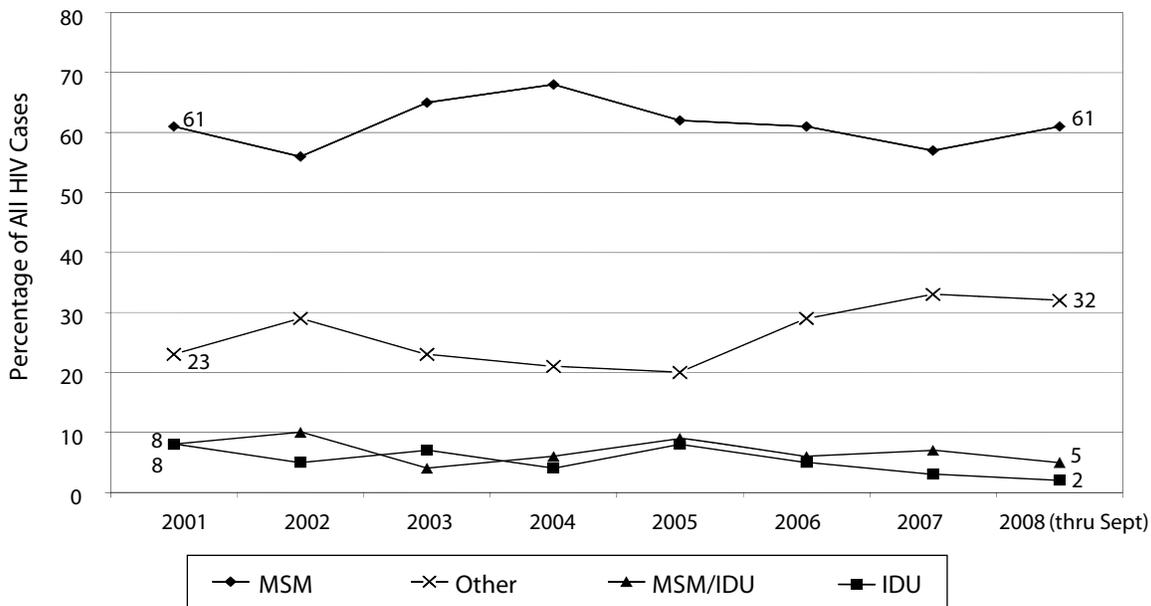
SOURCE: Colorado Department of Public Health and Environment

Exhibit 24. Percentage of New AIDS Cases, by Exposure Category and Year, Colorado: 2001-2008¹



¹2008 data are though September.
 SOURCE: Colorado Department of Public Health and Environment

Exhibit 25. Percentage of New HIV Cases, by Exposure Category and Year, Colorado: 2001-2008¹



¹2008 data are though September.
 SOURCE: Colorado Department of Public Health and Environment

Drug Abuse in Detroit, Wayne County, and Michigan: 2008

Cynthia L. Arfken, Ph.D. and
Yvonne E. Anthony, Ph.D., M.B.A., M.H.A.¹

ABSTRACT

Cocaine primary treatment admissions accounted for 19.4 percent of Detroit publicly funded admissions in first half of fiscal year (FY) 2009, a decline from FY 2008 when it accounted for 24.7 percent of admissions. Ninety-two percent of the admissions in the first half of FY 2009 were for crack cocaine. Of these cocaine admissions, 57.9 percent were male, 91.8 percent were African American, and 83 percent were older than 34. Cocaine accounted for 24.6 percent of Wayne County drug items reported by the National Forensic Laboratory Information System (NFLIS) in 2008, a decrease from 34.4 percent in 2007. In 2008, the Wayne County Medical Examiner (ME) reported 254 deaths involving cocaine, the highest number for all drugs, but lower than the preceding year. In the first half of FY 2009, heroin primary treatment admissions represented 38 percent of the publicly funded admissions, an increase from FY 2008 when it accounted for 31.7 percent; 63.4 percent were male, 84.5 percent were African American, and 92 percent were older than 34. White clients had a younger mean age and were more likely to inject heroin than African-American clients: 38.3 versus 50.7 years, and 72.4 versus 33.9 percent. Heroin items analyzed by forensic laboratories accounted for 8 percent of the total drug items. For 2008 compared with 2007, the Wayne County ME reported an increase in the number of deaths with heroin detected—210 compared with 167 in 2007. The Drug Enforcement Administration

(DEA) through the Heroin Domestic Monitor Program (HDMP) reported an increase in purity and cost for both South American heroin and Southwest Asian heroin. A focus group of law enforcement officials reported an increase in crime associated with heroin. Calls to the Poison Control Center about intentional use of heroin by humans increased in 2008, compared with 2007. There were declines in the number of deaths in which fentanyl, hydrocodone, or methadone was detected in decedents. Treatment admissions for marijuana accounted for 13.7 percent of the publicly funded admissions during the first half of FY 2009. Of these admissions, 59.9 percent were male (compared with FY 2008, when 71.8 percent of the admissions for marijuana were male), 92.2 percent were African American, and 25.3 percent were younger than 18. The percentage of admissions for marijuana who are older than 34 increased from 17.3 percent in FY 2008 to 20.8 percent in the first half of FY 2009. There was criminal justice involvement in 51.5 percent of the marijuana admissions, a decline from FY 2008 when it was 65.4 percent. Marijuana represented 45.0 percent of the drug items reported by NFLIS in 2008. Michigan voters approved a Medical Marijuana referendum in the 2008 election. The indicators for methamphetamine remained low. Ecstasy use was still troublesome, as evidenced by NFLIS, law enforcement, and ME reports.

INTRODUCTION

Area Description

Detroit and surrounding Wayne County are located in the southeast corner of Michigan's Lower Peninsula. In 2006, the Wayne County population totaled slightly less than 2 million residents (of whom 46 percent live in Detroit), and represented 19.2 percent of Michigan's 10.1 million population.

Michigan is the eighth most populous State in the Nation. In 2000, Detroit ranked 10th in population among cities (with 951,000 people),

¹The authors are affiliated with Wayne State University and City of Detroit Department of Health and Wellness Promotion.

but the population has since dropped. Detroit has the highest percentage of African Americans (82 percent) 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 are:

- 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 is substantially higher than the national level (32.1 versus 19.2 percent respectively).
- 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 and dropping prices. 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 more than doubled since 2000. 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) 2009 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 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) 2008. The Wayne County ME provided data on pathologists' determinations and deaths with positive drug toxicology for 2008. These drug tests were routine when the decedent had a known drug use history, was younger than 50, died of natural causes or homicide, was a motor vehicle accident victim, or there was no other clear cause of death.
- **Heroin purity data** were provided by the Drug Enforcement Administration (DEA) for 2007.
- **Drug intelligence data** were provided by the DEA and National Drug Intelligence Center.
- **Data on drug content** among drug seizures were provided by the National Forensic Laboratory Information System (NFLIS) for 2008. The report covers all of Wayne County.

- **Poison control case data** from contact data on cases of intentional abuse of substances for 2008 were provided by the Children's Hospital of Michigan Poison Control Center in Detroit. This center is one of two in Michigan; its catchment area is eastern Michigan.
- **Drug-related infectious disease data** were provided by the MDCH on the acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) prevalence estimates, as of January 1, 2009.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine

For the first half of FY 2009, 19.4 percent of all Detroit publicly funded treatment admissions listed either powder cocaine or crack cocaine as the primary drug of abuse (exhibit 1), a decline from 24.7 percent in FY 2008. Of the current admissions, 92 percent were for crack cocaine. An additional 18.0 percent had cocaine as a secondary drug of abuse. Clients seeking treatment for cocaine were predominately male (57.9 percent), African American (91.8 percent), and older (83 percent were older than 34). There was criminal justice involvement in 20.3 percent of the cocaine admissions, and 40.7 percent were homeless at the time of admission.

Cocaine constituted 24.6 percent of drug items reviewed by Wayne County forensic laboratories in 2008 (exhibit 2), a decline from 34.4 percent in 2007.

Cocaine was detected in 254 deaths during CY 2008 in Wayne County. This was a decline from 321 deaths with cocaine detected in CY 2007. Levamisole, a known contaminant of cocaine, was detected in 133 decedents.

The number of calls for intentional human use of cocaine to the poison control center dropped to 159 in 2008, from 176 in 2007.

According to intelligence reports, powder cocaine was in short supply with increased prices

at the wholesale level. Cocaine has been seized in Canada that was shipped from Michigan.

Heroin

In the first half of FY 2009, 38.0 percent of Detroit publicly funded treatment admissions listed heroin as the primary drug of abuse (exhibit 1). This is a sharp increase from 31.7 percent in FY 2008, and comparable to FY 2000 levels when it was 35.4 percent of admissions. An additional 1.4 percent had heroin as the secondary drug of abuse. Clients seeking treatment for heroin were likely to be male (63.4 percent), African American (84.5 percent), and older (92 percent were 35 or older). There was criminal justice involvement in 7.9 percent of the heroin admissions, and 16.1 percent reported being homeless at time of admission. White clients had a younger mean age and were more likely to inject heroin than African-American clients: 38.3 versus 50.7 years, and 72.4 versus 33.9 percent.

Only 8.0 percent of drug items reviewed by Wayne County forensic laboratories were found to contain heroin in 2008, similar to 8.6 percent in 2007 (exhibit 2).

Heroin was detected in 210 deaths during CY 2008 in Wayne County compared with 167 deaths during CY 2007. It was the only drug to be detected in more decedents in CY 2008 than in CY 2007.

Calls to the poison control center for intentional human use of heroin increased from 54 in CY 2007 to 76 in CY 2008.

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 41.4 percent in 2006. South America remained the dominant source, although heroin originating in Southwest Asia was identified. Deaths from heroin continued to occur elsewhere in Michigan, besides Detroit.

Other Opiates/Narcotic Analgesics

Other opiates represented 2.3 percent of primary treatment admissions in Detroit during the first half of FY 2009 (exhibit 1). This is almost double the 1.2 percent of primary treatment admissions in FY 2007. Of the admissions, 45.2 percent were for illicit methadone, with the remainder categorized as other opioids. An additional 1.7 percent had other opioids as the secondary drug of abuse.

Three opioids (hydrocodone, oxycodone, and codeine) were in the top 10 items detected in drug items reviewed by Wayne County forensic laboratories in 2008 (exhibit 2).

Toxicology findings from the Wayne County ME laboratory showed 68 decedents with methadone positivity and 8 decedents with fentanyl positivity. For methadone, this number was a decline from 107 decedents in 2006 and 94 in 2007. For fentanyl this number was a large decline from 244 decedents in 2006 and 72 in 2007. The surge in 2006 was noted in news media and resulted in outreach efforts to warn and educate drug users of the threat of fentanyl, by itself or with heroin or cocaine. Work groups also formed to address the threat. The monthly trends showed 2006 peaks in May and June, and then again in November. No large peaks were observed in 2007. Other opioids detected in decedents included hydrocodone (85 in 2008, compared with 183 in 2007) and oxycodone (25 in 2008, compared with 43 in 2007).

Poison control center calls did not show substantial changes from 2007 in intentional human usage of hydrocodone (512 in 2008 versus 521 in 2007), oxycodone (68 in 2008 versus 100 in 2007) and methadone (60 in 2008 versus 44 in 2007).

The number of prescriptions filled in Michigan across different schedules, including for opioids, continued to climb in 2008, compared with 2007. For schedule II medications, the number of prescriptions filled increased from 2,865,784 to 2,977,576 in 2008. For schedule III medications, the number of prescriptions filled increased from 6,422,221 to 6,556,999 in 2008.

According to intelligence reports, other opiates were common and viewed as better quality,

especially oxycodone. Due to the volume of cases, some police no longer take reports of stolen or lost prescriptions. Because of difficulty in prosecuting diversion cases, the DEA is the sole agency investigating these cases.

Marijuana

Marijuana indicators remained mostly stable, but at highly elevated levels. Domestic, Canadian, and Mexican marijuana remained widely available.

In Detroit, marijuana accounted for 13.7 percent of all publicly funded substance abuse treatment admissions in the first half of FY 2009 in Detroit (exhibit 1). Clients seeking treatment for marijuana were likely to be male (59.9 percent, but down from 74.1 percent in FY 2007), African American (92.2 percent), and have criminal justice involvement (51.5 percent, but down from 68.4 percent in FY 2007). Approximately one-fourth of the admissions (25.3 percent) were younger than 18, but this is a decline from FY 2007 when it was 38.7 percent.

Marijuana was found in 45 percent of drug items reviewed by Wayne County forensic laboratories in 2008, comparable to 2007 when it accounted for 42.8 percent (exhibit 2).

The Wayne County ME did not test for marijuana in decedents. The number of poison control center calls for human intentional use of marijuana increased from 84 in 2007 to 99 in 2008.

Michigan voters approved a Medical Marijuana referendum in the 2008 election with implementation in April 2009.

Stimulants

In Detroit during the first half of FY 2009, treatment data showed that admissions for stimulants other than cocaine as primary drugs of abuse included one admission for amphetamines. The ME found 12 deaths with positive toxicology for methamphetamine during CY 2007, but only 5 in CY 2008. The poison control center recorded

two calls for intentional human usage of methamphetamine in CY 2008.

CLUB DRUGS

The club drugs category included 3,4-methylenedioxymethamphetamine (MDMA or ecstasy), gamma hydroxybutyrate (GHB), flunitrazepam (Rohypnol®), and ketamine. Law enforcement officials reported that the supply of ecstasy may be increasing slightly. There were seizures of ecstasy shipments from Canada in Michigan. There were 14 treatment admissions for ecstasy during FY 2007, and 7 during the first half of FY 2009 (and 5 admissions with ecstasy as the secondary drug of abuse).

Toxicology findings from the Wayne County ME laboratory showed 5 decedents with MDMA during CY 2008, compared with 20 cases of MDMA during CY 2007. MDMA was found in 3.7 percent of drug items reviewed by forensic laboratories in 2007 (exhibit 2).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Michigan has an estimated AIDS prevalence rate of 138 per 100,000 population. As of January 1, 2009, a cumulative total of 23,450 cases of AIDS ever diagnosed had been reported in Michigan. Of the people currently living with AIDS or HIV, 68 percent live in the Detroit metropolitan area.

Injection drug users (IDUs) accounted for 16 percent of people living with HIV/AIDS; 12 percent had only this risk factor, and 4 percent were IDUs who were also men who have sex with men (MSM).

Of the 10,696 men currently living with AIDS or HIV, 15 percent were IDUs with 6 percent were in the dual risk group (IDU/MSM). Among the 3,182 women currently living with AIDS or HIV, 20 percent were IDUs (21 percent among African-American women, and 18 percent among White women), 62 percent were infected through heterosexual contact, and 16 percent had undetermined risk factors.

For inquiries concerning this report, contact Cynthia L. Arfken, Ph.D., Wayne State University, 2761 E. Jefferson, Detroit, Michigan 48207, Phone: 313-993-3490, Fax: 313-993-1370, E-mail: carfken@med.wayne.edu.

Exhibit 1. Percentage of Treatment Admissions¹, by Primary and Secondary Drugs of Abuse, Detroit: First Half of FY 2009

Drug	Primary Drug of Abuse (%)	Secondary Drug of Abuse (%)
NONE	0.0	55.4
Alcohol	26.3	13.8
Heroin	38.0	1.4
Cocaine, powder	1.5	3.5
Cocaine, crack	17.9	14.5
Other Opiates	2.3	1.7
Marijuana	13.7	8.9
Other Drugs	0.2	0.7

¹N=4,058.

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 2008¹

Substance	Number of Items Seized	Percent of Items Seized
Cannabis	2,847	45.0
Cocaine	1,555	24.6
Heroin	503	8.0
Hydrocodone	405	6.4
MDMA	232	3.7
Alprazolam	164	2.6
Oxycodone	86	1.4
Methamphetamine	70	1.1
Codeine	46	0.7
1-Benzylpiperazine (BZP)	32	0.5
Other	383	6.1
Total Items Reported	6,323	100.0

¹Data are for January–December 2008.

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

SOURCE: NLIS, DEA

Illicit Drug Use in Honolulu and the State of Hawai'i: 2008

D. William Wood, M.P.H., Ph.D.¹

ABSTRACT

This report presents data for illicit drug use in 2008 in Honolulu and the State of Hawai'i. During this year, there was a 29-percent decrease from 2007 in Medical Examiner reports for decedents positive for methamphetamine, and a 15-percent decrease in primary methamphetamine treatment admissions. The Honolulu Police Department reported the following: a 29.5-percent decrease from 2007 in methamphetamine cases; a 14-percent decrease in positive decedent presence of opiates; seizures of 42,154 grams of dried marijuana (a 42-percent decrease from 2007, and an 86-percent decrease in plants seized); a 1.2-percent increase in treatment admissions for marijuana, the smallest annual increase since 2005; and a 2.5-percent decrease in alcohol-related deaths. Data from the National Forensic Laboratory Information System (NFLIS) showed stability in the four drugs (methamphetamine, cannabis/marijuana, cocaine, and heroin) most often collected and analyzed over the past 4 years. However, with this report, data related to 3,4-methylenedioxymethamphetamine (MDMA) seizures are also included as the fifth category tracked. Numbers and risks for AIDS data are also presented. In late 2008, the State was undergoing the largest fiscal recession in several decades. Unemployment was nearly 10 percent, and a severe budget shortfall was being calculated. As of December 2008, the State legislature was poised to meet and to try to address a \$400 million shortfall.

¹The author is affiliated with the Department of Sociology, University of Hawai'i at Manoa, Honolulu, Hawai'i.

INTRODUCTION

This report presents current information on illicit drug use in Honolulu and the State of Hawai'i, based on the Honolulu Community Epidemiology Work Group (CEWG), which is described later in this section. The Honolulu CEWG has been operational for 20 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 Hawai'i's shores—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 Hawai'ian islands. Methamphetamine (methamphetamine HCl) in its purest and crystalline form has now impacted the entire Nation in one form or another. This report continues to track the reported reductions in the indicators for the drug.

Area Description

In spite of many warnings from the mainland about a recession or economic downturn, Hawai'i's economy remained robust throughout 2007, with little indication of any problems on the horizon. Although the State's "Council of Revenues" predicted a slight slowing of the economy for early 2008, a major recession was about to hit Hawai'i's shores. As the year unfolded, estimates suddenly began to look dismal. The closure of operations of two airlines serving Hawai'i were among the first indicators that something was wrong in paradise. Those closures generated nearly 3,000 lost jobs in the service industry, but more importantly were echoed by the major airlines reducing the numbers of seats coming to Hawai'i by nearly 35 percent. The rapid increase in fuel prices also negatively impacted the economy, particularly the tourist arrivals from Asia and the mainland. Hotel occupancies plunged in the late fall of 2008, and predictions for the economy dropped even further. For the first time in memory, there was an unemployment rate that neared double digits.

Under normal circumstances, the population of Hawai'i contains roughly 10 percent military residents and their dependents. During this period (2008), the deployment of large numbers of military—active duty, National Guard, and Reserves—continued to negatively influence the State economy with: fewer civilian jobs on the bases; the departure of families of active duty personnel for their family homes on the mainland; and the general decline in purchasing power of families whose primary earner lost their regular wage, or was forced to accommodate the military wage structures.

Housing prices remained relatively stable throughout the year, with the only visible sign of change being the length of time homes were on the market. Rental prices have increased, and availability of new rentals increased during the year. In 2008, the price drop for housing was approximately 8 to 9 percent. During the last quarter of 2008, noticeable numbers of foreclosures appeared in the newspaper, but the crisis remained somewhat hidden to the general population.

During 2008, the local High Intensity Drug Trafficking Area (HIDTA) successfully seized record amounts of methamphetamine and marijuana; this has heightened awareness about drug trafficking within the State. There have been reductions in the number of cases reported by all police departments in the State; treatment data show reductions in admissions for methamphetamine and cocaine; and the Medical Examiner (ME) for Honolulu reported stable to slight reductions in the number of positive toxicology screens for methamphetamine and cocaine among decedents.

Data Sources

Much of the data presented in this report are from the Honolulu CEWG, which met on May 17, 2009. The meeting was hosted by the Hawai'i HIDTA program office, whose staff facilitated the attendance of the Drug Enforcement Administration (DEA) representatives, as well as individuals from

Honolulu and neighbor islands knowledgeable about drug data. The Honolulu Police Department (HPD) submitted data, but was unable to attend due to staff training. The County ME's Office provided data on toxicology screens from decedents for 2008, and participated in a post-meeting consultation to clarify their data. The State's Alcohol and Drug Abuse Division (ADAD) attended and presented data from the State treatment data system.

This report is focused only on drug activities on O'ahu (Honolulu County) for the calendar year 2008. Other specific data sources are listed below:

- **Treatment admissions and demographic data** were provided by the Hawai'i State Department of Health, 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 were covered by State health insurance agencies or by private insurance. The rate of uninsured residents for the State is approximately 10 percent.
- **Drug-related death data** were provided by the Honolulu City and County ME Office for 1991 through 2008. 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 the 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 O'ahu. 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 2008 were received from the Narcotics/Vice Division only.
- **Drug price data** were provided for 2008 by the HPD, Narcotics/Vice Division.
- **Uniform Crime Reports (UCR) data** were accessed from the State's Attorney General's Web site for 1975–2007.

DRUG ABUSE PATTERNS AND TRENDS

Mixed Part-Hawai'ians², followed by Caucasians, remain the majority (63.6 percent of all admissions) user groups among the 17 identified ethnic groups (plus two other categories: "other" and "unknown/blank") accessing ADAD facilities for substance abuse treatment. During 2008, 41.9 and 21.7 percent of admissions to treatment services were Mixed Part-Hawai'ian or Caucasian, respectively. All other groups represented significantly lower proportions of admissions. A 2:1 ratio of males to females characterized treatment admissions (63.1 percent male); clients under 18 (30.4 percent), and clients in the 25–34 (22.6 percent) and 35–44 (18.6 percent) age groups dominated admissions. More than one-third (37.1 percent) of admissions were from court referrals; 8.6 percent came from State schools (education); 3.3 percent came from Child Protection Services; and approximately 6.3 percent were from other health care providers. Thirty (30.0) percent of all admissions were students.

Methamphetamine was the second primary substance of abuse for clients admitted to treatment, accounting for 32.1 percent of all admissions in 2008. Marijuana remained the third most frequently reported primary substance for treatment admissions (24.0 percent), with alcohol (32.2 percent) the leading primary substance self-reported on admission to treatment. As in

other jurisdictions, almost all treatment admissions were for polydrug abuse, 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 this group.

Police data used in this report only represent the HPD. 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 and from this point forward only HPD data will be reported.

During 2008, drug prices remained relatively stable in most categories (exhibit 1). Methamphetamine prices were down; heroin prices were down for powdered white heroin, now more available on the street, but up for black tar heroin. Powder cocaine prices were also up, although crack prices remained stable from 2007. The size of the drug supply seemed stable, with seizures having little impact on price structure. The drop in purity mentioned in previous reports had little effect on price, and both price and purity remained high following seizures.

Cocaine/Crack

Powder cocaine/crack treatment admissions in Hawai'i declined during the current period. There were 363 primary cocaine treatment admissions in 2004; for 2005, that number was 244; for 2006 it rose to 378; for 2007 it dropped to 349; and for 2008 it dropped again to 316, a decrease of nearly 10 percent (exhibit 2). This suggests that the number of clients listing cocaine as the primary drug, after a slow decline of several years, began to rise but has leveled and declined. There may be an association between the reported changes in methamphetamine admissions and those of cocaine admissions. Powder cocaine/crack ranked fourth (with 2.2 percent of admissions)

²Hawai'ians are defined as those who state on admission that they are of Hawai'ian ancestry and may or may not be pure Hawai'ian. Hawai'ians are defined as those who on admission state that they are pure Hawai'ian and represent only 2.2 percent of all admissions.

among primary drugs of treatment admissions, after methamphetamine, alcohol, marijuana, and other drugs. The numbers of admissions with cocaine as a secondary or tertiary drug was not reported by the ADAD.

The Honolulu ME reported 21 deaths with a cocaine-positive toxicology screen during 2008, compared with 29 deaths in 2007; 27 deaths in 2006; and 15 deaths in 2005 (exhibit 2; ME data in exhibit 2 has been adjusted to allow for their presentation on the same axes by multiplying all death data by a constant of 10). In 2004, there were 22 deaths, compared with 22–26 in 1999–2003. This reinforces the continual decline in cocaine use shown in treatment data over the past decade. The ME data do show a marked increase for 2006, and a smaller one for 2007. However, the 2008 data showed a return to the decade average for cocaine-positive toxicological screens among decedents (exhibit 2).

According to the HPD, the price of street cocaine has been stable, although the price has risen slightly at the wholesale level over the past several years. One-quarter gram of crack sold for \$20–\$40 in 2008, the same amount of powder cocaine was listed at the same price on the HPD chart (exhibit 1). Police cases for cocaine/crack were at a decade high in 2006, with 305 cases (a 111-percent increase from 2005), but declined to 248 cases in 2007 (an 18.7-percent decrease); there were 145 in 2008 (a 41.5-percent decrease). In 2005, there were 144 cases (exhibit 3), compared with 239 cases in 2004, and 202 in 2003. Over the past several years, the number of HPD cocaine cases plummeted from more than 1,200 cases in 1996 to less than 150 cases in 2005 (an 88-percent decline over the decade). Cocaine seizures by HPD also increased to 9,343.3 grams of powder cocaine, and 481.5 grams of rock cocaine in 2006; continued to rise to 12,571.4 grams of powder, and 731.7 grams of rock in 2007. In 2008, seizures were 14,364 grams of powder, and 67.9 grams of rock cocaine, the latter being less than 10 percent of the rock cocaine seized the previous year. This compares with 8,797 grams of powder, and 464 grams of rock cocaine in 2005; 14,927

grams of powder, and 239 grams of rock cocaine in 2004; 7,637 grams of powder, and 3,721 grams of rock in 2003; and 5,727 grams of powder, and 629 grams of rock cocaine in 2002.

Heroin and Other Opiates

Heroin in Honolulu is almost certainly black tar heroin. Black tar heroin is readily available in all areas of the State. China white heroin has been uncommon in Hawai'i for many years, but it is occasionally available for a premium price. HPD data showed 1.6 grams of black tar heroin, and 1.55 grams of white powder heroin were seized and identified in 2006; 33.0 grams of black tar heroin, and 0.01 grams of white powder heroin were seized and identified in 2007. In 2008, 3,151 grams of black tar heroin were seized and identified (a 9,448-percent increase); powder heroin seizures totaled 0.52 grams), reinforcing the notion that black tar heroin dominates the heroin market in Honolulu. It also suggests that there is much more heroin in the community than has been the case in the past several years. These data compare with the 3,602 grams of black tar heroin, and 18.5 grams of China white powder seized in 2005, which was triple the amount seized for 2004 (1,251 grams of black tar, and 1.7 grams of powder), and was even higher than the 3,502 grams of black tar, and the 0.019 grams of powder seized and identified in 2003. In 2002, 992 grams of black tar, and 494 grams of powder were seized and identified. In 2001, 530 grams of powder were seized and identified, along with 3,258 grams of black tar heroin. According to the HPD in 2008, black tar heroin prices increased in Honolulu at \$20–\$50 per one-quarter gram; \$1,000–\$1,800 per one-quarter ounce (7 grams); and \$2,400–\$4,000 per ounce (exhibit 1). Powder heroin, not mentioned for several years in price data, was \$30–\$70 per one-quarter gram; \$100–\$175 per ½ Teen; and \$350–\$450 per 8-ball.

A continuation of the 3-year decrease in heroin treatment admissions in Hawai'i (exhibit 4) occurred. In 1998, record levels of treatment

admissions were recorded, with more than 500 individual admissions that year. In 2008, however, heroin ranked seventh if considered alone (1.9 percent), or if considered along with and other opiate admissions, ranked fifth (4.4 percent) among treatment admissions.

The Honolulu ME reported that deaths in which opiates were detected fell to 77 in 2008 (not including 17 deaths with methadone appearing in the toxicology screen). This compares with a 4-year increase in opiates being detected in decedents from 2004 through 2007. However, the residuals of heroin versus morphine and other opiates could not be definitively separated for many of the cases, leaving the ME unable to accurately determine which cases involved heroin and which did not. Because of this, all opiate deaths are shown along with heroin deaths in exhibit 4. Decedents with a positive toxicological result for other opiates were primarily comprised of those in whom hydrocodone, oxycodone, morphine, or methadone were detected. The exact medication used (e.g., OxyContin®) was not specified. Fifteen decedents had oxycodone present, 12 had hydrocodone, none had fentanyl, and an additional 17 had methadone present in their toxicology screens in 2008. The rest were not clearly identifiable with the testing done by the ME office.

The HPD reported 53 heroin cases in 2008, compared with 19 heroin cases in 2007; 15 cases in 2006; 31 cases in 2005; and 25 cases in 2001, 44 in 2002, 33 in 2003, and 30 in 2004 (exhibit 5). In spite of the very high number of cases reported in 1998 (87), the decade-long trend in heroin cases has been a downward one from the 54 cases reported in 1995.

Marijuana

Statewide, marijuana treatment admissions for 2008 rose to a new height of all years collected since 1991. A total of 2,042 admissions with marijuana as the primary drug occurred in 2008, compared with 2,018 admissions in 2007; 1,783 admissions in 2006; 1,733 admissions in 2005; and the 1,461 admissions in 2004 (exhibit

6). Clients admitted for treatment in 2008 continued to be younger and referred by the courts and schools. The number of clients in treatment for marijuana use in 2008 represents an eight-fold increase over the number in treatment in 1991, the first year for which full data was collected. It is important to note that while marijuana is listed as the primary drug of use at admission, many users of other drugs use marijuana as a secondary or tertiary drug of choice.

Between 1994 and 1999, the O'ahu ME reported 12–21 deaths per year in which marijuana was found in the specimens submitted for toxicology screening (exhibit 6). Those numbers increased to 25 in 2000; 36 in 2001; 30 in 2002; 32 in 2003; 31 in 2004; 43 in 2005; 44 in 2006; and 45 in 2007. In 2008, the number of decedents with a positive tetrahydrocannabinol (THC) toxicological screen totaled 37, the first decrease reported since 2004. In most instances, marijuana was used with other drugs if there was a drug-related death.

The HPD continues to monitor, but to not specifically report, case data for marijuana. Instead, marijuana cases are lumped together with other under the category “Detrimental Drugs,” an artifact of the system UCR. 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 O'ahu for sale. Exhibit 7 shows 186 cases of detrimental drugs reported by the HPD in 2008. This compares with 125 detrimental drug cases in 2007; 120 cases reported in 2006; and the 116 cases reported in 2005. In 2008, 3,119 marijuana plants were seized, and a total of 159,653.53 grams of dried marijuana were seized and identified. This compares with the 4,491 marijuana plants seized in 2007, and the 45,378.8 grams of dried marijuana seized the same year. The comparable numbers for 2006 were 4,842 plants, and 95,187 grams of dried marijuana; in 2005, there were 6,814 plants, and 81,966 grams of dried marijuana; in 2004, there were 1,045 plants, and 24,814 grams of dried marijuana seized and identified.

As shown in exhibit 1, marijuana cost \$20–\$40 per joint and \$275–\$500 per ounce during 2008, a slight increase over previous years.

Methamphetamine

Hawai'i's problem with methamphetamine has existed for over 20 years. It remains the drug of choice among the 18–34 age group. The concerns of treatment providers and law enforcement officers have been well documented in these reports over the years. Now, for the first time, a positive note seems to be sounding. Hawai'i'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 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 a necessary but obviously not a sufficient condition for smoking the drug, Hawai'i's chosen route of administration. No decline in users, cases, decedents, or clients admitted to treatment occurred during this apparent period of low purity.

Statewide, methamphetamine treatment admissions continued to decline in 2008, with 2,726 admissions. The numbers had declined slightly in 2006 from 2005 (2.9 percent), and again declined in 2007 (2005=3,353; 2006=3,253; 2007=3,209), but still accounted for 32.1 percent of all admissions in 2008. The continued increase in admissions observed for the past 13 years (exhibit 8), declined for the second time in over a decade. In 2004, there were 3,328 treatment admissions, and there were 3,182 treatment admissions in 2003, up from 2,677 in 2002. The increase in demand for treatment space for methamphetamine abusers has been nearly 2,000 percent since 1991. While this situation continues

to outstrip the treatment system's capacity, for the first time in recent memory more cases were admitted in 2008 with alcohol as their primary substance of abuse (2,736) than for methamphetamine (2,726).

Between 1994 and 2000, the O'ahu ME mentioned crystal methamphetamine in 24–38 cases per year (exhibit 8). In 2001, that number jumped to 54, and methamphetamine-positive decedents increased to 62 in 2002. In 2003, the number of decedents with methamphetamine detected in their toxicology reports was 56; in 2004 it was 67 decedents; and in 2005, a total of 88 decedents were found to have a positive toxicology for methamphetamine, representing 97.3 deaths per 1,000,000 population for the island of O'ahu. The 2006 ME report showed 67 decedents with positive toxicology reports; in 2007, the ME report showed 56 deaths with a positive toxicology screen for methamphetamine. There were 40 reported cases in 2008.

Crystal methamphetamine prices remained constant for street purchases and for wholesale size purchases in 2008. 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 about \$50 per 0.25 gram in 2008. This was similar to the 2007 street prices for small quantities of the drug. Wash sold for \$425 for 3.5 grams, and clear sold for \$700 for the same quantity, a decrease from the previous year. Amounts of one pound sold for \$28,000 as wash and \$42,000 as clear (exhibit 1).

HPD methamphetamine case data for Honolulu vary considerably from year to year. The highest recorded number of cases in the past decade was in 2003 (964); the lowest number (502) was in 1997 (exhibit 9). In 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, a decline of 25 percent. In 2007, the number of cases declined by another 21 percent, to 567 cases. In 2008, the number of cases continued to decline, to 400 cases (a 29-percent decline).

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).

Seizures of methamphetamine were up again in 2008. The 101,260.8 grams of ice seized and identified in 2008 was the highest in many years. In 2007, a total of 43,789.8 grams of ice were seized, compared with 32,277 grams of ice seized in 2006; 74,767 grams of ice seized in 2005; and 63,000 grams of ice seized in 2004. The sudden increases in the amount of methamphetamine seized and identified, and the total absence of powder methamphetamine seized seems 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 should be followed over another few data collection periods. The shift to cocaine use also parallels occurrences in other jurisdictions, where users of methamphetamine have shifted to cocaine as a stimulant that is not as damaging, reserving use of methamphetamine for periodic “binge” use.

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 are minimal in terms of impact on the State system. Annually, the numbers admitted to treatment for these drugs have totaled less than 40. The number of ME mentions for depressants in Honolulu has remained stable for several years at five or less. The HPD has not reported depressant case data since 1991. Neighbor island police reported fewer than 15 cases per year since 1996.

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. Prices for lysergic acid diethylamide (LSD)

were \$4–\$6 per “hit,” and \$225–\$275 per 100 dosage unit sheets (a “page”) in 2005 (exhibit 1).

Overall Death Data

Exhibit 10 shows that over the past 17 years, Honolulu ME drug cases have varied considerably. Brief descriptions of drug trends, as seen from the ME’s viewpoint, were very complex in the early 1990s, with low numbers of cases for cocaine, methamphetamine, and marijuana. In addition, it is important to note that the accumulation of drug cases in 1993–1995 became quite high.

By 2000, heroin cases had started to decline, but marijuana and methamphetamine cases began to soar in numbers. Cocaine cases remained relatively stable throughout this period, but they appear to have begun a decline in the mid 2000–2005 period, although increasing for 2006–2007, and declining for 2008. Alcohol cases, which were only added to the series in 2000, show a continual and rapid increase until 2006 when they suddenly dropped.

National Forensic Laboratory Information System (NFLIS) Data

NFLIS is a project of the U.S. Department of Justice, DEA that systematically collects results from chemical analyses conducted by State and local forensic laboratories across the country. Through special arrangements between the DEA and the National Institute on Drug Abuse (NIDA), data related to the areas included in the CEWG efforts are made available to the local representatives for presentation at CEWG meetings. Exhibit 11 shows the data for Honolulu for 2002 through 2008. 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 interesting findings that relate to the dominance of methamphetamine within the drug community of Hawai‘i. First, the proportion of

all samples collected that are methamphetamine ranges between 41.1 and 62.5 percent across the 7 years of available data. However, it is important to note that for 2008, a notable decline in methamphetamine samples was reported. The second important finding in this exhibit is that the second most commonly occurring drug in the samples is cannabis/marijuana, and cannabis/marijuana rates are constantly between 16.5 to 25.0 percent. Third on the list of drugs consistently appearing across all years is cocaine, and cocaine is at rates of between 11.9 and 18.2 percent. Heroin is always the fourth drug in terms of proportion of all drugs sampled across the 4 years, and is consistently between 1.6 and 2.2 percent. These four drugs—methamphetamine, cannabis/marijuana, cocaine, and heroin—represent a cumulative total of between 92.01 and 94.49 percent. However, in 2007, and again in 2008, 3,4-methylenedioxy-methamphetamine (MDMA) samples became notable for their numbers, and equaled heroin numbers for 2008. All other drug samples of all other drugs represent less than 10 percent of the total samples tested.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

State-level data regarding the number of acquired immune deficiency syndrome (AIDS) cases that

have been reported from 1983 to 2008 are shown by risk factor in exhibit 12. Men having sex with men (MSM) transmission represents 72 percent of all cases. Injection drug use (IDU) was a risk for 8 percent, with another 7 percent including both IDU and MSM risk. All other reasons accounted for less than 15 percent of all cases.

Since 1983, a total of 3,011 AIDS cases were reported to the Hawai'i State Department of Health by health providers, and 1,752 (58.2 percent) of these individuals are known to be deceased. The estimated size of the population in Hawai'i living with human immunodeficiency virus (HIV)/AIDS is between 2,600 and 2,900, including those who are presently unaware of their HIV-positive status. There were 87 cases reported in 2008 (1 year), which yields an annual AIDS report rate of 6.8 per 100,000 population. Of the 87 cases, there were 72 (87.0 percent) males and 11 (11.0 percent) females.

For inquiries concerning this report, contact D. William Wood, Ph.D., Department of Sociology, University of Hawai'i at Manoa, 2424 Maile Way, Room 247 Saunders Hall, Honolulu, HI 96822, Phone: 808-956-7693, Fax: 808-965-3707, E-mail: dwwood@hawaii.edu.

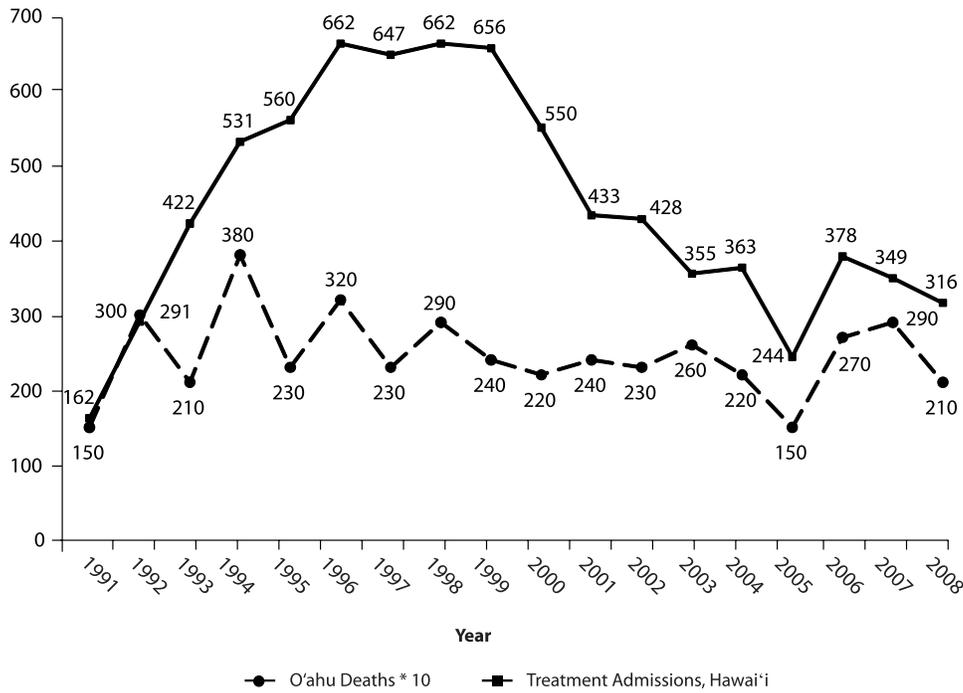
Exhibit 1. Street Prices of Narcotics/Dangerous Drugs, City and County of Honolulu: As of 4/21/09

Drug Type	Paper	½ Teen	Teen/"T"	8-ball	Quarter	Half	"O"	"LBS"	KILO's
	.25 grams	1/32 oz. .88 grams	1/16 oz. 1.77 grams	1/8 oz. 3.5 grams	1/4 oz. 7.0 grams	1/2 oz. 14.175 grams	Ounce 28.35 grams	Pound 453.59 grams	2.2 lbs or 2.2046 lbs
Crystal Methamphetamine	\$50–\$100	\$125–\$250	\$250–\$350	\$425–\$700	\$650–\$1,500	\$1,200–\$2,400	\$2,300–\$3,600	\$28,000–\$42,000	\$70,000
Heroin, Powder	\$30–\$70	\$100–\$175	—	\$350–\$450	—	—	\$1,800–\$2,500	\$30,000	\$70,000
Black Tar	\$20–\$50	\$100–\$150	\$300–\$500	\$600–\$1,000	\$1,000–\$1,800	—	\$2,400–\$4,000	—	—
Cocaine, Powder	—	\$150–\$200	—	\$300–\$500	\$500–\$800	—	\$1,200–\$2,000	\$18,500–\$25,000	\$35,000–\$45,000
Rock Cocaine	\$20–\$40	—	—	\$200–\$300	—	—	—	—	—
Crack Cocaine	\$20–\$40	\$75–\$150	\$150–\$250	\$300–\$450	\$500–\$800	\$1,000–\$1,500	\$2,200–\$3,200	—	—
Ecstasy	\$10–\$30 per dose	\$14–\$16 per dose/100+	\$10–\$13 per dose/500+	\$8–\$9 per dose/1,000+	—	—	—	—	—
Marijuana	\$20–\$40	\$100–\$120	—	—	—	\$150–\$250	\$275–\$500	\$5,600–\$9,000	—
Hashish	\$10–\$15	—	—	—	—	—	—	—	—
PCP	\$10–\$20	\$100 gram	—	—	\$350–\$550	—	\$900–\$1,200	—	—
LSD	\$4–\$6 per hit	—	—	—	\$225–\$275 per 100 hits	—	—	—	—
Vicodin®	\$3–\$5 per tablet	—	—	—	—	—	—	—	—
Valium®	\$3–\$5 per tablet	—	—	—	—	—	—	—	—
Xanax®	\$3–\$8 per tablet	—	—	—	—	—	—	—	—

Note: For Statistical Purposes: 1 gram value of crystal methamphetamine = \$300

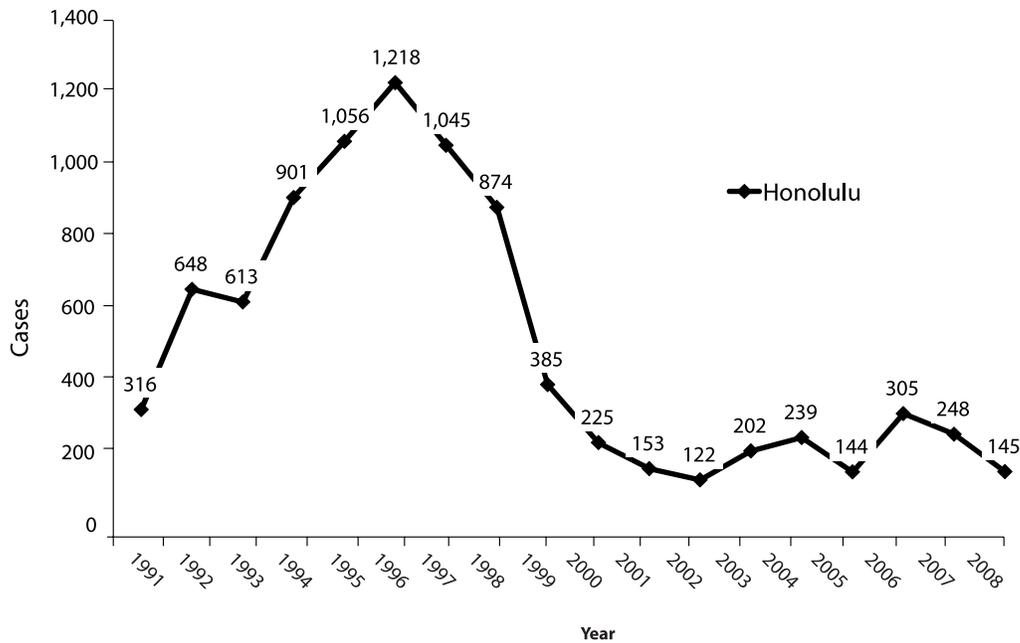
SOURCE: Honolulu Police Department, Narcotics/Vice HI-IMPACT Detail, revised as of 04/21/09

Exhibit 2. Number of Cocaine-Related Deaths, O'ahu (Weighted by a Factor of 10), and Primary Cocaine Treatment Admissions, Hawai'i: 1991–2008



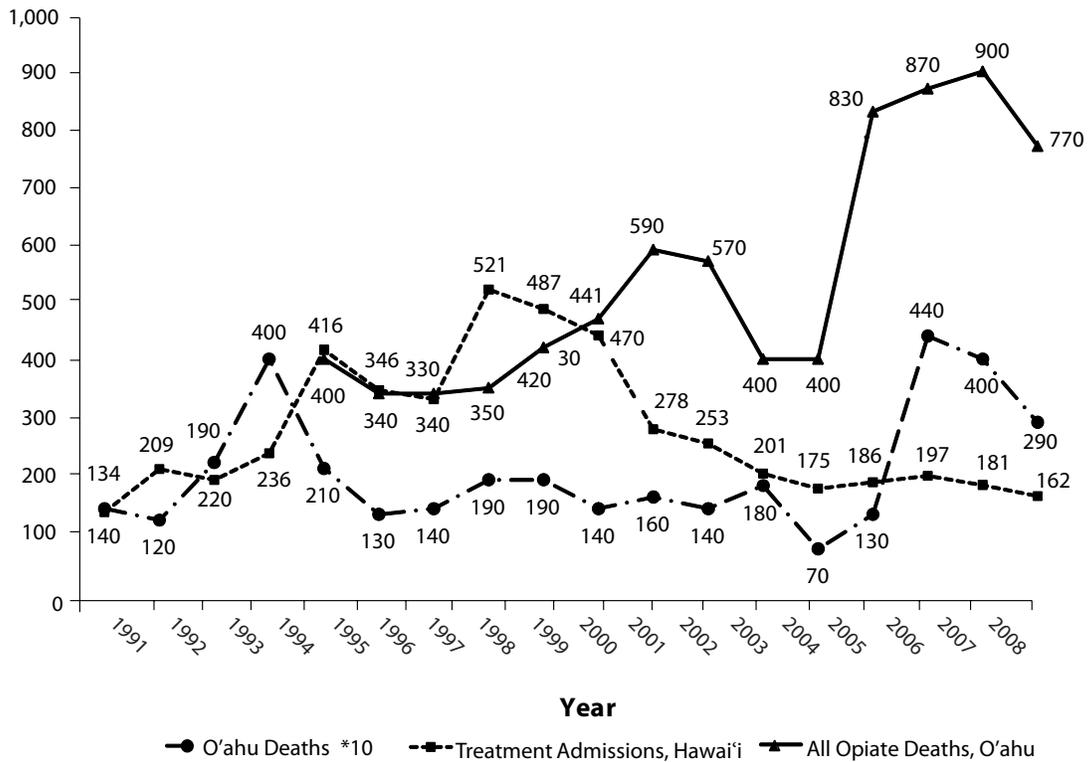
SOURCES: Honolulu City and County Medical Examiner's Office; Hawai'i State Department of Health, Alcohol, and Drug Abuse Division

Exhibit 3. Number of Cocaine-Related Arrests and Other Police Cases, Honolulu : 1991–2008



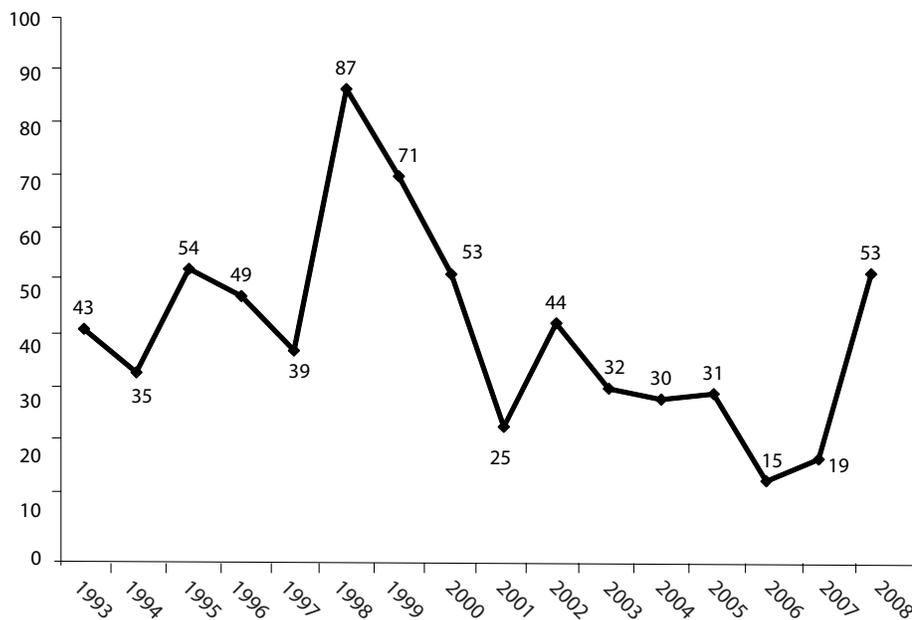
SOURCE: Honolulu Police Department

Exhibit 4. Number of Heroin-Related Deaths, O'ahu (Weighted by a Factor of 10), and Primary Heroin Treatment Admissions, Hawai'i: 1991–2008



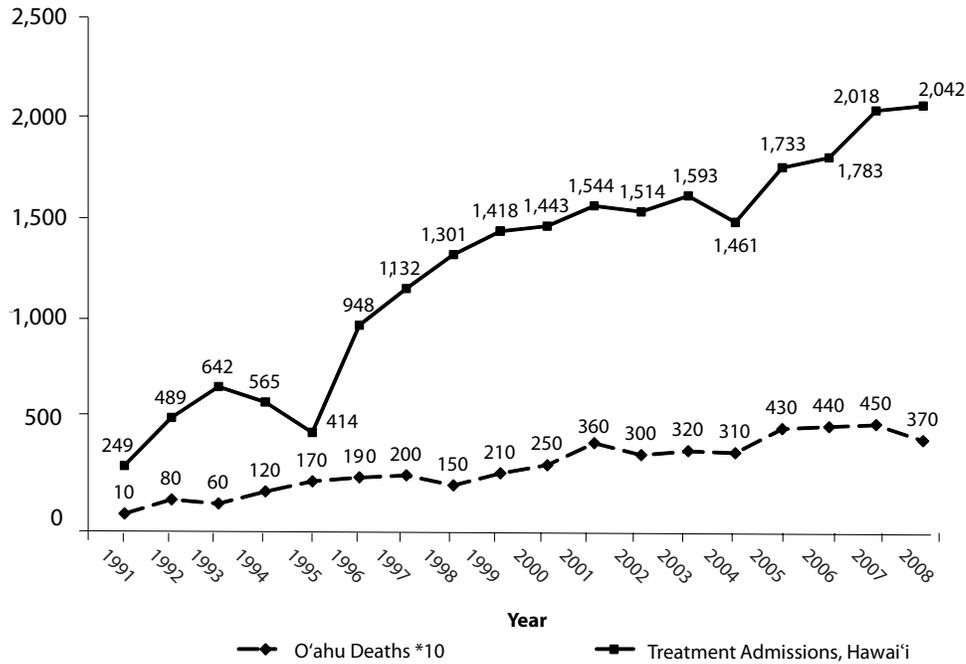
SOURCES: Honolulu City and County Medical Examiner's Office; Hawai'i State Department of Health, Alcohol, and Drug Abuse Division

Exhibit 5. Number of Heroin-Related Arrests and Other Police Cases, Honolulu: 1993–2003



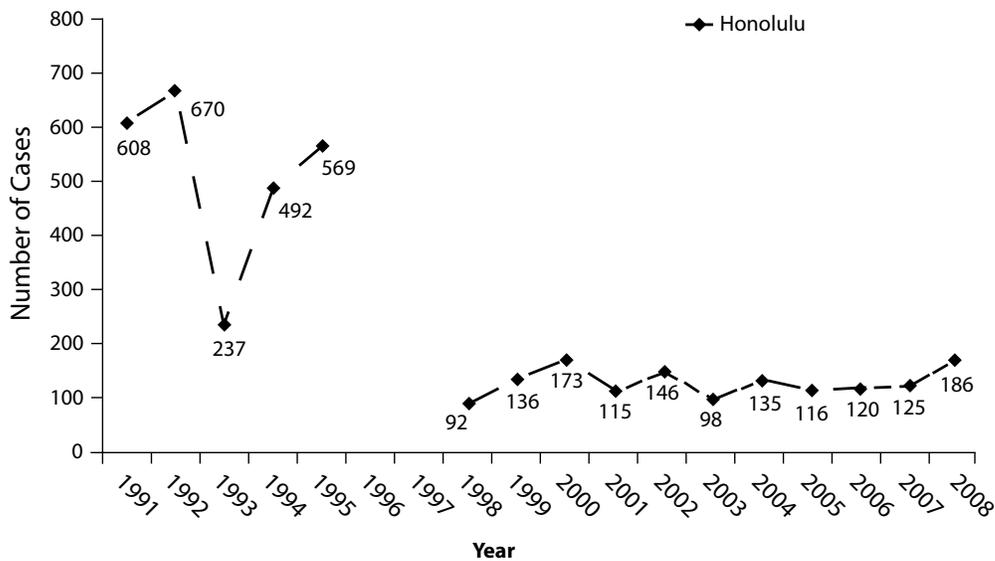
SOURCE: Honolulu Police Department

Exhibit 6. Number of Marijuana-Related Deaths, O'ahu (Weighted by a Factor of 10) and Primary Marijuana Treatment Admissions, Hawai'i 1991–2008



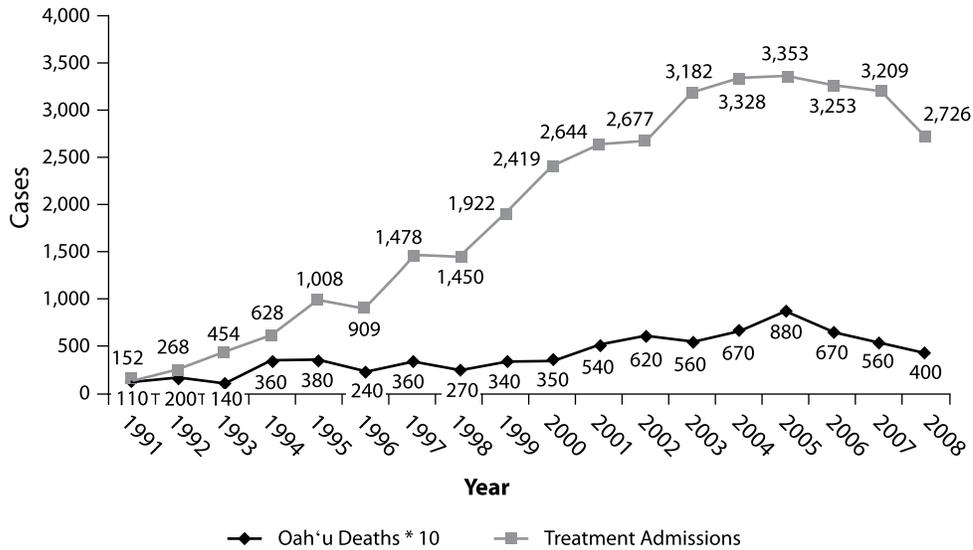
SOURCES: Honolulu City and County Medical Examiner's Office; Hawai'i State Department of Health, Alcohol, Drug Abuse Division

Exhibit 7. Number of Marijuana-Related Arrests and Other Police Cases, Honolulu: 1991–2008



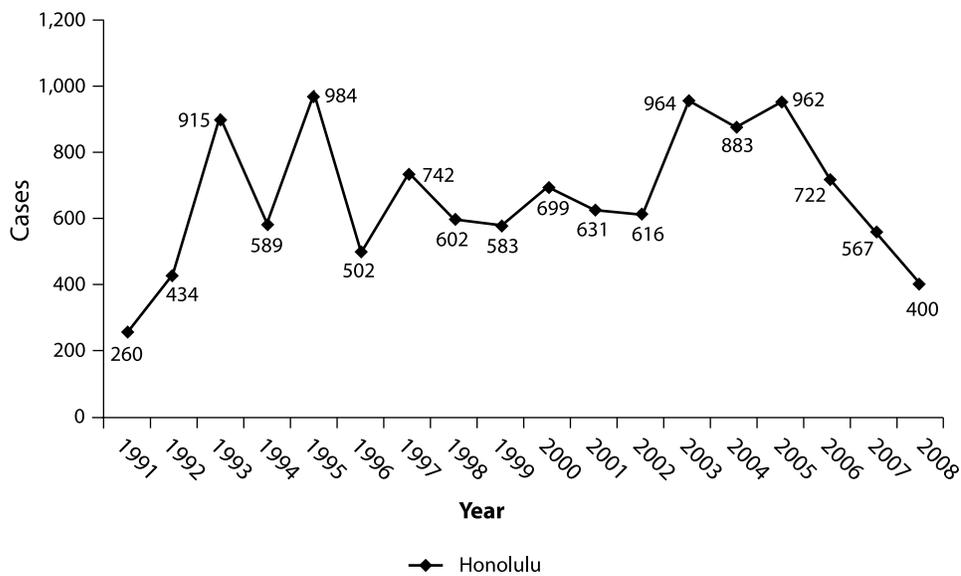
SOURCE: Honolulu Police Department

Exhibit 8. Number of Methamphetamine-Related Oah‘u Deaths (Weighted by a Factor of 10) and Primary Methamphetamine Treatment Admissions, Hawai‘i: 1991–2008



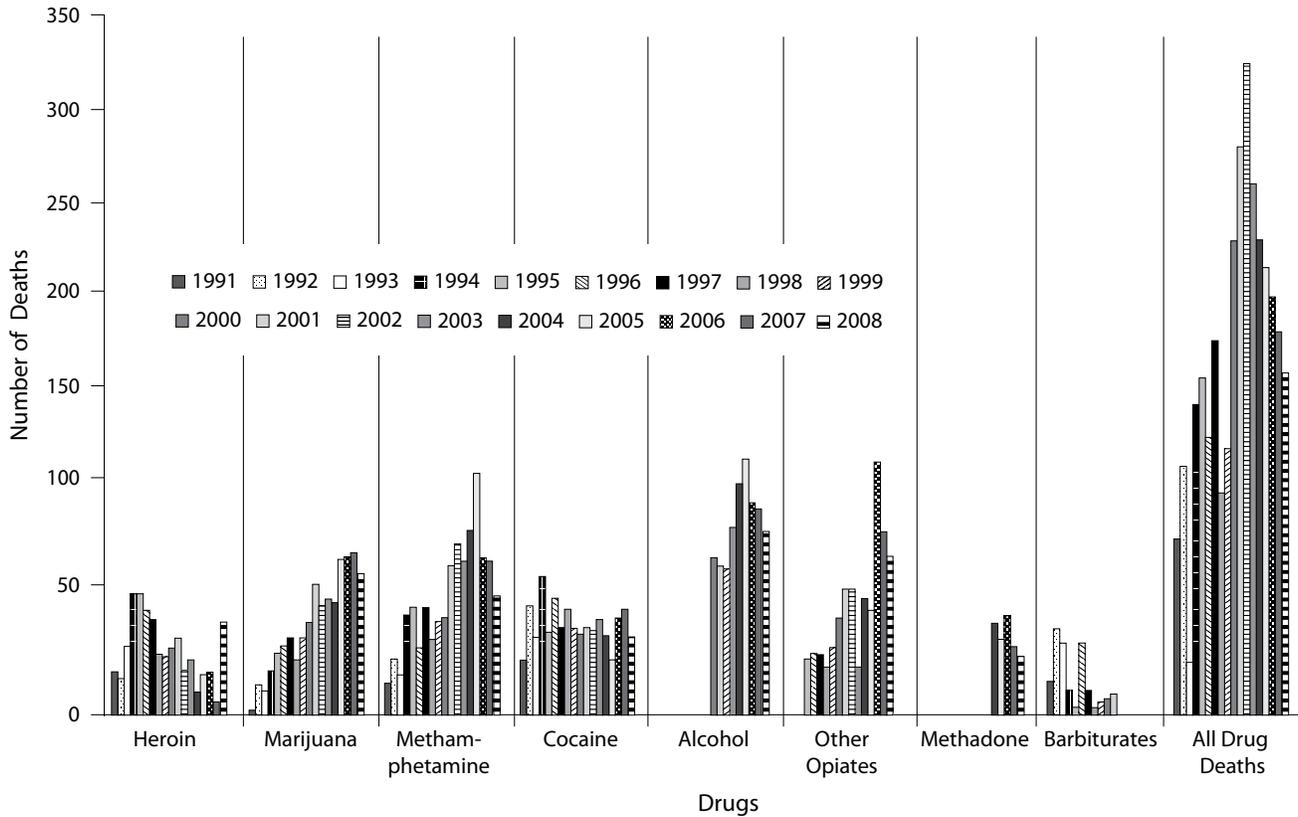
SOURCES: Honolulu City and County Medical Examiner’s Office; Hawai‘i State Department of Health, Alcohol, and Drug Abuse Division

Exhibit 9. Number of Methamphetamine-Related Police Cases, Honolulu: 1991–2008



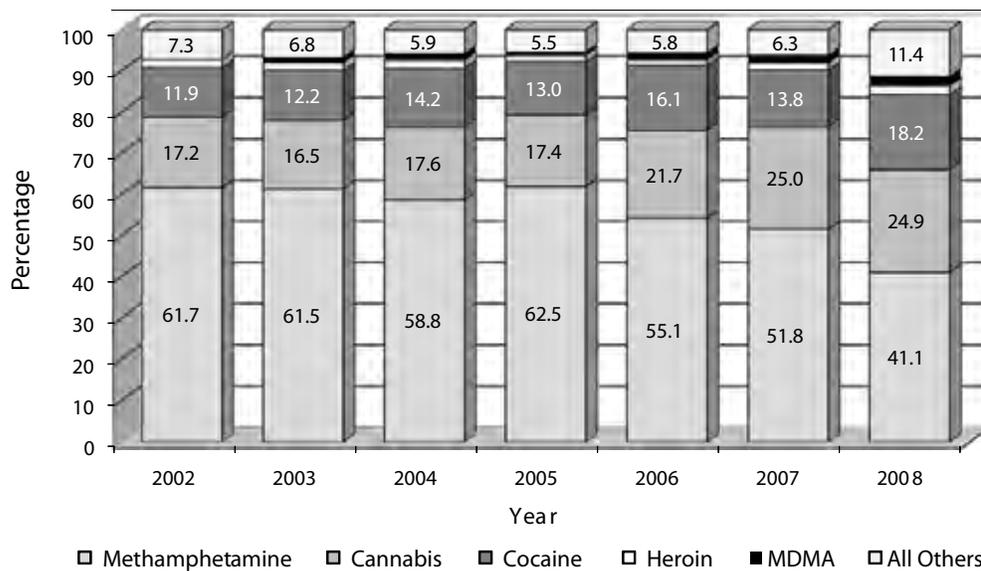
SOURCE: Honolulu Police Department

Exhibit 10. Number of Deaths in Which Drugs Were Present for Selected Drugs, Hawai'i: Annual Data from 1991–2008



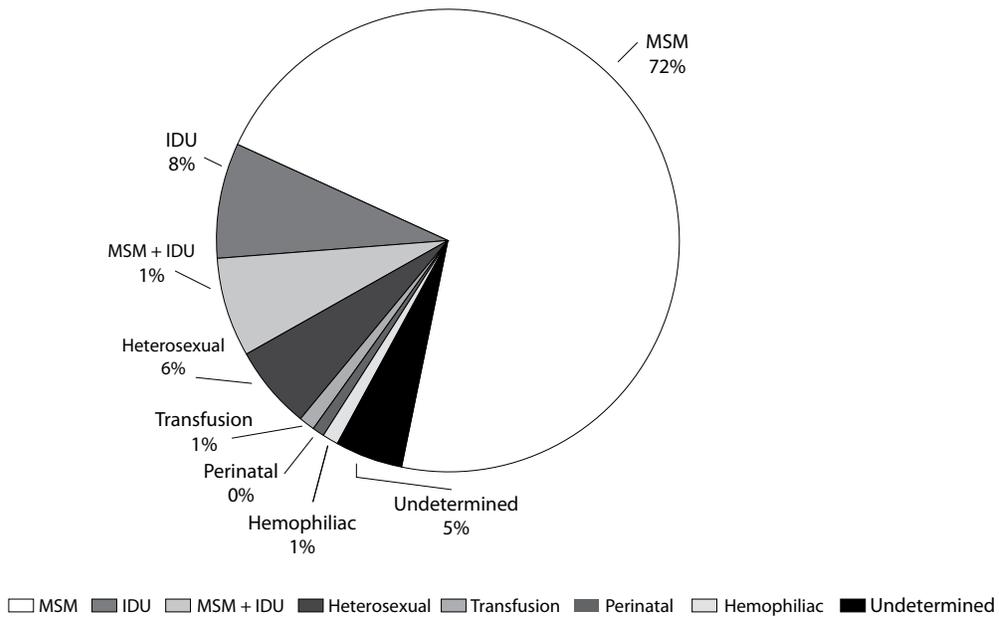
SOURCE: Honolulu Police Department

Exhibit 11. Percentage of Drug Items Identified in NFLIS Laboratories for Selected Drugs, Honolulu: 2002–2008



SOURCE: NFLIS, DEA

Exhibit 12. Percent of AIDS Cases by Exposure Category, Hawai'i: 1983–2008



SOURCE: Hawai'i State Department of Health

Patterns and Trends in Drug Abuse in Los Angeles County, California: 2008

Mary-Lynn Brecht, Ph.D.¹

ABSTRACT

Three primary drugs each accounted for nearly one in five treatment admissions in Los Angeles in 2008: marijuana (20 percent), methamphetamine (19 percent), and heroin (19 percent). Cocaine was reported slightly less frequently (16 percent). Methamphetamine admissions have decreased from 23 percent in 2007. Cannabis (marijuana), cocaine, and methamphetamine together accounted for 85 percent of all Los Angeles-based illicit drug items analyzed and recorded by the National Forensic Laboratory Information System (NFLIS) in 2008; hydrocodone was the most prevalent pharmaceutical/noncontrolled drug item. Retail drug prices were relatively stable between 2007 and 2008. However, 2008 wholesale prices for cocaine and methamphetamine increased over 2007 levels. Seizures of marijuana dominated the interdiction arena. Substantial increases in marijuana, methamphetamine, and cocaine seizures were reported for 2008 over 2007 levels. Retail sales of prescription narcotics continued to increase, particularly for hydromorphone (23 percent in 2007 over 2006) and oxycodone (21-percent increase). Among acquired immunodeficiency syndrome (AIDS) cases diagnosed in 2008 in Los Angeles County, 62 percent of males were infected through men who have sex with men (MSM), and 8 percent were infected through contact with an injection drug user (IDU) or MSM with IDU; 33 percent

of females were infected through heterosexual contact.

INTRODUCTION

Area Description

Los Angeles County is the most populous county in the Nation (January 1, 2009 estimate: 10,393,185). If Los Angeles County were a State, it would rank eighth in population behind California, Texas, New York, Florida, Illinois, Pennsylvania, and Ohio. Approximately 27 percent of California's residents live in Los Angeles County. Just over one-half of all Los Angeles County residents are female (50.6 percent). One-quarter (25.7 percent) are younger than 18; 11.0 percent are 65 or older. The diverse racial and ethnic composition of Los Angeles County residents includes: 29.1 percent non-Hispanic White; 47.3 percent Hispanic; 13.2 percent Asian; 9.5 percent Black/African American; and 3.1 percent other race/ethnicity or multiracial.

Los Angeles County encompasses approximately 4,752 square miles, including land and ocean/island areas. It is also bordered by the Pacific Ocean, 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 north and eastern portions of the county.

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 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.

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

Data Sources

This report describes drug abuse-related indicators in Los Angeles County for 2008 (or most recent data available), as well as trends in selected indicators for available years from 2000 or 2001 to 2008. 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 2008. 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 analysed in 2008. While previous Los Angeles County reports included trends from 2003 to 2006, the data source recommended that because of changes in the data system, recent data may not be comparable to earlier statistics.
- **Drug availability, price, purity, seizure, 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.
- **Prescription drug sales data** for 2007 were extracted from the DEA's Automation of Reports and Consolidated Orders System (ARCOS) reports. The data provide retail drug distribution data by zip code, covering primarily sales to hospitals and pharmacies. ARCOS data presented here are for the 3-digit zip code areas of 900xx through 919xx and 935xx, which roughly correspond with Los Angeles County boundaries. Data are reported in grams and dosage units for specific drugs. This report shows the percentage change from 2001 to 2007, and also from 2006 to 2007, in terms of gram amounts. To provide additional context, percentage share was calculated for each of eight specific opioid drugs relative to the total across these eight drugs in terms of grams and also dosage units.
- **Drugs detected in Los Angeles County coroner toxicology cases** were extracted from data provided by the Los Angeles County Coroner's office for 2007 and 2008. Percentages reflect fractions of the total cases in which toxicology tests were requested (i.e., not just drug-related deaths).
- **Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data** (cumulative through December 2008) were obtained from the Los Angeles County Department of Health Services, HIV Epidemiology Program, "Advanced HIV (AIDS) Quarterly Surveillance Summary," January 2009.
- **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*). Total population was from a January 2009 estimate, while specific characteristics were from 2008.

- **Adolescent substance use statistics** were not available for more recent years than were already reported in the “CEWG June 2008 Vol. II Report.”

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Approximately 16 percent of Los Angeles County treatment admissions in calendar year (CY) 2008 reported crack or powder cocaine as the primary drug (exhibit 1). The absolute number of primary cocaine/crack admissions in 2008 was 13.9 percent lower than the 2003 high of 10,057, but was a slight increase (3.6 percent) over 2007 numbers. As a percentage share of the total admissions, cocaine admissions in 2008 were the lowest in the 8-year period shown in exhibit 1 (during which cocaine accounted for 15.6 to 19.3 percent of admissions).

A majority (64.1 percent) of primary cocaine admissions in 2008 were male, a slight decrease from the previous years (67.3 percent in 2006, and 64.5 percent in 2007) (exhibit 2). Non-Hispanic Blacks continued to represent a majority of cocaine admissions (at 58.2 percent of the total, a slight increase from 56.5 percent in 2007), followed by Hispanics (at 24.3 percent, stable from 2007), and Non-Hispanic Whites (13.9 percent, a slight decrease from 15.3 percent in 2007); other racial/ethnic groups combined constituted 4.5 percent. Cocaine admissions were predominantly clients age 35 and older (75.9 percent). Primary cocaine admissions were more likely than admissions for other drugs to report being homeless at admission (26.5 percent). Almost 60 percent (58.7 percent) had earned a high school diploma/GED or reported post-high school educational levels. At the time of admission, 12.9 percent were

employed full- or part-time, a decrease from 2007 levels (14.4 percent). (Note that employment decreases from 2007 to 2008 were seen consistently across admissions for all drugs.)

Primary cocaine treatment admissions were more likely than treatment admissions for any other major illicit substances to report a secondary substance (61.2 percent); the most common secondary substance was alcohol (for 34.5 percent of cocaine admissions), followed by marijuana (18.0 percent). Smoking was the predominant reported route of administration (85.0 percent); another 12.4 percent reported inhalation. Only 2.9 percent reported any intravenous drug use in the year prior to admission (exhibit 2).

More than one-half (51.2 percent) of the cocaine admissions were referred to treatment through various court or criminal justice system sources: 37.9 percent through the Substance Abuse and Crime Prevention Act (SACPA), and 13.3 percent through other court/criminal justice agencies (including dependency court, drug court, driving under the influence [DUI]/driving while intoxicated [DWI], and other non-SACPA court/criminal justice vectors). Forty-three percent of the primary cocaine admissions had not previously been admitted to treatment in the California public treatment system (exhibit 2). The 2008 figures were stable from the previous year.

Data from NFLIS for 2008 showed that out of 53,627 analyzed items reported by participating laboratories within Los Angeles County, 33.4 percent were found to be cocaine/crack (exhibit 3). Cocaine/crack was the second most likely illicit drug to be found among items tested in the county, with a percentage just less than marijuana/cannabis and double that of methamphetamine, with similar rankings for these drugs for the United States as a whole in 2008. Regarding all drug items seized in Los Angeles and analyzed by the NFLIS, cocaine/crack declined in its ranking to number 2, having been the most prevalent (number 1 rank) in Los Angeles County from 2004 to 2007.

Los Angeles area crack and powder cocaine seizures in 2008 (6,052 kilograms) were more

than double the amount seized in 2007 (exhibit 4) as reported by the DEA Los Angeles High Intensity Drug Trafficking Area (HIDTA). Most (approximately 99 percent) of the seized cocaine was in powder form. Wholesale prices for powder cocaine were higher in 2008 than in 2007: \$22,000–\$26,000 per kilogram versus \$17,000–\$18,000 in 2007. However, these wholesale price increases were not yet reflected in street price increases; retail prices have remained stable at approximately \$80 per gram.

Cocaine was detected in 22.5 percent of Los Angeles County coroner toxicology cases in 2008, consistent with 2007 levels (data not shown in exhibits). This was a lower percentage of cases than for narcotic analgesics (31.7 percent in 2008), but greater than the percentages for heroin/morphine, methamphetamine, antidepressants, and benzodiazepines.

Heroin

In 2008, 10,250 Los Angeles County treatment admissions reported heroin as the primary drug. These heroin admissions represented 18.5 percent of Los Angeles County admissions, a share slightly below that of methamphetamine and marijuana (exhibit 1). While the number of 2008 heroin admissions remained stable from 2007, the percentage share decreased from 2007 levels, continuing a decreasing trend over several years.

In 2008, heroin admissions were predominantly male (73.4 percent) and were more likely to be non-Hispanic White (46.9 percent) or Hispanic (40.9 percent) than non-Hispanic Black (7.2 percent) or other race/ethnicity (4.1 percent) (exhibit 2). The race/ethnic distribution represents a change over 2007 distributions, with a shift toward a higher percentage of non-Hispanic Whites in 2008 (39.1 percent in 2007) and a lower percentage of Hispanics (46.5 percent in 2007). Heroin users remained predominantly age 35 and older (69.2 percent), but this was a decrease from 74.5 percent in 2007. Commensurately, an increase was observed in the 18–25 age group (13.2 percent in 2008, compared with 9.0 percent in 2007). Seventeen percent of primary heroin

admissions were homeless at time of admission, and 18.0 percent reported full- or part-time employment. High school graduation/GED or higher education levels were reported by 56.3 percent.

Almost two-thirds (60.5 percent) of heroin users reported no secondary substance abuse. Cocaine/crack was the most commonly reported secondary substance problem (14.3 percent), followed by alcohol (9.6 percent). Injection use was reported as the primary route of administration by 82.7 percent of heroin admissions in 2008, smoking by 10.4 percent, and inhalation (snorting) by 4.4 percent (exhibit 2). Similar to previous years, 81.5 percent reported injection drug use in the year prior to admission.

Heroin admissions were less likely than admissions for other types of drugs to have been referred to treatment by the court/criminal justice system (13.0 percent versus 25.7–57.1 percent for admissions for the three other major drugs); SACPA referrals were reported by 9.4 percent, and 3.6 percent were referred by other court/criminal justice system agencies. Approximately one-fifth (20.5 percent) indicated that they had not previously participated in drug treatment.

According to NFLIS data based on 53,627 analyzed items reported by participating laboratories within Los Angeles County in 2008, only 4.4 percent were found to be heroin, showing little change in percentages since 2003 (exhibit 3). Heroin ranked fourth for both Los Angeles County and the Nation as a whole among drugs found in NFLIS items.

Seizures of heroin from interdictions with a California nexus, as reported by the Los Angeles HIDTA, were up somewhat in 2008 (63 kilograms) compared with 2007 (exhibit 4). According to LA CLEAR and reported through the NDIC, the wholesale price per kilogram of the most prevalent type of heroin in Los Angeles, Mexican black tar, ranged from \$20,000–\$25,000, a slightly wider range than in 2007. Retail prices were stable at approximately \$80 per gram. Less prevalent Mexican brown powder heroin had a slightly higher wholesale price of approximately \$25,000 per kilogram.

Heroin/morphine was detected in 18.9 percent of Los Angeles County coroner toxicology cases in 2008, a very slight increase over 2007 levels (17.7 percent).

Other Opioids/Narcotics

Other opioids/synthetics continued to constitute a small percentage (2.3 percent) of Los Angeles County treatment admissions (exhibit 1), similar to 2007 levels. Despite the small share of admissions for other opioids/synthetics compared with other major substances of abuse, there is current concern in California and other CEWG areas about general increases in prevalence of prescription opioid misuse and when/whether those increases in use will translate to problematic use and related treatment entry.

Reported through NFLIS in 2008, hydrocodone was identified as the most prevalent drug among pharmaceuticals, prescription drugs, or noncontrolled nonnarcotic medications (as opposed to illicit substances), comprising 1.3 percent of NFLIS items and ranked sixth for Los Angeles (exhibit 3). Codeine and oxycodone were identified in 0.3 percent of local NFLIS items in 2008, with ranks of 9 and 12, respectively.

DEA ARCOS data on sales of prescription-type opioids to hospitals and pharmacies in the Los Angeles County area indicated that quantities sold of prescription opioids increased substantially between 2001 and 2007 (33 percent for the total across the selected eight drugs) (exhibit 5). The greatest increases in quantity measured in grams among specific opioids for 2001 to 2007 occurred for methadone (197 percent), oxycodone (181 percent), fentanyl base (173 percent), and hydromorphone (168 percent), followed by morphine (91 percent increase) and hydrocodone (82 percent). These drugs also experienced increases in 2007 over 2006 levels, with the largest increases for hydromorphone (23 percent) and oxycodone (21 percent). It is important to mention that these data for methadone only included prescriptions for the treatment of pain by physicians and did not include methadone provided

in local narcotic treatment programs. Quantities of codeine and meperidine sold to hospitals and pharmacies decreased from 2001 to 2007, with decreases also experienced for 2006 to 2007. Among the eight drugs considered, quantities of hydrocodone (28 percent of grams totaled across eight drugs), codeine (27 percent), and oxycodone (23 percent) comprised the largest percentage shares in 2007. Considered in terms of dosage units, hydrocodone accounted for the largest share (65 percent), followed by oxycodone (13 percent), and codeine (10 percent).

Narcotic analgesics were detected in 31.7 percent of Los Angeles County coroner toxicology cases in 2008, an increase over 2007 levels (29.3 percent), and accounting for a larger fraction of toxicology cases than cocaine, heroin/morphine, methamphetamine, antidepressants, or benzodiazapines.

Methamphetamine/Other Amphetamines

The percentage (19.0) of primary methamphetamine admissions to Los Angeles County substance abuse treatment programs decreased in 2008 over 2007 levels (22.9 percent), continuing a decline from the 26.1 percent high in 2005 (exhibit 1); however, most of the 2008 decrease was in the first half of the year, with a leveling in the second half of 2008. The number of methamphetamine admissions (10,564) also showed a decrease over annual figures for 2004 to 2007.

Demographic characteristics of methamphetamine admissions in 2008 remained relatively stable from the preceding year. Compared with admissions for other major illicit drugs, primary methamphetamine admissions had the largest proportion of females (41.4 percent) (exhibit 2). Methamphetamine admissions were most likely to be Hispanic (55.6 percent), followed by non-Hispanic Whites (34.2 percent) (exhibit 2). Other racial/ethnic groups accounted for small percentages: Asian/Pacific Islanders (3.5 percent); non-Hispanic Blacks (3.7 percent); and all others (3.0 percent). There was broad age diversity across methamphetamine admissions: age 18–25

(24.8 percent); age 26–34 (33.8 percent); and clients 35 or older (37.9 percent). Approximately one-half (53.7 percent) reported education levels of high school graduate/GED or higher, 17.8 percent reported full- or part-time employment, and 21.6 percent were homeless at admission.

While 42.7 percent of methamphetamine admissions reported no secondary substance problem, 25.1 percent reported marijuana and 22.3 percent reported alcohol as a secondary substance problem. Smoking continued as the most frequently mentioned way for primary methamphetamine admissions to administer the drug (77.8 percent), continuing the general shift toward smoking as the preferred administration route (compared with approximately one-half who were smokers in 1999). Conversely, the proportions of injectors and inhalers have declined since 1999, from 15.2 and 29.9 percent, respectively, to 6.0 and 13.0 percent, respectively, in 2008. Past-year injection drug use was reported by 9.6 percent of primary methamphetamine admissions.

More than one-half (57.1 percent) of primary methamphetamine treatment admissions were referrals through court or criminal justice systems—40.9 percent were referred through SACPA, and 16.2 percent were referred through other legal system channels. Forty-three percent were entering treatment for the first time (exhibit 2).

According to NFLIS data based on 53,627 analyzed items reported by participating laboratories within Los Angeles County in 2008, 16.6 percent were found to be methamphetamine/amphetamine (exhibit 3); this was a substantial decline in percentage from the previous year (23 percent in 2007). Methamphetamine accounted for the third largest proportion of samples positively identified by NFLIS in 2008, a ranking similar to that for methamphetamine for the United States as a whole.

In 2008, methamphetamine was still reported by the NDIC to be the major drug threat in the Los Angeles HIDTA area (four counties, including Los Angeles) in overall terms (production, distribution, and abuse). Following 3 years of

decreases, Los Angeles area seizures of methamphetamine more than quadrupled in 2008 (2,061 kilograms) over 2007 levels (465 kilograms) (exhibit 4). Seizures were almost entirely “ice” (or crystal methamphetamine). The wholesale price of methamphetamine in 2008 ranged from \$17,500–\$19,500 per pound, slightly higher than 2007 prices. Street prices remained stable at approximately \$40 for one-quarter gram for 2008. According to NDIC reports, the previous decreases in methamphetamine availability, the result of major control efforts on both sides of the California–Mexico border and strict precursor chemical regulations, are beginning to erode with the re-establishment of methamphetamine production in California.

While clandestine methamphetamine laboratory seizures in the Los Angeles HIDTA declined dramatically from 607 in 2002 to 39 in 2007, this decline was truncated by an increase to 49 in 2008.

Methamphetamine was detected in 14.6 percent of Los Angeles County coroner toxicology cases in 2008, a slight decrease over 2007 levels of 16.1 percent.

Marijuana

Both the number of primary marijuana treatment admissions and marijuana’s percentage share of all admissions have steadily increased from 2001 to 2008 in Los Angeles County (exhibit 1). During that period, numbers increased from 4,286 to 11,031, and percentages rose from 9.3 to 19.9.

Nearly 70 percent of the primary marijuana admissions were male. Marijuana admissions had the largest proportion of individuals younger than 18; 53.8 percent were younger than 18, compared with a range of 0.6 percent for heroin and 3.5 percent for methamphetamine (exhibit 2). 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 (26.8 percent), employment (8.8 percent full- or part-time), and homelessness (5.9 percent). Primary marijuana admissions were most likely

to be Hispanic (50.7 percent), followed by non-Hispanic Blacks (32.9 percent), non-Hispanic Whites (11.3 percent), and all other race/ethnic categories (5.2 percent combined).

While 45.7 percent of primary marijuana admissions reported no secondary drug problem, alcohol was identified as a secondary drug problem for 37.5 percent, methamphetamine for 7.6 percent, and cocaine/crack for 5.8 percent. Smoking was the predominant route of administration for marijuana (97.5 percent). Few (1.4 percent) reported any past-year injection drug use (exhibit 2).

A total of 25.7 percent of primary marijuana admissions reported being referred to treatment by the court/criminal justice system: 12.0 percent through SACPA and 13.7 percent through other court/criminal justice system channels. Seventy-seven percent were entering treatment for the first time.

According to NFLIS data from 53,627 analyzed items reported by participating laboratories within Los Angeles County in 2008, 34.5 percent were found to be marijuana/cannabis (exhibit 3), an increase over the 29.8 percent for marijuana/cannabis in 2007. Marijuana/cannabis was the most frequently identified substance in Los Angeles County NFLIS items, as it was for the United States as a whole.

Marijuana continued to dominate drug seizures in the Los Angeles area. In 2008, marijuana seizures were 202,991 kilograms, more than triple the amount in 2007 (64,913 kilograms) (exhibit 4). The wholesale price of Mexican low-grade marijuana ranged from \$300–\$340 per pound, while the retail price range was approximately \$5–\$10 per gram, similar to 2007 price levels. The wholesale price of high-grade sinsemilla increased slightly in 2008 to \$2,500–\$6,000 per pound, while retail prices remained stable at \$60–\$80 for one-eighth ounce.

Club Drugs

Very few admissions to treatment for substance abuse in Los Angeles County in 2008 reported

club drugs, including 3,4-methylenedioxyamphetamine (MDMA/ecstasy), gamma hydroxybutyrate (GHB), ketamine, or Rohypnol®, as the primary drug (0.3 percent, $n=166$, data not shown in exhibits).

According to NFLIS data on 53,627 analyzed items from Los Angeles County in 2008, 2.3 percent contained MDMA (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).

Seizures of MDMA reported by Los Angeles HIDTA totaled 46,892 doses in 2008, a substantial decrease over the 176,030 doses seized in 2007 (exhibit 4). At the wholesale level in 2008, MDMA prices were approximately \$2,500–\$3,000 per “boat” (1,000 pills), similar to 2007 prices. At the retail level, ecstasy sold for \$10–\$12 per tablet, consistent with 2007 prices).

Phencyclidine and Hallucinogens

Phencyclidine (PCP) and other hallucinogens accounted for 0.6 percent of the reported primary drugs among Los Angeles treatment admissions in 2008 ($n=307$, data not shown in exhibits); all but 18 of these mentions were for PCP.

According to NFLIS data on 53,627 analyzed items from Los Angeles County in 2008, 0.9 percent contained PCP (exhibit 3). PCP was ranked 7th in Los Angeles, compared with 20th in the Nation as a whole.

PCP seizures declined in 2008 (69 gallons) from 2007 levels. Wholesale prices for a gallon of PCP remained stable in 2008, at \$15,000–\$18,000. An ounce of PCP could be purchased for \$300–\$350 in 2007; retail prices also remained stable, at approximately \$10–\$20 for a “sherm” cigarette dipped in liquid PCP.

Benzodiazepines, Barbiturates, and Sedative/Hypnotics

In 2008, 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 (0.4 percent, $n=205$, data not shown in exhibits).

Less than 1 percent of the 53,627 Los Angeles County items analyzed and reported to the NFLIS system in 2008 were identified as benzodiazepines. The most frequently cited benzodiazepine in Los Angeles in Los Angeles was alprazolam (0.4 percent) (exhibit 3).

In 2008, benzodiazepines were detected in 9.7 percent of Los Angeles County coroner toxicology cases, a very slight decrease from 2007 (10.3 percent).

Other Drugs

Other stimulants (including prescription stimulants such as methylphenidate) accounted for 1.5 percent of 2008 treatment admissions ($n=817$, an increase from $n=118$ in 2007, data not shown in exhibits).

Antidepressants were detected in 13.1 percent of Los Angeles County coroner toxicology cases in 2008, an increase over the 2007 percentage of 10.9.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

The cumulative total of adult/adolescent AIDS cases reported in Los Angeles County through December 31, 2008, reached 54,796, representing approximately 36 percent of the cumulative cases in California and 5 percent of those in the United States. Of the cumulative cases reported in Los Angeles County, 45 percent were non-Hispanic Whites; 31 percent were Hispanics; and 20 percent were non-Hispanic Blacks. In terms of age, 17 percent were younger than 30; 43 percent were age 30–39; and 40 percent were 40 or older. Most (91 percent) were male. As of 2008, approximately 23,679 Los Angeles County residents were living with advanced HIV disease.

Approximately 7 percent of cumulative AIDS cases reported by the end of 2008 involved injection drug use (IDU) as the primary vector of exposure, and another 7 percent involved men who have sex with men (MSM) with IDU. For females, exposure through IDU contact was 23 percent, while for males IDU exposure was 13 percent (combined across categories of IDU alone or male-to-male sexual contact with an IDU). Exposure through IDU alone was particularly high for non-Hispanic Blacks (13 percent) and Asian/Pacific Islanders (11 percent), compared with 2–6 percent for other race/ethnic categories (data not shown).

The number of HIV/AIDS diagnoses in Los Angeles County has been gradually declining since 2000 (exhibit 6). Because of reporting delays, figures for 2008 are a substantial underestimate of what completed reporting is likely to show.

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, W. Sugita 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); J. Howard (U.S. Drug Enforcement Agency); and B. Rutkowski and D. Crevecoeur (UCLA Integrated Substance Abuse Programs).

For inquiries concerning this report, contact Mary-Lynn Brecht, Ph.D., University of California at Los Angeles, Integrated Substance Abuse Programs, 1640 South Sepulveda Blvd., Suite 200, Los Angeles, CA 90025, Phone: 310-267-5275, Fax: 310-473-7885, E-mail: lbrecht@mednet.ucla.edu.

Exhibit 1. Frequency and Percentage of Annual Treatment Admissions, by Primary Drug of Abuse, in Los Angeles County: 2001–2008

Primary Drug	2001 Freq (%)	2002 Freq (%)	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 Freq (%)	2007 Freq (%)	2008 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)
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)
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)
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)
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)
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)
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)
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)

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 Drug of Abuse, as a Percentage, in Los Angeles County: CY 2008¹

Demographics	Cocaine/ Crack	Heroin	Marijuana	Metham- phetamine	All Admissions ²
Gender³					
Male	64.1	73.4	69.7	58.6	65.0
Female	35.8	26.6	30.3	41.4	34.0
Race/Ethnicity					
White, non-Hispanic	13.9	46.9	11.3	34.2	28.6
Black, non-Hispanic	58.2	7.2	32.9	3.7	24.3
Hispanic	24.3	40.9	50.7	55.6	41.7
American Indian	0.4	1.0	0.5	0.7	1.0
Asian/Pacific Islander	2.1	1.1	1.7	3.5	1.9
Other	2.0	2.0	3.0	2.3	2.5
Age at Admission					
17 and younger	1.1	0.6	53.8	3.5	17.0
18–25	7.4	13.2	20.9	24.8	15.2
26–34	15.6	17.1	11.9	33.8	18.1
35 and older	75.9	69.2	13.5	37.9	49.7
Route of Administration					
Oral	1.4	1.2	2.1	1.9	27.1
Smoking	85.0	10.4	97.5	77.8	50.1
Inhalation	12.4	4.4	0.2	13.0	5.6
Injection	0.4	82.7	0.0	6.0	16.5
Unknown/other	0.8	0.7	0.2	1.3	0.8
Secondary Substance⁴					
None	38.8	60.5	45.7	42.7	49.9
Alcohol	34.5	9.6	37.5	22.3	19.6
Cocaine/crack	--	14.3	5.8	5.8	7.7
Heroin	2.0	--	0.3	1.8	1.1
Marijuana	18.0	4.2	--	25.1	12.9
Methamphetamine	3.8	6.0	7.6	--	4.8
Past Year Injection Drug Use	2.9	81.5	1.4	9.6	18.5
Homeless	26.5	17.0	5.9	21.6	16.7
Employed Full- or Part-Time	12.9	18.0	8.8	17.8	13.8
Graduated from High School	58.7	56.3	26.8	53.7	49.5
Referred by Court/Criminal Justice System⁵					
SACPA Probation/Parole	37.9	9.4	12.0	40.9	20.1
Other Court	13.3	3.6	13.7	16.2	10.3
First Treatment Episode	42.9	20.5	77.0	43.3	51.0
Total Admissions (N)	(8,662)	(10,250)	(11,031)	(10,564)	(55,530)

¹Data are for January–December 2008.

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.

⁵SACPA=Substance Abuse and Crime Prevention Act of 2000 (a.k.a., Proposition 36); other court referrals include dependency court, drug court, DUI/DWI, and other non-SACPA court/criminal justice.

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

Exhibit 3. Most Common Drugs in Items Analyzed by Number and Percent in the NFLIS System with Rankings for Los Angeles County and the United States: CY 2008¹

Drug (LA ranking)	Number	Percent	LA Rank	U.S. rank ²
Cannabis	18,527	34.5	1	1
Cocaine	17,892	33.4	2	2
Methamphetamine	8,923	16.6	3	3
Heroin	2,357	4.4	4	4
MDMA	1,248	2.3	5	8
Hydrocodone	718	1.3	6	5
PCP	485	0.9	7	20
Alprazolam	227	0.4	8	7
Codeine	183	0.3	9	---
Carisoprodol	173	0.3	10	----
Psilocin	158	0.3	11	---
Oxycodone	141	0.3	12	6
Other	2,595	4.8	---	---
Total	53,627	100.0	---	---

¹Data are for January–December 2008.

²Rank not shown if greater than 20.

SOURCE: NFLIS, DEA

Exhibit 4. Illicit Drugs Seized¹ in the Los Angeles High Intensity Drug Trafficking Area (HIDTA) Region: 2004–2008

Substance	2004	2005	2006	2007	2008
Marijuana	36,294	72,191	30,431	64,913	202,991
Cocaine	2,920	4,062	4,461	2,367	6,042
Methamphetamine	2,536	2,229	733	465	2,061
PCP ²	NA	23	476	75	69
Heroin	36	15	314	56	63
MDMA ³	25	48	144	176,030	46,892

¹In kilograms, unless otherwise noted.

²Liquid gallons.

³Dosage units.

SOURCE: NDIC

Exhibit 5. Prescription Opioids Sold to Hospitals and Pharmacies in 2007, and Percentage Change 2001–2007 and 2006–2007, by Drug Class in Grams and Dose, in the Los Angeles County Area¹

Name of Prescription Opiate	Percent of Drug Class by Grams 2007 ²	Percent of Drug Class by Dose 2007 ³	Percent Change 2001 to 2007	Percent Change 2006 to 2007
Codeine	27	10	-30	-3
Oxycodone	23	13	+181	+21
Hydromorphone	1	2	+168	+23
Hydrocodone	28	65	+82	+8
Meperidine	2	<1	-44	-9
Methadone	3	4	+197	+11
Morphine	15	4	+91	+7
Fentanyl base	<1	<1	+173	+9
Total for These 8 Opiates	100	100	+33	+7

¹Data for zip codes 900xx to 919xx and 935xx, which approximates Los Angeles County boundaries.

²Percentage of the 7,193,943 grams totaled across these eight drugs.

³Percentage of the 726,950,989 doses totaled across these eight drugs.

SOURCE: ARCOS, DEA

Exhibit 6. Frequency and Percentage of Annual Adult/Adolescent AIDS Cases by Gender, Year of Diagnosis, and Exposure Category, Los Angeles County: 2000–2008

Adult/Adolescent Exposure Category ¹	2000 Freq (%)	2001 Freq (%)	2002 Freq (%)	2003 Freq (%)	2004 Freq (%)	2005 Freq (%)	2006 ² Freq (%)	2007 ² Freq (%)	2008 ² Freq (%)
Males									
Male-to-Male Sexual Contact (MSM)	1,007 (65)	964 (65)	1,066 (66)	1,037 (709)	860 (67)	788 (66)	788 (68)	614 (66)	392 (62)
Injection Drug Use (IDU)	91 (6)	91 (6)	83 (5)	67 (4)	64 (5)	53 (4)	37 (3)	24 (3)	14 (2)
MSM Contact/IDU	123 (8)	113 (8)	116 (7)	106 (7)	78 (6)	73 (6)	80 (7)	72 (8)	37 (6)
Hemophilia or Coagulation Disorder	<5 (-)	5 (<1)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)
Heterosexual Contact ³	52 (3)	67 (5)	59 (4)	58 (4)	30 (2)	28 (2)	24 (2)	17 (2)	7 (1)
Transfusion Recipient	<5 (-)	<5 (-)	7 (<1)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)
Mother with/at Risk for HIV	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	5 (<1)	<5 (-)	<5 (-)
Other/Undetermined	258 (17)	229 (16)	271 (17)	216 (14)	257 (20)	256 (21)	223 (19)	193 (21)	185 (29)
Male Subtotal	1,541	1,477	1,607	1,490	1,292	1,201	1,161	925	635
Females									
IDU	44 (19)	45 (19)	47 (20)	26 (13)	33 (18)	32 (18)	24 (13)	11 (8)	10 (10)
Hemophilia or Coagulation Disorder	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)
Heterosexual Contact ³	111 (47)	98 (42)	90 (39)	94 (46)	69 (37)	76 (42)	61 (34)	62 (43)	32 (33)
Transfusion Recipient	<5 (-)	6 (3)	6 (3)	<5 (3)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)
Mother with/at Risk for HIV	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)	<5 (-)
Other/Undetermined	77 (33)	81 (35)	88 (38)	82 (40)	78 (42)	68 (381)	86 (48)	66 (46)	53 (54)
Female Subtotal	235	233	233	205	185	180	178	144	98
Total	1,776	1,710	1,840	1,695	1,477	1,381	1,339	1,069	733

¹Exposure categories are ordered hierarchically. Cases with multiple exposure categories are included in the category listed first.

²Data are provisional due to reporting delay. Cases include those reported by December 31, 2008.

³Heterosexual contact indicates contact with a person who is HIV-infected or at increased risk for HIV.

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

Patterns and Trends of Drug Abuse in Maine: 2008

Marcella H. Sorg, Ph.D., R.N., D-ABFA¹

ABSTRACT

This report updates most drug abuse indicators in Maine through calendar year 2008, and for early 2009. Heroin indicators remained moderately high and fairly stable. Arrests have remained stable, deaths and law enforcement seizures have decreased somewhat, and treatment admissions have increased. Cocaine/crack continued to be high during 2008, comprising 33 percent of arrests by the Maine Drug Enforcement Agency, 44 percent of law enforcement seizures, 22 percent of treatment admissions, and 7 percent of drug-induced deaths. However, most of these indicators have decreased from 2007 levels. An increasing number of both cocaine and heroin law enforcement seizure samples contain adulterants, predominantly levamisole and diltiazem. Marijuana indicators have remained stable, with only a slight decrease in the percentage of seizures, treatment admissions, and price; arrests increased slightly. Methamphetamine indicators were mixed, but the numbers were very small. Law enforcement seizures were largely pills, and most contained other substances, including 3,4-methylenedioxy-methamphetamine (MDMA), 1-benzylpiperazine (BZP), or other piperazine derivatives. Similarly, MDMA numbers were small, and one-half of the seizures contained other substances, including piperazine or derivatives and methamphetamine. Pharmaceutical opiate/opioid misuse and abuse remained high in 2008 indicators, contributing to 61 percent of drug-induced deaths, 12 percent of forensic laboratory samples, and 31 percent of primary treatment admissions. Although arrests increased sharply from 22 percent

in 2007 to 32 percent in 2008, deaths declined slightly. Buprenorphine was listed as a cause of death for three cases in 2008. Benzodiazepines continued to play a ubiquitous but slightly decreasing role in 2008 drug-induced deaths, listed as a cause of death in 21 percent of cases, down from 24 percent in 2007. Mortality has been increasing due to effects of antidepressants, antipsychotics, antihistamines, and muscle relaxants as pharmaceutical narcotics stabilize and decrease.

INTRODUCTION

Emerging issues in Maine include continuing problems with the high volume of both cocaine abuse and prescription drug misuse and abuse. Of particular note is an increase in mortality from pharmaceutical categories, in addition to narcotic analgesics and benzodiazepines, particularly antidepressants. Methadone-induced deaths continued a slow decline begun in 2005. An increasing proportion of the samples of cocaine and heroin seized by law enforcement have been found to contain adulterants, particularly levamisole and diltiazem.

Area Description

Maine is the third most rural State in the United States, with only 1.2 million inhabitants thinly distributed across a large geographic area, averaging 40 persons per square mile. More than one-half of its population lives in rural communities. Most of its citizens, 96 percent, are White; nearly one-fifth, 18 percent, are on Medicaid. The majority of Maine's borders are shared with Canada, including a significant pattern of cross-border drug trafficking. Maine's long coast and many harbors have also contributed to drug distribution, as well as the North-South I-95 corridor, which connects it to more southerly urban centers.

In the late 1990s, Maine experienced a dramatic increase in drug abuse, including drug-induced deaths, which peaked in the early 2000s.

¹The author is affiliated with the Margaret Chase Smith Policy Center at the University of Maine

Most of the increase involved pharmaceuticals. Most of the deaths were nonintentional poisonings, rising over 600 percent since 1997. When the treatment, arrest, and mortality data are analyzed according to involved drug categories, it is clear that misuse and abuse of pharmaceutical opiates and opioids fueled the upswing in these indicators.

Data Sources

The data sources used in this report are listed below:

- **Treatment data** were provided by the Maine State Office of Substance Abuse, and include all admissions for programs receiving State funding. This report includes admissions data from January to December 2008, excluding shelter and detoxification, and makes comparisons with prior calendar years.
- **Forensic laboratory data** were provided by the Maine State Health and Environmental Testing Laboratory, which tests all samples seized by the Maine Drug Enforcement Agency, as well as other police and sheriff's departments. Data were provided for calendar year (CY) 2008 and the first 5 months of 2009, and are compared with previous years back to 2003.
- **Arrest data** were provided by the Maine State Drug Enforcement Agency, which directs eight multi-jurisdictional task forces covering the State, generating approximately 60 percent of all Uniform Crime Report drug-related offenses statewide. Data were provided for CY 2008, and compared with previous years back to 2003.
- **Poison center data** for CY 2008 and previous years were provided by the Northern New England Poison Center, which serves Maine, New Hampshire, and Vermont, and includes data on calls for law enforcement information, substance abuse information, and calls regarding poisoning exposures.
- **Mortality data** were provided by the State of Maine Office of Chief Medical Examiner for all drug-induced cases through 2008. That office investigates all drug-related cases statewide.
- **Prescription data** were provided by the State through June 2008 by the Prescription Monitoring Program, administered by the Maine State Office of Substance Abuse. These included aggregate tables summarizing counts for all controlled substance prescriptions dispensed statewide.
- **Epidemiological data** on acquired immunodeficiency syndrome (AIDS) data and human immunodeficiency virus (HIV) through 2008, and viral hepatitis through 2007, were provided by the Maine State Center for Disease Control.
- **Street prices for drugs** in Bangor, Lewiston, and Portland come from *National Illicit Drug Prices—December 2008*, 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 abuse remained substantial in Maine, but all indicators declined from 2007 to 2008. Primary crack/cocaine treatment admissions, which had been somewhat level in percentage between 2006 and 2007, decreased from 14 percent in 2007 to 10 percent in 2008 (3 percent crack and 8 percent powder cocaine). The raw number of admissions was highest in 2007; it decreased 15 percent in 2008. Cocaine-induced deaths, which had risen sharply from 4 percent in 2002, peaking at 19 percent in 2006, decreased slightly in 2007 to 18 percent, and then more sharply to only 7 percent in 2008. In the majority of decedents whose death was caused by cocaine, co-intoxicants of morphine/heroin, methadone, or buprenorphine were also mentioned as a cause of death.

Cocaine was a co-intoxicant cause in 22 percent of methadone-induced deaths in 2007, but only 4 percent of them in 2008. Cocaine/crack arrests have dominated the activity of the Maine Drug Enforcement Agency for several years, comprising 45 percent of arrests in 2007 (29 percent powder cocaine, and 16 percent crack); they have declined to 33 percent in 2008 (25 percent cocaine, and 8 percent crack). The percent of females arrested for crack, which had jumped from 24 percent in 2006 to 40 percent in 2007, declined to 34 percent in 2008. Cocaine/crack constituted the largest single category of seizure samples tested in Maine's forensic laboratory. It had grown to 50 percent in 2007, but declined to 44 percent in 2008, and to 43 percent in January–May 2009.

According to the NDIC's December 2008 publication, *National Illicit Drug Prices—June 2008*, mid-level and retail prices on the street did not change between 2006 and 2008; however, there was a constriction in the wholesale prices in the southern part of the State. Here the 2008 wholesale price for powder spanned \$30,000–\$40,000/kilogram, a range encompassing wholesale prices in other parts of the State. Mid-level prices were \$900–\$1,500/ounce for powder, and \$1,000–\$1,600/ounce for crack. Retail prices were lower in the southern part of the State.

As has been reported in a number of States, the proportion of cocaine samples with adulterants present, particularly diltiazem and levamisole, has increased. In Maine's samples tested January–May 2009, approximately one-half had adulterants present. Some substances were found occasionally, such as niacinamide, baking soda, lactose, inositol, phenacetin, procaine, benzocaine, and lidocaine. Diltiazem and levamisole were found more often. In 2009 samples, for example, diltiazem was present in 8 percent and levamisole in 25 percent of samples. Whereas diltiazem has decreased in the last 2 years from a 2007 peak of 20 percent, levamisole has increased; in 2006, it was noted in only 2 percent of samples (exhibit 1). Diltiazem and lidocaine were also identified occasionally in heroin powder.

Heroin

Heroin abuse continued as a serious problem in Maine, but recent indicators have been stable or mixed. The proportion of primary heroin admissions decreased in the first half of 2008 (12 percent), but increased to 18 percent in the second half of 2008. This increase was concentrated in the 26–35 age group, which constituted 33 percent of heroin admissions in the first half of 2006, then increased to 45 percent in the first half of 2008, surpassing the 18–25 age group. As heroin has declined, admissions for prescription opiates have increased (exhibit 2). Heroin/morphine caused 25 percent of drug-induced deaths in 2005; that percentage increased each year through 2008, during which 13 percent of deaths were caused by heroin/morphine. Heroin/morphine deaths were frequently characterized by the presence of cocaine, prescription narcotics, or methadone. Seven percent of arrests in both 2007 and 2008 arrests were for heroin, generally down from percentages in 2003 and 2004, of 18 and 16 percent, respectively.

Seizures of heroin declined from a recent high of 18 percent in 2005 to 9 percent of samples in 2009. However, there was an increase to 14 percent during the first 5 months of 2009. The NDIC reported only mid-level and retail prices for heroin, all South American; there has been no change between 2007 and 2008. In Portland, the 2008 mid-level price was \$6,000–\$8,000 per ounce. Four samples tested for purity averaged 56 percent pure, with a range of 44–79 percent.

Pharmaceutical Opiates/Opioids

Narcotic analgesics misuse and abuse remained high and mostly increasing in 2008, contributing to 65 percent of drug-induced deaths (unchanged from 2007), 32 percent of arrests (up from 21 percent in 2007), 12 percent of forensic laboratory samples (down from 15 percent in 2007), and 54 percent of primary admissions, excluding alcohol (up from 48 percent in 2007).

The supply of pharmaceutical narcotics has continued to rise in Maine, as is indicated by the Prescription Monitoring Program data, growing by 7 percent, from 16,988,129 “day’s supply” in fiscal year (FY) 2007 to 18,233,595 in FY 2008. Prescriptions for some substances have decreased, notably methadone 40-milligram diskets, which were restricted by the Drug Enforcement Administration beginning in January, 2008. However, increases have been seen in many others, including hydrocodone combinations, 8 percent; fentanyl, 9 percent; hydromorphone, 12 percent; methadone 10-milligram tablets, 20 percent; methadone 5-milligram tablets, 4 percent; morphine sulfate, 8 percent; oxycodone, 8 percent; and oxymorphone, 135 percent.

Among narcotics, methadone and oxycodone continued to dominate across indicators. The percentage of methadone deaths, which had peaked at 47 percent in 2004, has been gradually decreasing for 4 years, but in 2008 was still 34 percent. The percentage of oxycodone deaths, which had spiked from 14 percent in 2006 to 25 percent in 2007, returned to 14 percent in 2008. Primary oxycodone admissions constituted 43 percent of all admissions excluding alcohol. Among law enforcement narcotics seizures (including heroin) in the first 5 months of 2009, although methadone samples comprised only 7 percent of the narcotics samples, and oxycodone samples comprised 29 percent.

Buprenorphine diversion and abuse has continued to increase in Maine, contributing to three deaths in 2008. Buprenorphine trafficking has been identified in at least two arrests in 2009. In 2008, 17 seized samples were identified by the State laboratory as buprenorphine. The Northern New England Poison Center reported an increase in 2007 and 2008 in information calls regarding buprenorphine that were not law enforcement related, rising from 18 calls in the first quarter of 2007, and peaking at 45 calls during the third quarter of 2008.

Benzodiazepines

Benzodiazepines continued to play a substantial role in 2008 drug abuse, although several indicators (deaths, admissions, and seizures) were decreasing slightly. Benzodiazepines were usually mentioned as co-intoxicants in drug-induced deaths, or as secondary or tertiary problems in treatment admissions (exhibit 3). For example, in 2008, although there were only 77 primary admissions, there were 350 primary pharmaceutical opiate admissions in which benzodiazepines were given as a secondary or tertiary problem. The prevalence of benzodiazepine mentions on the death certificates of drug-induced deaths rose from 16 to 24 percent between 2006 and 2007, but decreased again to 21 percent in 2008. Eighteen percent of methadone deaths and 29 percent of oxycodone deaths listed at least one benzodiazepine as a cause of death in 2008. They constituted only 1 percent of primary 2008 admissions, but were identified as secondary or tertiary problems in an additional 6 percent of primary problems of narcotic abuse or cocaine abuse combined. For example, 11 percent of primary admissions for pharmaceutical opiates, 6 percent of primary heroin admissions, and 6 percent of primary cocaine/crack admissions listed benzodiazepines as a secondary or tertiary problem. In 2008, benzodiazepines represented approximately 4 percent of seizures and 1 percent of arrests (category “pharmaceutical tranquilizers”).

Other Pharmaceutical Categories

Although mortality has decreased within some drug categories, most notably narcotics and benzodiazepines, other categories have emerged (exhibit 4). Deaths due to effects of antidepressants (particularly tricyclics, such as amitriptyline, and selective serotonin reuptake inhibitors, or SSRIs, especially sertraline and fluoxetine); antipsychotics (particularly quetiapine); antihistamines (especially over-the-counter diphenhydramine); and muscle relaxants (particularly cyclobenzaprine, carisoprodol, and baclofen) have increased.

Methamphetamine

Methamphetamine indicators were mixed, and numbers continued to be small. Maine continues to have occasional small methamphetamine laboratory incidents, but most of the seizures are for the pill form. Maine passed a precursor law putting pseudoephedrine behind the counter in 2006. In 2006, methamphetamine accounted for 7 percent of arrests, but only 1 percent in 2008. In 2008, approximately 62 percent of methamphetamine samples tested were in pill form, most often combined with caffeine (67 percent), but also with procaine (27 percent), 1-(3-trifluoromethylphenyl)piperazine (TFMPP) (20 percent), 3,4-methylenedioxymethamphetamine (MDMA) (13 percent), or other substances. There was no reported price change. Both the proportion and the number of 2008 admissions declined from 2007 levels, with a total of under 1 percent.

Marijuana

Marijuana indicators were high and mixed, but fairly stable, with a slight increase in arrests and decreasing seizures and admissions. Marijuana accounted for 20 percent of arrests in 2006, 19 percent in 2007, and 20 percent in 2008. Marijuana seizures have declined from a high of 15 percent in 2003, to 8 percent in 2008, and 7 percent during the first 5 months of 2009. Primary admissions for marijuana constituted 18 percent in 2008, down slightly from 20 percent in 2007.

MDMA

MDMA seizures comprised 2 percent of 2008 samples, and 3 percent of the samples from the first 5 months of 2009. These were increases from 1 percent of samples in 2006 and 2007. In the 12 2009 MDMA samples, 7 were tablets and 2 were capsules. Six were MDMA only. The other six contained one or more other substances, including three with caffeine, two with methamphetamine, two with 1-benzylpiperazine (BZP), and

two with TFMPP, a piperazine derivative. In 2008, there were no deaths attributed to MDMA and the number of admissions was under 1 percent.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV/AIDS, Hepatitis B, and Hepatitis C

HIV/AIDS data revealed 46 new HIV diagnoses in 2008, fewer than the 58 new diagnoses in 2006. HIV mode of transmission data showed that most were due to men having sex with men—58 percent in 2008, down slightly from 63 percent in 2007. Twelve percent of these were due to an injection drug use source. The number of reported acute hepatitis B cases nearly doubled from 14 in 2005 to 26 in 2006, but declined to 19 in 2008. 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 are available.

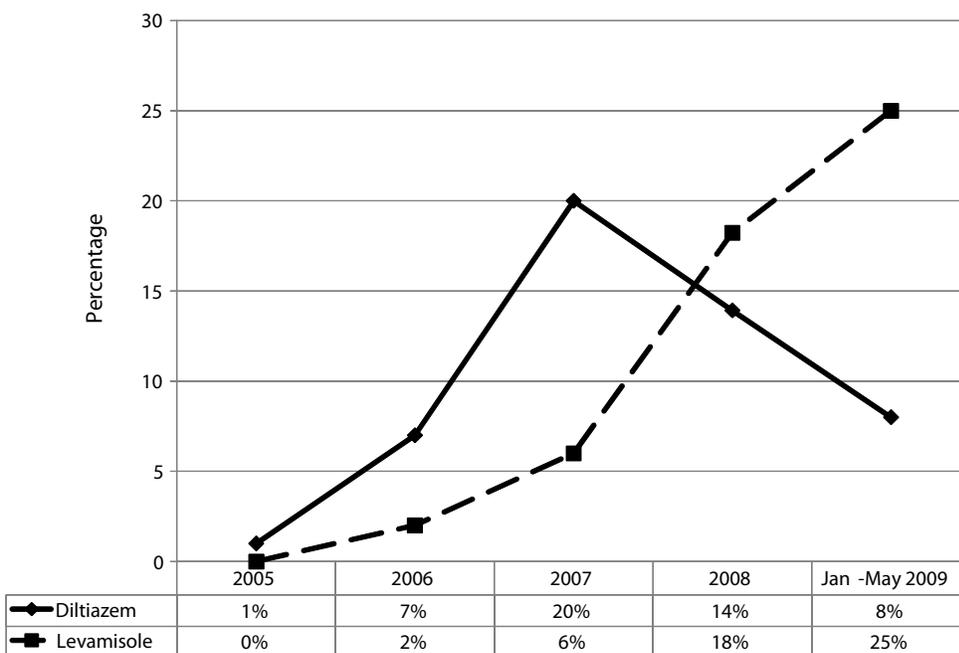
ACKNOWLEDGMENTS

The author acknowledges the contribution of the following individuals and the organizations providing data and information for this report. In addition, thank you to the following staff at the Rural Drug and Alcohol Research Program, Margaret Chase Smith Policy Center: Sharon LaBrie, William Parker, and Ann Acheson, Deb Brucker, Maine Office of Substance Abuse, Daniel Eccher, Maine Office of Substance Abuse, Margaret Greenwald, Maine Chief Medical Examiner, Guy Cousins, Director of Maine Office of Substance Abuse, Christopher Montagna, Director Maine Health and Environmental Testing Laboratory, Roy McKinney, Director of Maine Drug Enforcement Agency, Karen Simone, Director of Northern New England Poison Center, 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 included in this report.

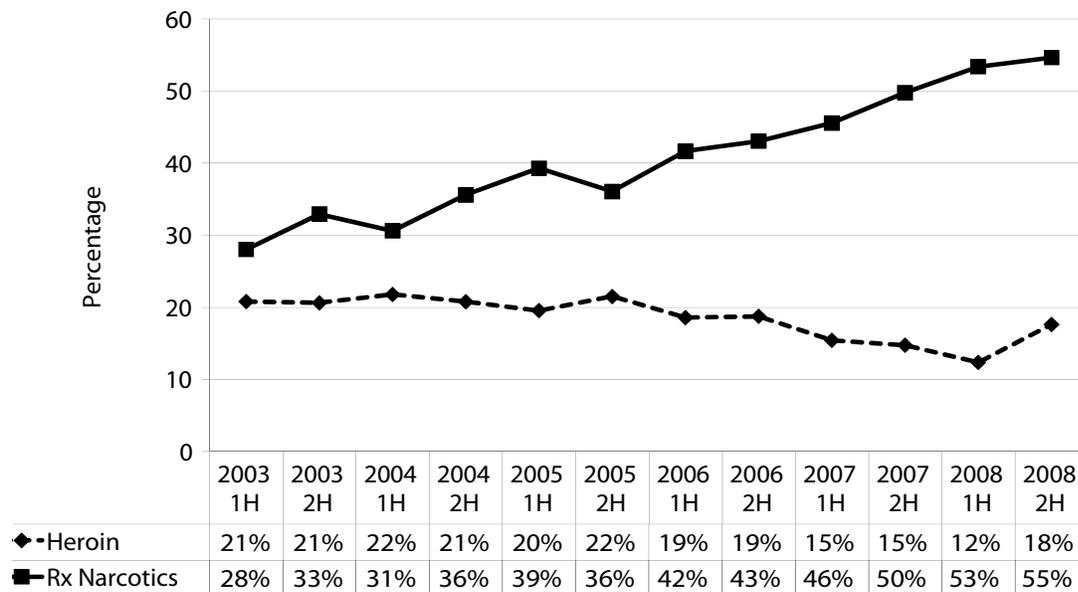
For inquiries regarding this report, contact Marcella H. Sorg, Ph.D., R.N., D-ABFA, Director, Rural Drug and Alcohol Research Program, Margaret Chase Smith Policy Center, University of Maine, Building 4, 5784 York Complex, Orono, ME 04469-5784, Phone: 207-581-2596, Fax: 207-581-1266, E-mail: marcella.sorg@umit.maine.edu.

Exhibit 1. Percentage of Adulterants (Diltiazem and Levamisole) in Cocaine Sample Identified Through NFLIS, Maine: 2005–May 2009



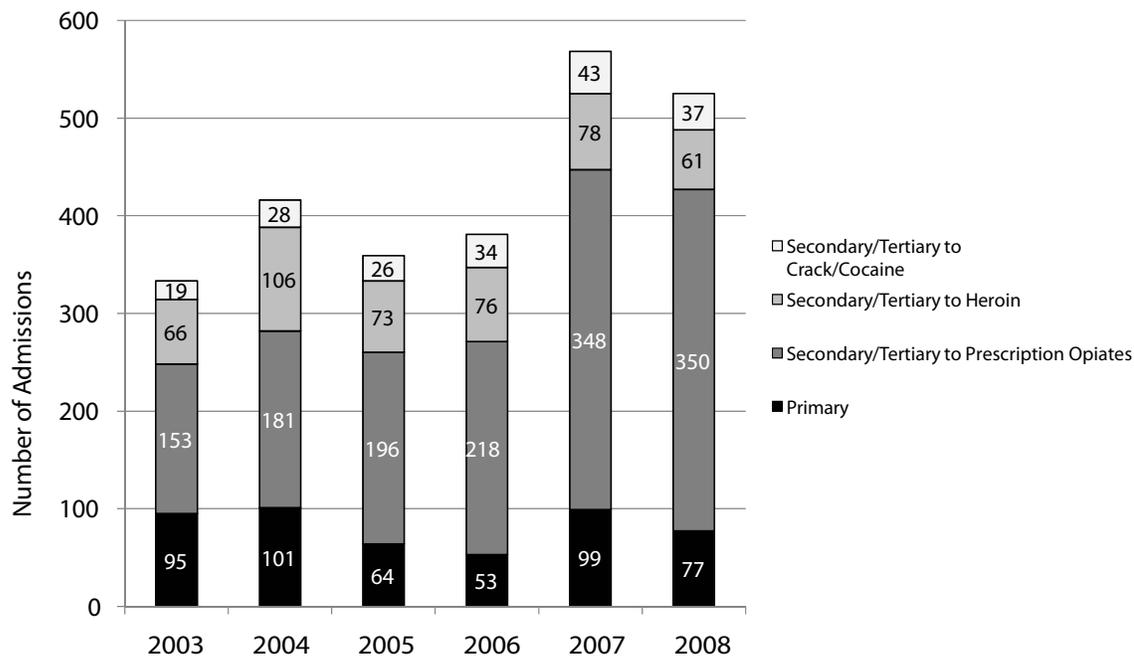
SOURCE: Maine State Health and Environmental Testing Laboratory (NFLIS data participant)

Exhibit 2. Percentage of Total Substance Abuse Treatment Admissions for Primary Heroin Abuse, Compared with Primary Abuse of Pharmaceutical Narcotics, Maine: 2003–2008 in Half-Yearly Intervals

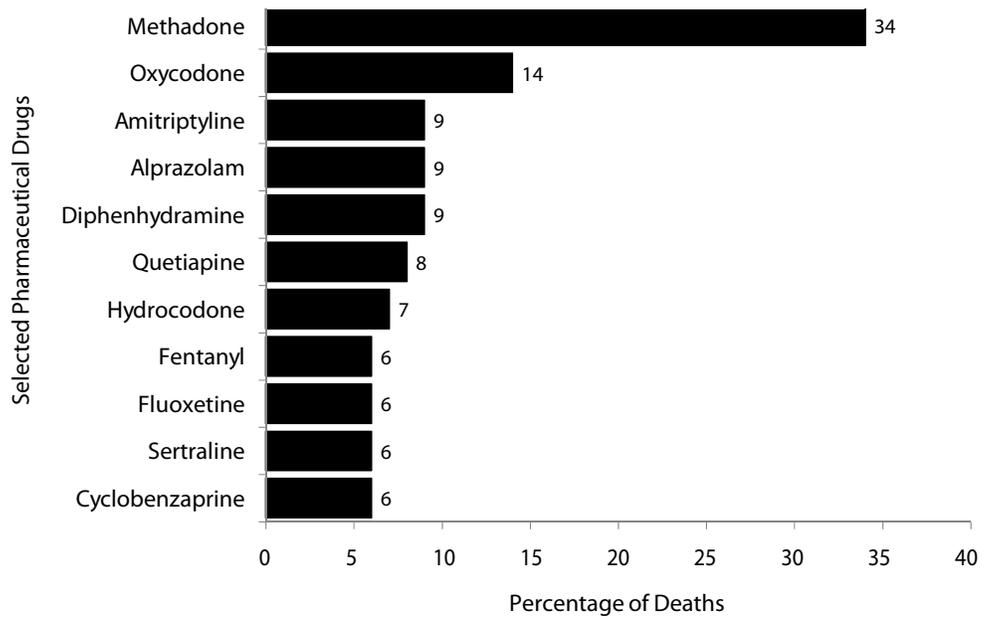


SOURCE: Maine Office of Substance Abuse Treatment System

Exhibit 3. Number of Benzodiazepine Treatment Admissions, Including Primary and Key Types of Secondary and Tertiary Admissions, Maine: 2003–2008



SOURCE: Maine Office of Substance Abuse Treatment System

Exhibit 4. Percentage of Deaths Caused by Key Pharmaceutical Drugs, Maine: CY 2008¹

¹Data are for January–December 2008.
SOURCE: Maine Office of Chief Medical Examiner

Drug Abuse Trends in South Florida: Miami/Dade, Broward, and Palm Beach Counties, Florida: 2008

James N. Hall¹

ABSTRACT

Florida's Miami/Dade and Broward Counties had the highest proportion of cocaine-related consequences, as compared with other drugs among the Nation's major metropolitan statistical areas in 2008. Cocaine was responsible for more hospital emergency department (ED) reports and crime laboratory cases than any other drug in both counties. In Miami/Dade, it was detected among deceased persons more than other illicit drugs or medications, yet the number of those reports declined 28 percent from 2007 to 2008. Declines in cocaine deaths were also reported for Broward County and all of Florida in the same period. Levamisole was detected in approximately 35 percent of Miami/Dade and Broward County cocaine Medical Examiner (ME) cases. Overall there were modest declines for cocaine indicators between 2007 and 2008. Reports of heroin detected among decedents increased in both counties and across Florida between 2007 and 2008. During 2008, Mexican black tar heroin was seized in South Florida for the first time in more than a decade, while South American heroin remained the predominate type in the area and the State. There were modest increases in heroin consequences between 2007 and 2008. Heroin was the major opiate problem in Miami/Dade County, while consequences from the nonmedical use of prescription opioids were much higher in Broward

County, where two-thirds of the top 50 dispensing practitioners of oxycodone in the United States during the second half of 2008 were located. These 33 Broward pain clinics dispensed 6.5 million dosage units of oxycodone in the same 6 months. Oxycodone was detected in 1,574 deceased persons in Florida during 2008, and was determined to be a lethal dose level by local MEs who considered it the cause of death in 942 cases. Between 2007 and 2008, reports among deceased persons in all of Florida related to prescription opioids increased 8 percent, from 5,059 to 5,454. Reports of benzodiazepines detected among deceased persons in Florida increased 25 percent between 2007 and 2008, from 3,339 to 4,167. The number of those cases in which a benzodiazepine was found at a lethal level increased 24 percent, from 878 to 1,090 in the same period. The number of primary addiction treatment admissions for prescription medications accounted for 11.6 percent of all primary admissions in Florida during 2008, and has increased 26 percent since 2007, and 142 percent since 2004. Release of these data became a key factor in the passage of a Prescription Drug Monitoring Bill by the Florida Legislature in the spring of 2009. Marijuana had the highest number of primary treatment admissions (including alcohol) in Florida during 2008, one-half of which were among clients younger than 18. Marijuana treatment admits accounted for 72 percent of all primary admissions (including alcohol) for youth under 18. Prevalence of marijuana use among high school students remained stable between 2004 and 2008 across Florida and in Miami/Dade and Broward Counties. Consequences of 3,4-methylenedioxymethamphetamine (MDMA) and methamphetamine remained stable at low levels. Methamphetamine and 1-benzylpiperine (BZP) were increasingly detected, with or without MDMA, in ecstasy pills.

INTRODUCTION

This report reviews data from 2008 about drug-related deaths, medical emergencies, addiction

¹The author is the director of the Center for the Study and Prevention of Substance Abuse at Nova Southeastern University, and is executive director of Up Front Drug Information Center in Miami, Florida.

treatment admissions, law enforcement intelligence, crime laboratory analysis, and prevalence of drug use among students. Information is presented by primary substance of abuse, with topics including cocaine, heroin, prescription opioids, methamphetamine, marijuana, gamma hydroxybutyrate (GHB), 3,4-methylenedioxymethamphetamine (MDMA or ecstasy), benzodiazepines, and muscle relaxants. While the information is classified by a single drug or category, the reader should note an underlying problem of polysubstance abuse as mentioned throughout this report. Exhibits for the report follow the narrative text.

Area Description

Located in the extreme southern portion of the Florida peninsula, Miami/Dade County has the State's largest population, with 2,398,245 residents, according to 2008 U.S. Census estimates. Sixty-two percent are Hispanic; 17 percent are Black non-Hispanic; 18 percent are White non-Hispanic; and 1.5 percent are Asian/Pacific Islanders. Miami is Dade County's largest city, with 360,000 residents. More than 100,000 immigrants arrive in Florida each year; one-half establish residency in Miami/Dade County. More than one-half of the county's population is foreign born.

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 2008 Census estimates, the population was 1,751,234. The population is roughly 48 percent White non-Hispanic; 25 percent Black non-Hispanic; 23 percent Hispanic; and 3 percent Asian/Pacific Islanders. One-fourth of the county's population is foreign born. Broward County is the second most populated county in Florida after Miami/Dade, and accounts for almost 10 percent of Florida's population.

Palm Beach County (population 1,265,293) is located due north of Broward County and is the third most populated county in the State. The population is 64 percent White non-Hispanic; 17

percent Hispanic; 15 percent Black non-Hispanic; and 2 percent Asian/Pacific Islanders. Seventeen percent of the county's population is foreign born. Together, the 5.4 million people of these three counties constitute 30 percent of the State's 18.3 million population.

Starting in 2003, these three counties constitute 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.

Approximately 25 million tourists visit South Florida annually. The region is a hub of international transportation and the gateway to commerce between the Americas, accounting for sizable proportions of the Nation's trade. 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. Haiti and Jamaica remain as transshipment points for Colombian traffickers.
- South Florida is a designated High Intensity Drug Trafficking Area and one of the Nation's leading cocaine importation centers. It also has 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 has made the State, and particularly Bro-

ward County, a source for diverted medications in the southeastern United States.

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 2008 *Report of Drugs Identified in Deceased Persons*. Information on detection of levamisole in Medical Examiner (ME) cases was based on personal communication with the ME offices in Miami/Dade and Broward Counties.
- **Emergency department (ED) data** were derived for Miami/Dade County from the Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration (SAMHSA). The data represent drug reports involved in drug-related visits for illicit drugs (derived from the category of "major substances of abuse," excluding alcohol) and the nonmedical use of selected prescription drugs (derived from the case types of "overmedication," "malicious poisoning," and "other"). Drug reports exceed the number of ED visits because a patient may report use of multiple drugs (up to six drugs plus alcohol). Unweighted Miami/Dade ED data for 2008 are from the DAWN *Live!* restricted-access online query system administered by the Office of Applied Studies (OAS), SAMHSA. Eligible hospitals in only the Miami/Dade County Division totaled 21; hospitals in the DAWN sample numbered 19, with the number of EDs in the sample also totaling 19 (some hospitals have more than one emergency department). During 2008, nine EDs reported data each month. The completeness of data reported by participating EDs varied by month (exhibit 1). Exhibits in this report for 2008 Miami/Dade County data reflect cases that were received by DAWN as of May 5, 2009. Unweighted Broward County ED

data for 2008 are also from the DAWN *Live!* restricted-access online query system. Eligible hospitals in the Ft. Lauderdale Division only (that includes Broward and Palm Beach Counties) totaled 27; there were 21 hospitals in the DAWN sample, and the number of EDs in the sample also totaled 21. During 2008, nine EDs reported data each month. The completeness of data reported by participating EDs varied by month (exhibit 2). DAWN *Live!* exhibits in this paper for Broward and Palm Beach Counties reflect cases that were received by DAWN as of May 5, 2009. Based on the DAWN *Live!* reviews, cases may be corrected or deleted; therefore, the unweighted data presented in this report are subject to change. Data derived from DAWN *Live!* represent drug reports in drug-related ED visits. Drug reports exceeded the number of ED visits, since a patient may report use of multiple drugs (up to six drugs and alcohol). The DAWN *Live!* data are unweighted and, are not estimates for the reporting area. DAWN *Live!* data cannot be compared with DAWN data from 2002 and before, nor can preliminary data be used for comparison with future data. Only weighted DAWN data released by SAMHSA can be used for trend analysis. A full description of the DAWN system can be found on the DAWN Web site <http://dawninfo.samhsa.gov>.

- **Drug primary treatment admissions data** for calendar year 2008 came from the Florida Department of Children and Families for the State of Florida, as submitted to SAMHSA's Treatment Episode Data Set (TEDS) as of March 29, 2009, and for Miami/Dade and Broward Counties as generated on June 3, 2009. The county-level data are unduplicated client counts from all publicly funded treatment modalities, but do not include reports from detoxification services.
- **Crime laboratory drug analyses data** were derived from two sources. The first is from the Drug Enforcement Administration's (DEA's) National Forensic Laboratory Information System (NFLIS) for the combined reporting area

covering Miami/Dade, Broward, and Palm Beach Counties from January through December 2008. However, the NFLIS data combines 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 among the highest in the Nation. Broward County crime laboratory data for 2008 are from the Broward Sheriff’s Office Crime Laboratory, which does identify all pharmaceutical items by the appropriate generic name. Unfortunately, the Miami/Dade Police Department Crime Laboratory did not respond to requests for the 2008 data for their county.

- **Drug pricing data** for South Florida were derived from the National Drug Intelligence Center (NDIC), *National Illicit Drug Prices—December 2008*.
- **Heroin price and purity information** were provided by the U.S. DEA Heroin Domestic Monitor Program (HDMP) for 2005 to 2007.
- **Data on the prevalence of substance use by high school students** in Miami/Dade, Broward, and Palm Beach Counties, as well as the State of Florida, are from the 2008 Florida Youth Substance Abuse Survey conducted by the Florida Department of Children and Families.
- **Data on Injection Drug Use** among acquired immune deficiency syndrome (AIDS) cases are from Miami/Dade and Broward Departments of Health.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

South Florida’s cocaine epidemic is characterized by consequences that rank among the highest in the Nation. Cocaine abuse indicators had been rising since 2000 across the State, but remained

relatively stable in Miami/Dade and Broward Counties at high numbers through 2006. In 2007, there were modest increases in the numbers of cocaine-related deaths in Broward County and across Florida, along with a significant increase in Miami/Dade County that may be attributed to underreporting in the previous year. Then in 2008 there were declines in the number of cocaine reports among deceased persons, as compared with the previous year in Miami/Dade, Broward, and Palm Beach Counties, as well as for the State of Florida. Cocaine indicators, however, still dominated consequences of drug abuse. The majority of cocaine deaths, medical emergencies, and addiction treatment reports were among those older than 35. Many of the indicators reflected cocaine use in combination with other drugs, including prescription opioids and benzodiazepines.

Throughout Florida, the number of cocaine-related deaths decreased 18 percent in 2008, compared with 2007, 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 1,791 cocaine-related deaths across Florida in 2008 (exhibit 3), compared with 2,179 in 2007. The 2007 total was the highest number since the drug has been tracked beginning in the late 1980s, and the 2008 total was below those from 2005–2007. The number of cocaine deaths increased 97 percent between 2001 and 2007; the key factor for that rise appears to be a corresponding 105-percent increase of deaths with cocaine-in-combination with other drugs, particularly prescription medications. Among the 1,791 cocaine-related deaths in Florida during 2008, 76 percent of the cases involved cocaine-in-combination with at least one other drug.

In Florida, a drug is considered to be the cause of death if it is detected in an amount considered a lethal dose by the local ME. Among the cocaine-related deaths statewide in 2008, 648 (or 36 percent) were considered to be cocaine-induced.

There were 201 deaths related to cocaine use in Miami/Dade County during 2008, representing a 28-percent decrease from the 281 reported in 2007 (exhibit 4). Cocaine was detected at a lethal level in 27 percent of the 2008 cases. Cocaine was found in combination with another drug in 58 percent of the cases (exhibit 5). One percent ($n=2$) of the cocaine-related fatalities were younger than 18; 17 percent were age 18–25; 20 percent were age 26–34; 37 percent were age 35–50; and 25 percent were older than 50. Miami/Dade County's number of cocaine deaths in 2008 ranked highest among the 24 ME districts in the State.

There were 146 deaths related to cocaine abuse in Broward County in 2008, representing a 7-percent decrease over the 157 deaths in 2007 (exhibit 4). Cocaine was detected at a lethal level in 42 percent of the 2008 cases in Broward County. Cocaine was found in combination with another drug in 72 percent of the related death cases (exhibit 6). One of the cocaine-related fatalities was younger than 18; 11 percent were age 18–25; 18 percent were age 26–34; 48 percent were age 35–50; and 22 percent were older than 50. Broward County's number of cocaine deaths ranked fifth along with Tampa among the 24 ME districts in the State.

The Orlando ME district reported the second highest number of cocaine-related deaths in the State during 2008, with 179 cases; followed by Jacksonville with 165; St. Petersburg with 154; Broward and Tampa with 146 each; and Palm Beach County with 143. St. Petersburg had the highest number of lethal cocaine cases, with 66 such deaths, followed by Broward County, Palm Beach County, and the Tampa ME Districts each with 61 lethal cocaine reports. The Jacksonville District had 58. Miami/Dade County ranked sixth, with 55 lethal cocaine cases.

During 2008, unweighted data from DAWN *Live!* showed 3,422 cocaine reports from a sample of 9 of 19 EDs in Miami/Dade (exhibit 7). Cocaine was the most frequently cited substance (excluding alcohol only) among all local DAWN ED cases for 2008, with 34 percent of the 9,958 cases for any illicit drug or medication including

a cocaine report (down from 43 percent in 2007). Among 5,995 major substances of abuse (excluding alcohol), cocaine represented 57 percent of the ED reports, down from 62 percent in 2007. While only 22 percent of the cocaine reports identified a route of administration, 54 percent reported inhalation or snorting; 32 percent reported smoking or use of crack; 13 percent reported injecting; and 1 percent reported oral administration. Most (72 percent) of the 3,422 Miami/Dade cocaine ED reports involved males. Non-Hispanic Blacks accounted for 37 percent of the cocaine patients; 32 percent were Hispanic; and 31 percent were non-Hispanic Whites. The race/ethnicity was unknown or not tabulated for 1 percent of reports. Cocaine-involved ED reports involving those age 35 or older accounted for 58 percent of these reports. The ages for those reporting cocaine were as follows: 1 percent were younger than 18; 12 percent were age 18–24; 28 percent were age 25–34; 32 percent were age 35–44; 21 percent were age 45–54; and 5 percent were 55 or older. Less than 1 percent of the reports fell into the “unknown” age category.

As noted earlier, it is not appropriate to compare this number with the DAWN estimates with DAWN *Live!* data from any time period or any other metropolitan area.

Cocaine was the most commonly cited illicit drug among Broward County unweighted DAWN *Live!* ED reports, with 2,824 reports in 2008, accounting for 59 percent of the 4,791 major substances of abuse reports (excluding alcohol) (down from 61 percent in 2007). These data represent a sample of 9 emergency departments out of 22 (exhibit 8). Among the 11,390 local DAWN ED cases for any drug or medication during 2008, 25 percent of the cases included a cocaine report, down from 28 percent in 2007. Most (54.3 percent) of the 2,824 Broward cocaine ED reports involved males. Fifty-four percent were non-Hispanic Whites; 32 percent were non-Hispanic Blacks; and 10 percent were Hispanic; race/ethnicity was unknown for 4 percent. Cocaine-involved ED patients were age 35 or older in 54 percent of these reports. The ages of

those reporting cocaine were as follows: 1 percent were younger than 18; 14 percent were age 18–24; 25 percent were age 25–34; 31 percent were age 35–44; 23 percent were age 45–54; and 5 percent were 55 or older.

There were 8,902 primary admissions for cocaine in Florida during 2008, representing 19 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol (exhibit 9), down from 22 percent in 2007. Crack accounted for 65 percent of the total cocaine admissions. Fifty-three percent of the total cocaine patients were males. Youth younger than 18 represented 2 percent of the clients, and those age 18–20 accounted for 5 percent, while young adults age 21–25 comprised 14 percent of the cocaine admissions. Adults age 26–35 represented 30 of all primary cocaine clients, as did those age 36–45. Cocaine clients age 46–55 accounted for 16 percent, and those 56 and older represented 3 percent. The racial differences (including Hispanics) were: 61 percent White; 33 percent Black; less than 1 percent in other known racial groups; and 5 percent unknown. Hispanics of all races accounted for 13 percent of all primary cocaine admissions statewide.

There were 769 primary admissions for cocaine smoking (crack), and an additional 504 for powder cocaine. These accounted for a total of 1,273 (or 38 percent) of the 3,371 publicly funded primary treatment admissions (including 897 for alcohol) in Miami/Dade County in 2008, as reported by the Florida Department of Children and Families. Fifty-seven percent of the cocaine clients were age 35 or older. The percent of cocaine admissions in Miami/Dade County was double that for the entire State and for Broward County.

In Broward County, there were 469 primary admissions for cocaine smoking (crack), and an additional 306 for powder cocaine, accounting for a total of 775 (or 19 percent) of the 4,184 publicly funded primary treatment admissions (including 1,001 for alcohol) in 2008. Sixty percent of the cocaine clients were age 35 or older.

Cocaine continued to be the most commonly analyzed substance by local crime laboratories.

It accounted for 19,156 items, or 66 percent, of the 29,237 total samples tested in the MSA comprised of Miami/Dade, Broward, and Palm Beach Counties (exhibit 10). Included in that total reported by NFLIS for 2008 were 5,655 cocaine items analyzed by the Broward County Sheriff's Office crime laboratory in 2008 (58 percent of the 9,686 total items) (exhibit 11).

Powder cocaine and crack continued to be reported as "widely available" throughout Florida. According to NDIC, in Miami during 2008 powder cocaine sold for \$15,250–\$25,000 per kilogram wholesale (up from the range of \$15,250–\$17,500 in 2007), \$700–\$1,200 per ounce (unchanged from 2007), and \$40–\$100 per gram retail. Numerous reports of adulterated cocaine continued, with 35 to 40 percent of imported kilos arriving in South Florida estimated to be cut with levamisole (a veterinary medicine), believed to have been added at processing laboratories in Colombia. Levamisole-contaminated cocaine has been linked elsewhere to cases of the low white blood cell disorder, agranulocytosis.

Crack cocaine in 2008 sold for \$750 per ounce (unchanged from 2007), \$20–\$45 per gram (down from \$50–\$125 per gram in 2007), and \$10 per 0.1 gram "rock."

Any lifetime use of cocaine among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 5.7 percent in Miami/Dade County; 3.8 percent in Broward County; 4.3 percent in Palm Beach County; and 5.5 percent in all of Florida. Results from the same survey for any current use of cocaine among high school students in the past 30 days were: 2.3 percent in Miami/Dade; 1.2 percent in Broward; 1.9 percent in Palm Beach County; and 1.6 percent statewide.

Heroin

South American heroin has been entering the South Florida area over the past two decades. However, the first reports and seizures of Mexican black tar heroin in South Florida were made during 2008. Deaths caused by heroin

declined dramatically in Florida from 2001 to 2006, but have increased between 2006 and 2008. Substantial increases in abuse and consequences of narcotic analgesics use have occurred as heroin problems were waning. Abuse of narcotic pain medication has fueled opioid consequences, and may lead to some users also taking heroin. Most heroin ED patients and addiction treatment admissions continued to be among older, White males. Yet, consequences among those below age 35 were increasing. Polydrug abuse patterns have facilitated first-time use of opiate drugs, including heroin.

Throughout Florida, the number of heroin-related deaths increased 20 percent during 2008, compared with 2007, and increased 37 percent since 2006, reversing declining trends between 2001 and 2006. There were 132 heroin-related deaths across Florida in 2008 (exhibit 3). Heroin continued to be the most lethal drug, with 90 percent ($n=119$) of heroin-related deaths in 2008 being reported as caused by the drug. There were 110 heroin-related deaths in 2007. Even with the increases in 2007 and 2008, heroin-related deaths have declined 60 percent from the 328 deaths in 2001. However, deaths from prescription narcotic opioids increased dramatically over the same period (exhibit 12). Polysubstance abuse was noted in 89 percent of the 2008 heroin-related deaths statewide.

In 2008, Miami/Dade County accounted for 29 percent of all heroin-related deaths in Florida; heroin was found at a lethal dose level in 33 of the 38 deaths in which the drug was detected in the County during 2008. Other drugs were detected in 84 percent of the 2008 cases (exhibit 5). None of the heroin-related fatalities was younger than 18, while 8 (21 percent) were age 18–25. Six of the heroin-related decedents (16 percent) were age 26–34; 18 (47 percent) were age 35–50; and 6 (16 percent) were older than 50. The 38 heroin-related deaths in Miami/Dade during 2008 reflected a 46-percent increase over the 26 deaths in 2007. Lethal heroin deaths peaked in Miami/Dade County in 2000 with 61 fatalities.

In Broward County, heroin was detected at a lethal dose level in 13 of the 17 heroin-related deaths during 2008. Other drugs were detected in all of the heroin cases (exhibit 6). The 17 heroin-related deaths during 2008 in Broward County reflected a 325-percent increase over the 4 deaths in 2007, reversing a steady decline since 2002, when there were 50 heroin-related deaths. None of the heroin-related fatalities was younger than 18; two (12 percent) were age 18–25; two (12 percent) were age 26–34; eight (47 percent) were age 35–50; and five (29 percent) were older than 50.

During 2008, unweighted DAWN *Live!* data for Miami/Dade showed 865 heroin reports (exhibit 7). Among major substances of abuse (excluding alcohol), heroin represented 14 percent of the ED reports, up from 12 percent in 2007. Eighty percent of the 865 Miami/Dade heroin ED reports involved males. Forty-four percent were non-Hispanic Whites; 36 percent were Hispanic; 19 percent were non-Hispanic Blacks; and 1 percent had an unknown/undocumented race/ethnicity. Heroin-involved ED reports involved those age 35 or older in 59 percent of these reports. Other ages were as follows: one report involved a child younger than 12; 12 percent were age 18–24; 29 percent were age 25–34; 34 percent were age 35–44; 21 percent were age 45–54; and 5 percent were 55 or older.

Unweighted DAWN *Live!* data from the Broward EDs in 2008 identified a total of 366 heroin reports, representing 7 percent of illicit drug reports, the same as in 2007 (exhibit 8). The heroin ED reports predominantly involved White males over age 24. Males accounted for 65 percent of these reports, and 73 percent were non-Hispanic Whites. Hispanics accounted for 18 percent of the heroin ED reports, and non-Hispanic Blacks represented 5 percent of the reports (race/ethnicity was unknown or undocumented for 4 percent). There were two (0.5 percent) reports involving those younger than 18, while 23 percent involved those age 18–24; 30 percent were age 25–34; 25 percent were age 35–44; 17 percent were age 45–54; and 4 percent were 55 or older.

There were 1,080 primary admissions for heroin in Florida during 2008, representing 2 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol (exhibit 9), the same percent as in 2007. Sixty-two percent of the total primary heroin clients were males. Youth under 18 represented 2 percent of the clients; those age 18–20 accounted for 5 percent; and young adults age 21–25 comprised 19 percent of the heroin admissions. Adults age 26–35 represented 38 of all primary heroin clients, and clients age 36–45 accounted for 19 percent. Heroin clients age 46–55 accounted for 13 percent, and clients 56 and older represented 3 percent. The racial differences (including Hispanics) were: 61 percent White; 33 percent Black; less than 1 percent in other known racial groups; and 5 percent unknown. Hispanics of all races accounted for 13 percent of all primary heroin admissions statewide.

There were 94 primary admissions for heroin, or 2.8 percent of the 3,371 publicly funded primary treatment admissions in Miami/Dade County, as reported by the Florida Department of Children and Families in 2008. Males accounted for 82 percent of the heroin clients, and Hispanics represented 43 percent. Fifty-one percent of the heroin clients were age 35 or older.

In Broward County, there were 110 primary admissions for heroin, accounting for 2.6 percent of the 4,184 publicly funded primary treatment admissions in 2008. Males accounted for 72 percent of the heroin clients, and non-Hispanic Whites represented 74 percent. Sixty percent of the heroin clients were age 35 or older.

Heroin accounted for 736 cases, or 2.5 percent of all items analyzed by crime laboratories in 2008 for the three-county South Florida MSA, as reported by the NFLIS. Heroin ranked third among all substances analyzed in the MSA (exhibit 10). Included in that total were 119 heroin items analyzed by the Broward County Sheriff's Office crime laboratory in 2008 (1.2 percent of the total items analyzed there). Heroin ranked eighth among all substances analyzed in Broward County (exhibit 11).

The most current data on heroin purity were for 2007, and came from the 2008 DEA HDMP. In 2007, 33 qualified heroin samples were purchased in Miami. Thirty-one samples were classified as South American heroin. They ranged in purity from 5.2 to 60.5 percent pure, with an average purity of 18.1 percent. In Miami, South American heroin cost an average of \$1.48 per milligram pure. From 2006 to 2007, the average purity for South American heroin in Miami decreased by 6.3 percentage points, and the average price dropped by \$0.27 per milligram pure. Two samples of Mexican heroin also were purchased, the first occurrence of this type for Miami in the history of the program. The Mexican heroin samples had an average purity of 4 percent, and cost \$2.31 per pure milligram. Some kilos of Mexican black tar heroin were confiscated during 2008 in Broward County for the first time in more than a decade.

South American heroin was available in South Florida, as described by law enforcement officials and epidemiologists/ethnographers. According to NDIC, heroin prices at all levels in 2008 remained unchanged from those in 2007, with 1 kilogram of heroin selling for \$42,000–\$70,000 in the region, and for \$1,800 per ounce; retail prices were roughly \$35–\$50 per gram. The most common street unit of heroin was a bag of heroin (roughly 15–20 percent purity), weighing about one-tenth of a gram, that sold for \$10.

Any lifetime use of heroin among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 1.2 percent in Miami/Dade County; 0.9 percent in Broward County; 1 percent in Palm Beach County; and 1 percent statewide in Florida. Results from the same survey for any current use of heroin among high school students in the past 30 days were: 0.2 percent in Miami/Dade; 0.4 percent in Broward; 0.3 percent in Palm Beach County; and 0.3 percent statewide.

Prescription Opioids

Between 2007 and 2008, reports in the State of Florida related to the category of prescription opioids detected among deceased persons increased 8 percent, from 5,059 to 5,454 (exhibit 3), following a 15-percent rise between 2006 ($n=4,386$) and 2007. Reports of hydrocodone, oxycodone, and methadone identified among decedents have been tracked in Florida since 2000. Beginning in 2003, morphine, propoxyphene, fentanyl, hydromorphone, meperidine, tramadol, and other opioids were included in the Florida Medical Examiners Commission's surveillance monitoring program. Occurrences of five prescription opioids detected among deceased persons during 2008 totaled 342 in Broward County; 124 in Miami-Dade County; and 361 in Palm Beach County.

Across Florida, the number of tramadol reports detected among deceased persons ($n=235$) increased 50 percent between 2007 and 2008. Those for oxycodone ($n=1,574$) increased 26 percent; the number of occurrences for fentanyl ($n=235$) increased 19 percent; and hydromorphone reports ($n=199$) increased 12 percent. Hydrocodone reports ($n=870$) among decedents increased 8 percent; occurrences for morphine ($n=660$) increased 5 percent; and those for other opioids ($n=394$) rose 7 percent. Methadone occurrences among deceased persons ($n=936$) decreased 14 percent between 2007 and 2008; those for meperidine ($n=29$) declined 12 percent; and propoxyphene reports ($n=322$) decreased 6 percent.

During 2008, 4,924 individuals died in Florida with one or more prescription drugs in their system, of which 44 percent ($n=2,184$) had at least one prescription medication that was considered a cause of death. In total there were 10,036 prescription drugs detected (including 5,454 opioids), and 3,750 of the total medication occurrences were considered at a lethal dose and a cause of death (exhibit 13), including 47 percent ($n=2,576$) 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.

The most lethal prescription opioids statewide were: methadone, which was considered a cause of death for 74 percent ($n=693$) of the decedents in which it was detected; oxycodone, a cause of death for 60 percent ($n=941$) of the deaths related to it; morphine with a 45-percent lethal rate ($n=300$); and fentanyl, a cause of death for 44 percent ($n=104$) of its occurrences. Most of the statewide prescription ME opioid cases were polydrug episodes, including: 91 percent of the oxycodone reports; 89 percent of the methadone cases; 88 percent of the hydrocodone reports; 83 percent of morphine cases; and 83 percent of propoxyphene-related deaths.

The two counties (Pinellas and Pasco) comprising the St. Petersburg ME's District (population 1,381,288) had the highest number of prescription opioids reports among deceased persons in Florida, with a total of 631 occurrences. Sixty percent of these were considered to be lethal doses and a cause of death. The Jacksonville ME District (population 1,105,524), which is comprised of three counties (Duval, Clay, and Nassau), ranked second in the number of prescription opioids reports among decedents; it reported 363 occurrences, of which 49 percent were considered lethal doses. Palm Beach County ranked 3rd, Broward County ranked 4th, and Miami/Dade County ranked 15th in the State for the numbers of prescription opioids detected among decedents (exhibit 14).

Miami/Dade County recorded 46 oxycodone occurrences among deceased persons in 2008; 40 morphine reports; 17 hydrocodone reports; 11 propoxyphene reports; and 10 reports for methadone (exhibit 5). These 124 combined mentions represented a 39-percent decrease from the 163 opioid occurrences in 2007. Among the total opioid reports in 2008, 45 percent were considered lethal doses, and 78 percent were found in combination with at least one other substance.

Broward County recorded 171 oxycodone occurrences among deceased persons in 2008; 60 morphine reports; 47 methadone reports;

42 hydrocodone reports; and 22 reports for propoxyphene (exhibit 6). These 342 combined mentions represented a 64-percent increase from the 278 opioid occurrences in 2007. Among the total opioid reports in 2008, 60 percent were considered lethal doses, and 89 percent were found in combination with at least one other substance.

Palm Beach County recorded 165 oxycodone occurrences among deceased persons in 2008; 79 reports for methadone; 53 morphine reports; 51 hydrocodone reports; and 13 reports for propoxyphene. These 361 combined mentions represented a 4-percent decrease from the 377 opioid occurrences in 2007. Among the total opioid reports in 2008, 65 percent were considered lethal doses, and 91 percent were found in combination with at least one other substance.

Unweighted DAWN *Live!* data for Miami/Dade showed 316 prescription opioid reports in 2008 (exhibit 7) including the three nonmedical use case types—overmedication, malicious poisoning, and other. There were also 318 additional opioid reports classified as seeking detoxification. Among the nonmedical opioid ED reports, 114 (or 36 percent) were oxycodone reports. The total also includes: 26 hydrocodone reports; 20 methadone reports; 9 fentanyl reports; and 3 buprenorphine reports. Most (56 percent) of the 316 Miami/Dade prescription opioid ED reports involved males. Fifty percent were non-Hispanic Whites; 36 percent were Hispanic; and 12 percent were non-Hispanic Blacks; and race/ethnicity was either unknown or undocumented for 1 percent. The patients' ages were as follows: 2 percent were younger than 18; 15 percent were age 18–24; 25 percent were age 25–34; 22 percent were age 35–44; 20 percent were age 45–54; and 17 percent were 55 or older.

Unweighted data accessed from DAWN *Live!* for Broward County EDs during 2008 reveal a total of 1,422 nonmedical use reports for prescription opioids (exhibit 8), as compared with 366 reports for heroin. There were also 1,056 additional opioid reports classified as seeking detoxification. Among the narcotic analgesic nonmedical use reports, 697 (or 49 percent) were

oxycodone ED reports. The total also includes: 148 methadone nonmedical ED reports; 95 hydrocodone reports; 16 fentanyl reports; and 18 buprenorphine reports. Males accounted for 54 percent of these reports, and 83 percent were non-Hispanic Whites. Hispanics accounted for 7 percent of the narcotic analgesic ED reports; non-Hispanic Blacks represented 7 percent; and race/ethnicity was unknown or undocumented for 4 percent. There were 17 (1 percent) patients younger than 18, while 15 percent were age 18–24; 25 percent were age 25–34; 21 percent were age 35–44; 24 percent were age 45–54; and 12 percent were 55 or older. Only one ED report (less than 0.1 percent) did not have an age documented.

A comparison of 2008 opiate ED reports for heroin and narcotic opioids in Miami/Dade and Broward Counties are contrasted in exhibit 15. Heroin accounted for 73 percent of 1,181 opiate ED reports in Miami/Dade County. In Broward County, however, narcotic prescription opioids accounted for 80 percent of 1,788 prescription opioid ED reports.

There were 4,699 primary admissions for prescription opioid dependence in Florida during 2008, representing 10 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol, up from 8 percent in 2007 (exhibit 16). These admissions represent a 150-percent increase in opioid primary admissions since 2004 (exhibit 17). Fifty-two percent of the total primary opioid patients were females. Youth under 18 represented 3 percent of the clients; clients age 18–20 accounted for 7 percent; and young adults age 21–25 comprised 25 percent of the opioid admissions. Adults age 26–35 represented 39 of all primary opioid clients, and clients age 36–45 accounted for 16 percent. Opioid clients age 46–55 accounted for 9 percent, and clients 56 and older represented 2 percent. The racial differences (including Hispanics) were: 96 percent White; and 2 percent Black; less than 1 percent in other known racial groups; and less than 2 percent unknown. Hispanics of all races accounted for 4 percent of all primary opioid admissions statewide.

There were 32 primary admissions for opiates other than heroin, or 0.9 percent of the 3,371 publicly funded primary treatment admissions in Miami/Dade County, as reported by the Florida Department of Children and Families in 2008. Females accounted for 53 percent of the other opiate clients, and non-Hispanic Whites represented 62 percent. Fifty-three percent of these clients were age 35 or older.

In Broward County, there were 264 primary admissions for opiates other than heroin, accounting for 6.3 percent of the 4,184 publicly funded primary treatment admissions. Males accounted for 59 percent of the other opiate clients, and non-Hispanic Whites represented 89 percent. Thirty-three percent of these clients were age 18–25; 31 percent were age 26–34; and 35 percent were 35 or older.

NFLIS reported 205 oxycodone crime laboratory cases; 65 hydrocodone items; 23 methadone cases; and 11 propoxyphene cases. Combined together these 304 reports represented 1 percent of all drug items analyzed in the three-county South Florida MSA (exhibit 10). There were also 1,647 “controlled substance” cases in the 2008 NFLIS report in 2008, many of which were prescription opioids. The Broward Sheriff’s Office Crime Laboratory reported analyzing 804 oxycodone cases during 2008, or 8.3 percent of all cases (exhibit 11). There were also 121 hydrocodone cases, 12 hydromorphone cases, and 20 buprenorphine cases in the same year. These 957 prescription opioid cases in Broward County represented 10 percent of all cases, ranking second behind cocaine.

Any lifetime nonmedical use of prescription pain relievers among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 5.4 percent in Miami/Dade County; 6.2 percent in Broward County; 8.2 percent in Palm Beach County; and 10.4 percent statewide in Florida. Results from the same survey for any current nonmedical use of prescription pain relievers among high school students in the past 30 days were: 1.9 percent in Miami/Dade;

2.3 percent in Broward; 3.2 percent in Palm Beach County; and 3.9 percent statewide.

Methamphetamine

Indicators of methamphetamine abuse remained at low levels. Florida law enforcement sources in northern and central Florida reported increasing numbers of “bottle meth production,” using a single plastic two-liter soda bottle that yields a small amount of methamphetamine. The number of larger clandestine laboratories has decreased in recent years following legislation limiting individual sales of pseudoephedrine. Most methamphetamine seen in South Florida is high-grade Mexican-manufactured “ice” trafficked from Atlanta. Mexican drug trafficking organizations are also supplying powdered methamphetamine directly to local Latino populations of Central and South American nationalities. Additionally, methamphetamine is now seen in ecstasy tablets that may or may not also contain MDMA, believed to be from Canadian Asian drug trafficking organizations and Caribbean sources.

Methamphetamine was detected among 114 deceased persons during 2008 statewide in Florida, representing a 7-percent increase from the 107 occurrences in 2007. That had followed a 6-percent decrease between 2006 and 2007. Methamphetamine was considered the cause of death in 26 (23 percent) of the 114 cases during 2008. There were also 67 reports of amphetamine detected among decedents across Florida in 2008, a 35-percent decrease over the previous year. Between 2006 and 2007, there was a 6-percent decrease in amphetamine-related ME reports. Amphetamine was considered the cause of death in 18 percent of the 67 cases in 2008.

Unweighted data accessed from DAWN *Live!* revealed 25 methamphetamine-related ED reports during 2008 in Miami/Dade County (exhibit 7). Among those reports, 80 percent were male. Sixty-eight percent were non-Hispanic Whites; 24 percent were Hispanics; and 8 percent were non-Hispanic Blacks. None of the methamphetamine ED patients was younger than 18;

20 percent were age 18–24; 52 percent were age 25–34; 20 percent were age 35–44; 8 percent were age 45–54; and none was older than 55. There were also 36 amphetamine-related Miami/Dade ED reports during 2008.

Unweighted data accessed from DAWN *Live!* revealed 19 methamphetamine-related ED reports during 2008 in Broward County (exhibit 8). Among those reports, 84 percent were male. Sixty-three percent were non-Hispanic Whites; 21 percent were Hispanics; 11 percent were non-Hispanic Blacks; and race/ethnicity was not documented for 5 percent of the reports. One of the methamphetamine ED patients was younger than 18; 26 percent were age 18–24; 32 percent were age 25–34; 26 percent were age 35–44; 11 percent were age 45–54; and none was older than 55. There were also 66 amphetamine-related Broward County ED reports in 2008.

Data on methamphetamine treatment admissions are included in a single category named “amphetamines,” which also includes other stimulants in addition to methamphetamine (i.e., Benzedrine®, Dexedrine®, Ritalin®, and any other amines and related drugs). There were 732 primary admissions for amphetamine dependence in Florida during 2008 (exhibit 9), representing 1.5 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol, similar to the 1.8 percent in 2007. Fifty-eight percent of the total primary amphetamine clients were females. Youth under 18 represented 5 percent of the clients; clients age 18–20 accounted for 6 percent; and young adults age 21–25 comprised 21 percent of the amphetamine admissions. Adults age 26–35 represented 45 of all primary amphetamine clients, and clients age 36–45 accounted for 17 percent. Amphetamine clients age 46–55 accounted for 7 percent, and clients 56 and older represented 1 percent. The racial differences (including Hispanics) were: 91 percent were White; 5 percent were Black; less than 1 percent were in other known racial groups; and less than 3 percent were unknown. Hispanics of all races accounted for 6 percent of all primary amphetamine admissions statewide.

There were 12 primary admissions for methamphetamine, or 0.4 percent of the 3,371 publicly funded primary treatment admissions in Miami/Dade County, as reported by the Florida Department of Children and Families in 2008. Males accounted for 75 percent of the methamphetamine clients, and Hispanics represented 75 percent. One-fourth of these clients were age 18–25; 50 percent were age 26–34; and 25 percent were 35 or older. There were also five primary admissions for other amphetamines.

In Broward County, there were 16 primary admissions for methamphetamine, accounting for 0.4 percent of the 4,184 publicly funded primary treatment admissions. Males accounted for all but one of the methamphetamine clients, and non-Hispanic Whites represented 56 percent. One methamphetamine client was younger than 18; 2 were age 18–25; 2 were age 26–34; and 11 (69 percent) were 35 or older. There were also four primary admissions for other amphetamines.

Methamphetamine accounted for 168 cases, or 0.6 percent, of all items analyzed by crime laboratories in 2008 for the three-county South Florida MSA, as reported by NFLIS. Methamphetamine ranked eighth among all substances in the three-county MSA (exhibit 10). There were 201 methamphetamine items analyzed by the Broward County Sheriff’s Office crime laboratory in 2008, or 2 percent of the total items there. Methamphetamine ranked sixth among all substances (exhibit 11).

In South Florida, methamphetamine had some of the highest prices in the Nation, at \$15,000–\$30,000 per pound for powder Mexican methamphetamine (as of December 2008, and unchanged from 2007), with Mexican ice continuing to sell for \$2,100 per ounce. Powdered methamphetamine sold for \$200 per gram.

Any lifetime use of methamphetamine among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 1.1 percent in Miami/Dade County; 1 percent in Broward County; 1.8 percent in Palm Beach County; and 1.5 percent statewide in Florida. Results from the same survey for any current

use of methamphetamine among high school students in the past 30 days were: 0.1 percent in Miami/Dade County; 0.5 percent in Broward County; 0.7 percent in Palm Beach County; and 0.5 percent statewide.

Methamphetamine abuse and related sexual activity have contributed to sharp increases in sexually transmitted diseases in South Florida, particularly among men who have sex with men (MSM). Local public health officials consider methamphetamine-related sexual behavior as a key factor in why Miami/Dade and Broward County rank among the highest nationally in per capita rates of HIV infection. High rates of syphilis in the area are also linked to methamphetamine-related unsafe sexual behavior.

Marijuana

Marijuana was used by more people, particularly youth, than any other illicit drug in 2008. Consequences of its abuse and addiction continued, and declines in its rates of use among youth since 2000 have stalled in recent surveys.

Cannabinoids were detected in 859 deaths statewide in Florida during 2008, representing a 22-percent decrease over the 1,103 such reports in 2007.

Unweighted DAWN *Live!* data for Miami/Dade showed 1,426 marijuana reports in 2008 (exhibit 7). Marijuana was the second most cited illicit drug among Miami/Dade County unweighted DAWN *Live!* ED reports, accounting for 24 percent of the 5,995 major substances of abuse reports (excluding alcohol and medications) during 2008. Three-fourths of the Miami/Dade marijuana ED reports involved males. Thirty-four percent were Hispanics; 33 percent were non-Hispanic Blacks; 32 percent were non-Hispanic Whites; and the race/ethnicity was unknown or undocumented for 1 percent. Marijuana-involved ED reports involving those younger than 35 accounted for 67 percent of the reports. The percentages of those reporting ages were as follows: 9 percent were younger than 18; 28 percent were age 18–24; 30 percent were age

25–34; 18 percent were age 35–44; 13 percent were age 45–54; and 2 percent were 55 or older.

Marijuana was the second most cited illicit drug among Broward County unweighted DAWN *Live!* ED reports, accounting for 1,356 or 28 percent of the 4,791 major substances of abuse reports (excluding alcohol and medications) during 2008 (exhibit 8). Most (65 percent) of the 1,356 Broward marijuana ED reports involved males. Fifty-four percent were non-Hispanic Whites; 28 percent were non-Hispanic Blacks; 13 percent were Hispanics; and the race/ethnicity was undocumented for 6 percent of these reports. Seventy-two percent of the marijuana-involved ED reports involved those younger than 35. The percentages of reporting ages were as follows: 15 percent were younger than 18; 32 percent were age 18–24; 25 percent were age 25–34; 16 percent were age 35–44; 9 percent were age 45–54; and 3 percent were 55 or older. The age was undocumented for less than 1 percent of these reports.

There were 14,671 primary admissions for marijuana dependence in Florida during 2008 (exhibit 9), representing 31 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol, up slightly from the 29 percent in 2007. Marijuana outranked all other substances (including alcohol) as the number one primary drug for treatment admissions. Seventy-two percent of the total primary marijuana clients were males. Youth under 18 represented 49 percent of the clients. Clients age 18–20 accounted for 15 percent of the primary marijuana admissions, as did young adults age 21–25. Adults age 26–35 represented 13 percent of all primary marijuana clients, and clients age 36–45 accounted for 5 percent. Marijuana clients age 46–55 accounted for 3 percent, and clients 56 and older represented less than 1 percent. The racial differences (including Hispanics) were: 65 percent were White; and 28 percent were Black; less than 1 percent were in other known racial groups; and less than 5 percent were unknown. Hispanics of all races accounted for 14 percent of all primary marijuana admissions statewide.

There were 979 primary admissions for marijuana dependence in Miami/Dade County during 2008, representing 29 percent of the 3,371 total publicly funded treatment admissions for all substances including alcohol. Seventy-five percent of the total primary marijuana clients were males. Youth under 18 represented 49 percent of the clients, and clients age 18–25 accounted for 28 percent of the primary marijuana admissions. Adults age 26–34 represented 13 percent of all primary marijuana clients, and clients age 35 and older accounted for 9 percent. Hispanics accounted for 49 percent of the marijuana clients; non-Hispanic Blacks for 35 percent; non-Hispanic Whites for 12 percent; and other ethnic groups accounted for 3 percent.

There were 1,611 primary admissions for marijuana dependence in Broward County during 2008, representing 39 percent of the 4,184 total publicly funded treatment admissions for all substances including alcohol. Seventy-nine percent of the total primary marijuana clients were males. Youth under 18 represented 37 percent of the clients, and clients age 18–25 accounted for 38 percent of the primary marijuana admissions. Adults age 26–34 represented 13 percent of all primary marijuana clients, and clients age 35 and older accounted for 11 percent. Non-Hispanic Whites accounted for 38 percent of the marijuana clients; non-Hispanic Blacks for 35 percent; Hispanics for 20 percent; and other ethnic groups accounted for 6 percent.

Marijuana or cannabis accounted for 4,928 cases, or 17 percent of all items analyzed substance by crime laboratories in 2008 for the three-county South Florida MSA, as reported by NFLIS. Marijuana/cannabis ranked second among all substances after cocaine in the three-county MSA (exhibit 10). There were 836 marijuana items analyzed by the Broward County Sheriff's Office crime laboratory in 2008, or 9 percent, of the total items there. Marijuana/cannabis ranked third among all substances in Broward County (exhibit 11).

Marijuana was still described as widely available throughout Florida, with local commercial, sinsemilla, and hydroponic grades available. As of

2008 in South Florida, the cost for a pound of commercial grade marijuana was \$650. Hydroponic and sinsemilla grades sold for \$2,500–\$4,000 per pound (down from a range of \$3,500–\$4,000 in 2007). The ounce price for commercial grade marijuana continued to be \$100–\$150. Sinsemilla sold for \$400–\$500 per ounce. Depending on its potency, marijuana could sell for \$5–\$20 per gram.

Any lifetime use of marijuana among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 23.3 percent in Miami/Dade County; 27 percent in Broward County; 32.4 percent in Palm Beach County; and 30.8 percent statewide in Florida. Results from the same survey for any current use of marijuana among high school students in the past 30 days were: 13 percent in Miami/Dade County; 14 percent in Broward county; 17.4 percent in Palm Beach County; and 16.2 percent statewide. Current marijuana use among high school students declined sharply from 2000 to 2002 across Florida, as well as in Miami/Dade and Broward Counties, and then increased by 2004 in Miami/Dade County. It has stabilized since 2004 in Broward and Miami/Dade Counties as well as in the State (exhibit 18).

3.4-Methylenedioxyamphetamine (MDMA or Ecstasy)

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

There were 44 MDMA-related deaths statewide in Florida in 2008, with the drug being cited as the cause of death in 7 of these cases. There were also 23 3,4-methylenedioxyamphetamine (MDA)-related deaths statewide in Florida during the same year. There were an additional six deaths related to other methylated amphetamines

in 2008. During 2007, there were 76 MDMA-related deaths, and 32 MDA-related deaths. MDMA deaths decreased 42 percent and MDA deaths decreased 36 percent in 2008, compared with the previous year.

In 2008, unweighted DAWN *Live!* data revealed 127 MDMA reports in Miami/Dade County (exhibit 7). Sixty-one percent of these ED reports involved males. Thirty-five percent were Hispanics; 34 percent were non-Hispanic Whites; 28 percent were non-Hispanic Blacks; and the race/ethnicity was undocumented for 2 percent of these reports. Ninety-one percent of the MDMA ED reports involved those younger than 35. The age of those reporting were as follows: 12 percent were younger than 18; 44 percent were age 18–24; 35 percent were age 25–34; 9 percent were age 35–44; and none were 45 or older. The age was undocumented for less than 1 percent of these reports.

In the unweighted DAWN *Live!* data for Broward County during 2008, there were 100 MDMA-related ED reports (exhibit 8). Sixty-one percent of these ED reports involved males. Forty-two percent were non-Hispanic Whites; 38 percent were non-Hispanic Blacks; 18 percent were Hispanics; and the race/ethnicity was undocumented for 2 percent of these reports. Eighty-four percent of the MDMA ED reports involved those younger than 35. The ages of those reporting were as follows: 14 percent were younger than 18; 41 percent were age 18–24; 29 percent were age 25–34; 14 percent were age 35–44; 2 percent were 45–54; and none were 55 or older.

There were 36 primary treatment admissions for MDMA in the State of Florida in 2008; 11 were in Miami/Dade County, and 12 were in Broward County.

MDMA accounted for 259 cases, or 1 percent of all items analyzed by crime laboratories in 2008 for the three-county South Florida MSA, as reported by NFLIS. MDMA ranked fifth among all substances in the three-county MSA (exhibit 10). There were 165 MDMA items and 3 MDA samples analyzed by the Broward County Sheriff's Office crime laboratory in 2008, or 1.7

percent, of the total items there. MDMA ranked seventh among all substances analyzed in Broward County (exhibit 11).

During 2008 in South Florida, ecstasy tablets sold for \$4–\$5 per tablet wholesale (in bulk), and \$7 retail for a single pill, according to the NDIC. These prices have continued to decline since 2006.

Any lifetime use of ecstasy among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 6.4 percent in Miami/Dade County; 4.7 percent in Broward County; 3.9 percent in Palm Beach County; and 4.9 percent statewide in Florida. Results from the same survey for any current use of ecstasy among high school students in the past 30 days were: 3.1 percent in Miami/Dade; 1.6 percent in Broward; 1.2 percent in Palm Beach County; and 1.5 percent statewide.

Gamma Hydroxybutyrate (GHB)

Abuse of the anesthetic GHB has declined significantly in South Florida in recent years. There are several compounds that are converted by the body to GHB, including gamma butyrolactone (GBL) and 1,4-butanediol (1,4-BD). Most recently, GHB abuse 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.

There were three GHB-related deaths statewide during 2008. The drug was considered the cause of death in one of these cases. There were 5 GHB-related deaths reported statewide during 2007; 4 in 2006; and 9 deaths in 2005; with 11 deaths in both 2003 and 2004. In the State of Florida, GHB-related deaths increased from 23 in 2000, to 28 in 2001, and then declined to 19 in 2002, before declining to 11 in 2003 and 2004.

Unweighted data accessed from DAWN *Live!* for Miami/Dade County revealed 14 GHB-related ED reports in 2008. There were 14 GHB-related DAWN *Live!* reports in Broward County.

NFLIS reported 16 crime laboratory cases of 1,4-Butanediol, but no GBL or GHB cases for the three-county South Florida MSA in 2008. The Broward Sheriff's Office crime laboratory reported six cases of GBL, and four cases for 1,4-Butanediol, but no cases of GHB in 2008.

Any lifetime use of GHB among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 0.3 percent in Miami/Dade County; 0.4 percent in Broward County; 1 percent in Palm Beach County; and 0.7 percent statewide in Florida. Results from the same survey for any current use of GHB among high school students in the past 30 days were: 0.0 percent in Miami/Dade; 0.4 percent in Broward; 0.6 percent in Palm Beach County; and 0.3 percent statewide.

Benzodiazepines

Benzodiazepines in general, and alprazolam (Xanax®) in particular, were a substantial problem in South Florida in this reporting period. There were 4,167 reports of a benzodiazepine present in deceased persons across Florida in 2008, representing a 25-percent increase over the 3,339 cases in the previous year. Of the benzodiazepine occurrences in 2008, a benzodiazepine was identified as causing 929 deaths (29 percent), with a total of 1,090 lethal benzodiazepine occurrences. Among the benzodiazepine ME reports statewide, 1,873 were attributed to alprazolam, and 914 were attributed to diazepam (Valium®); 38 percent of the alprazolam occurrences, and 22 percent of the diazepam reports, were considered to be lethal doses.

In Miami/Dade County, there were 101 reports of alprazolam detected in deceased persons during 2008, of which 36 percent were considered a lethal dose. Eight-five percent of the reports involved at least one other drug (exhibit 5). There were also 44 reports of diazepam detected in deceased persons in Miami/Dade County; and 18 percent were considered to be the cause of death; 84 percent of these deaths involved at least one other drug. These 145 combined mentions for

alprazolam and diazepam represented a 10-percent increase over the 132 deaths in 2007, and follows a 39-percent increase from 2006 to 2007. Miami/Dade County ranked seventh among the State's 24 ME districts in the number of the two benzodiazepines detected among deceased persons (exhibit 19). Two (or 1 percent) of the combined mentions in 2008 involved a person younger than 18; 10 percent of the decedents were between the ages of 18 and 25; 10 percent were age 26–34; 37 percent were age 35–50; and 42 percent were older than 50.

In Broward County, there were 203 reports of alprazolam detected in deceased persons during 2008, of which 54 percent were considered a lethal dose. Ninety percent of the reports involved at least one other drug (exhibit 6). There were also 136 reports of diazepam detected in deceased persons in Broward County; 43 percent were considered to be the cause of death; 84 percent of these deaths involved at least one other drug. These 339 combined mentions for alprazolam and diazepam represented a 53-percent increase over the 222 deaths in 2007, and follows a 57-percent increase from 2006 to 2007. Broward County was second only to the St. Petersburg ME's district in the number of the two benzodiazepines detected among deceased persons, with 395 such reports (exhibit 19). None of the Broward County combined mentions in 2008 involved a person younger than 18; 8 percent of the decedents were between the ages of 18 and 25; 17 percent were age 26–34; 42 percent were age 35–50; and 33 percent were older than 50.

In Palm Beach County, there were 176 reports of alprazolam detected in deceased persons during 2008, of which 45 percent were considered a lethal dose. Ninety-six percent of the reports involved at least one other drug. There were also 70 reports of diazepam detected in deceased persons in Palm Beach County; 14 percent were considered to be the cause of death; 91 percent of these deaths involved at least one other drug. These 246 combined mentions for alprazolam and diazepam represented a 29-percent increase over the 191 deaths in 2007, and follows a 12-percent

increase from 2006 to 2007. Palm Beach County ranked third among the State's 24 ME districts in the number of the two benzodiazepines detected among deceased persons (exhibit 19). One of the combined mentions in 2008 involved a person younger than 18; 17 percent of the decedents were between the ages of 18 and 25; 16 percent were age 26–34; 36 percent were age 35–50; and 30 percent were older than 50.

Unweighted DAWN *Live!* data for Miami/Dade showed 647 nonmedical benzodiazepine reports in 2008 (exhibit 7). Nonmedical reports included those for overmedication, malicious poisoning, and “other case types.” Generally, “other case types” are considered intentional substance abuse. There were also 233 additional benzodiazepine reports classified as seeking detoxification. Among the nonmedical benzodiazepine reports, 310 (or 48 percent) were alprazolam ED reports. The total also included: 76 clonazepam reports; 44 temazepam reports; 36 lorazepam reports; and 26 diazepam reports. Fifty percent of the 647 Miami/Dade County benzodiazepine ED patients were males. Forty-nine percent were Hispanic; 41 percent were non-Hispanic Whites; 7 percent were non-Hispanic Blacks; and race/ethnicity was either unknown or undocumented for 2 percent. The patients' ages were as follows: 9 percent were younger than 18; 14 percent were age 18–24; 18 percent were age 25–34; 23 percent were age 35–44; 19 percent were age 45–54; and 16 percent were 55 or older. The ages of 1 percent of the benzodiazepine reports were not documented.

Unweighted data accessed from DAWN *Live!* for Broward County EDs during 2008 revealed a total of 1,345 nonmedical use reports for benzodiazepines (exhibit 8). There were also 536 additional benzodiazepine reports classified as seeking detoxification. Among the nonmedical benzodiazepine reports, 694 (or 52 percent) were alprazolam ED reports. The total also included: 90 clonazepam reports; 83 diazepam reports; 42 lorazepam reports; and 32 temazepam reports. Fifty-two percent of the 1,345 Broward benzodiazepine ED patients were males. Eighty-one percent were non-Hispanic Whites; 10 percent were

Hispanic; 6 percent were non-Hispanic Blacks; and race/ethnicity was either unknown or undocumented for 3 percent. The patients' ages were as follows: 6 percent were younger than 18; 17 percent were age 18–24; 22 percent were age 25–34; 23 percent were age 35–44; 21 percent were age 45–54; and 11 percent were 55 or older.

Data on benzodiazepines treatment admissions are included in a single category named “tranquilizer.” There were 686 primary admissions for tranquilizer dependence in Florida during 2008, representing 1.5 percent of the 47,264 total publicly funded treatment admissions for all substances including alcohol, similar to the 1.3 percent in 2007. Sixty percent of the total primary tranquilizer patients were females. Youth under 18 represented 14 percent of the clients; clients age 18–20 accounted for 13 percent; while young adults 21–25 comprised 23 percent of the tranquilizer admissions. Adults age 26–35 represented 26 percent of all primary tranquilizer clients, and clients age 36–45 accounted for 12 percent. Tranquilizer clients age 46–55 accounted for 10 percent, and clients 56 and older represented 2 percent. The racial differences (including Hispanics) were: 91 percent White; 3 percent Black; less than 3 percent in other known racial groups; and 3 percent unknown. Hispanics of all races accounted for 6 percent of all primary tranquilizer admissions statewide.

There were 16 primary admissions for benzodiazepines reported in Miami/Dade County treatment admissions during 2008, 0.5 percent of the 3,371 primary admissions (including alcohol). In Broward County, there were 66 primary admissions for benzodiazepines during 2008, or 1.6 percent of 4,184 primary admissions (including alcohol).

NFLIS reported 558 alprazolam crime laboratory cases, 24 diazepam items, and 21 clonazepam cases during 2008 in the three-county South Florida MSA. Combined they represented 2.1 percent of all drug items analyzed (exhibit 10). The Broward Sheriff's Office Crime Laboratory reported 636 alprazolam cases; 62 diazepam items; 29 clonazepam cases; and 32 other benzodiazepine

items during 2008. Combined they represented 7.8 percent of all cases, and ranked fourth among all substances (exhibit 11).

Any lifetime nonmedical use of depressants (with “Xanax®” use as an example in the question) among high school students was reported on the 2008 Florida Youth Substance Abuse Survey by 5.5 percent in Miami/Dade County; 5.7 percent in Broward County; 7.8 percent in Palm Beach County; and 8.7 percent in all of Florida. Results from the same survey for any current nonmedical use of prescription depressants among high school students in the past 30 days were: 1 percent in Miami/Dade County; 2.1 percent in Broward County; 2.2 percent in Palm Beach County; and 3 percent statewide.

Muscle Relaxants

Muscle relaxants may be abused in combination with MDMA and other drugs. There were 415 reports of carisoprodol or meprobamate among deceased persons in Florida during 2008 (exhibit 3), of which 84 (or 24 percent) were considered to be caused by the drug. The number of these deaths increased by 23 percent in 2008, as compared with the 337 such deaths in 2006.

Unweighted DAWN *Live!* data for Miami/Dade County in 2008 showed 21 reports on non-medical use of muscle relaxants. Carisoprodol was specifically cited in eight (or 38 percent) of the reports.

Unweighted DAWN *Live!* data on nonmedical muscle relaxants use showed 154 ED reports involving these pharmaceuticals in Broward County in 2008. Carisoprodol was specifically cited in 137 (or 89 percent) of the reports.

NFLIS reported 15 carisoprodol crime laboratory cases for the South Florida MSA in 2008; Broward County reported 67 carisoprodol crime laboratory items, or 0.7 percent of all substances, in 2008 (exhibit 11).

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

As of December 31, 2008, 31,631 cumulative cases of AIDS had been reported in Miami/Dade County. Among those cases 16.4 percent identified as injection drug users (IDUs) and an additional 4.1 percent reported the dual risk of MSM and IDU. Approximately 12 percent of the total cases have not been classified by a known risk category.

As of December 31, 2008, 18,164 cumulative cases of AIDS had been reported in Broward County. Among those cases 12 percent identified as IDUs and an additional 3.9 percent reported the dual risk of MSM and IDU. Approximately 19 percent of the total cases have not been classified by a known risk category. Because of the cases not reported by a risk category, the rates of IDU cases are probably higher for both counties.

For inquiries regarding this report, contact James N. Hall, Center for the Study and Prevention of Substance Abuse, Nova Southeastern University c/o Up Front, Inc., 13287 SW 124 Street, Miami, FL 33186, Phone: 786-242-8222, Fax: 786-242-8759, E-mail: upfrontin@aol.com.

Exhibit 1. DAWN ED Miami/Dade County Sample and Reporting Information: 2008

Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
			90–100%	50–89%	<50%	
21	19	19	7–8	0–2	0–1	10

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

²Some hospitals have more than one emergency department.

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed May 5, 2009

Exhibit 2. DAWN ED Ft. Lauderdale Division Sample and Reporting Information: 2008

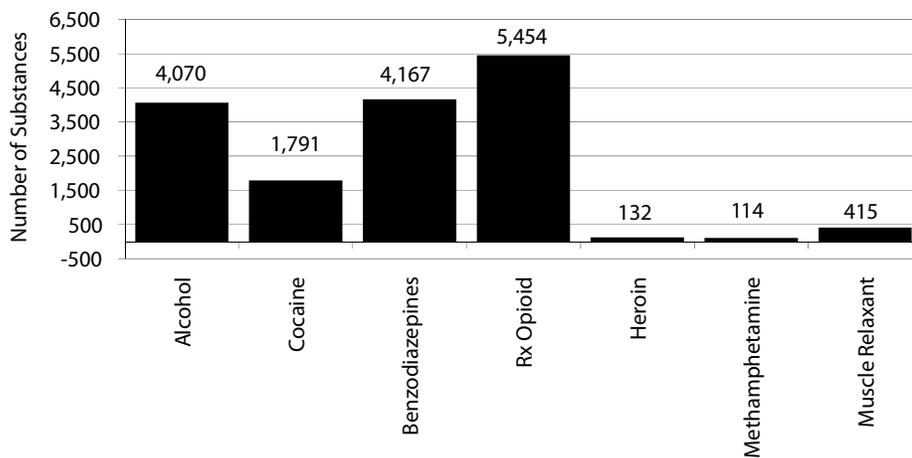
Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
			90–100%	50–89%	<50%	
27	21	21	6–9	0–2	0–2	12

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

²Some hospitals have more than one emergency department.

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed May 5, 2009

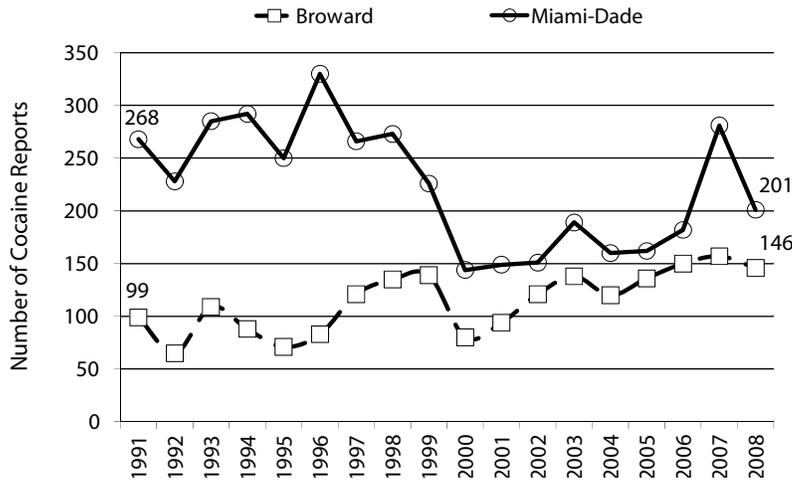
Exhibit 3. Number of Substances Identified among Decedents in Florida: 2008



All Prescription (Rx) Drugs, N = 10,036
 Alcohol plus Illicit Drugs, N = 6,107

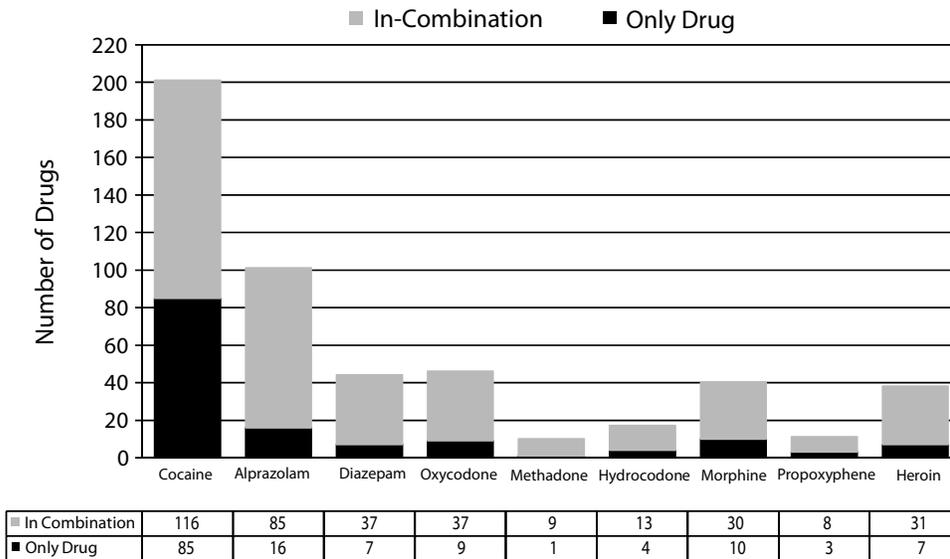
SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Interim Report 2008

Exhibit 4. Number of Reports of Cocaine Detected Among Decedents in Miami/Dade and Broward Counties: 1991–2008



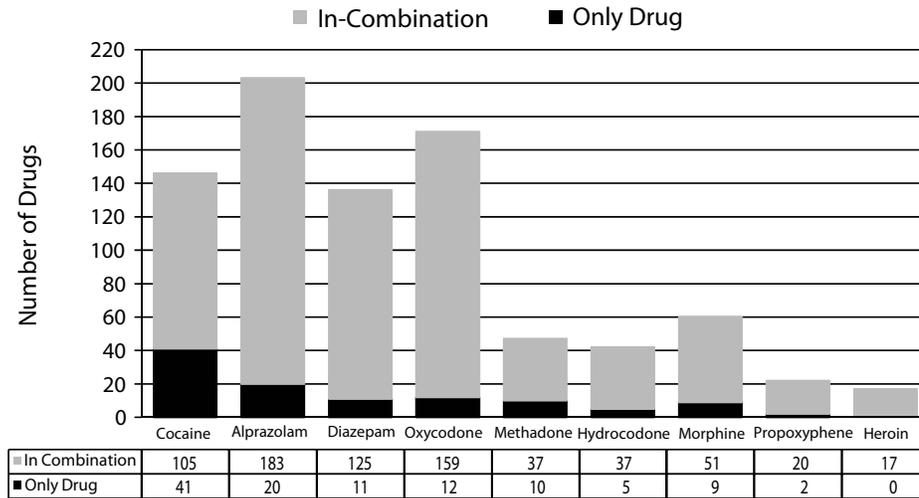
SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Reports

Exhibit 5. Number of Drugs Detected Among Decedents by Single Drug or In-Combination, Miami/Dade County, Florida: 2008



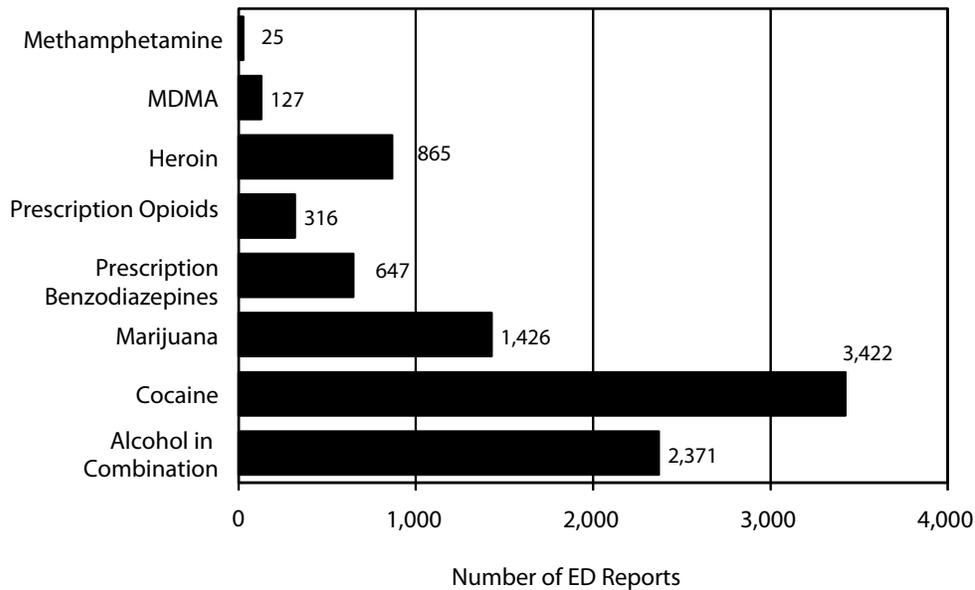
SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Report 2008

Exhibit 6. Number of Drugs Detected Among Decedents by Single Drug or In-Combination, Broward County, Florida: 2008



SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Report 2008

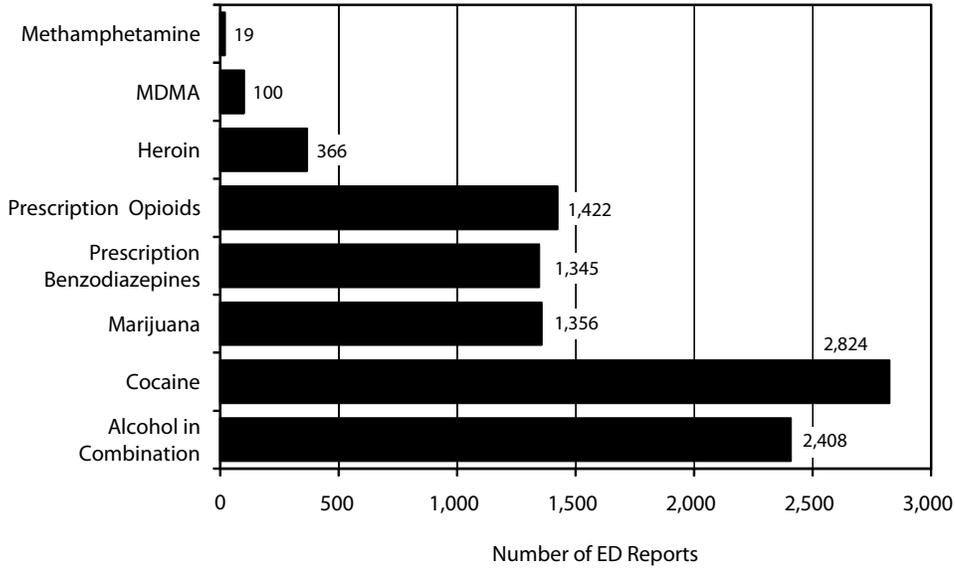
Exhibit 7. Number of Drug Reports in DAWN Data(Unweighted¹), by Selected Drug Category, Miami/Dade County, Florida: 2008



¹The unweighted data are from nine Miami/Dade EDs reporting to DAWN in 2008. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.

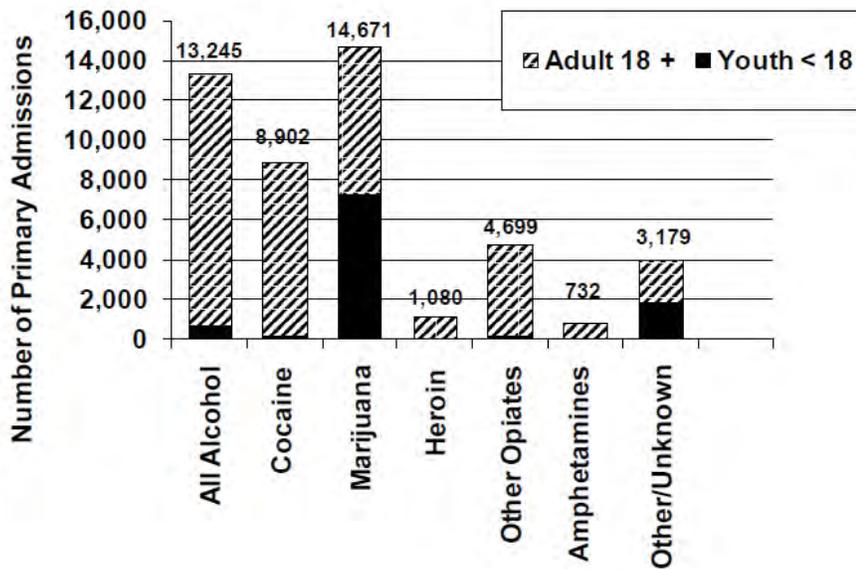
SOURCE: Miami/Dade County Division EDs, DAWN Live!, OAS, SAMHSA, accessed May 5, 2009

Exhibit 8. Number of Drug Reports In DAWN ED Data (Unweighted¹), by Selected Drug Category, Broward County, Florida: 2008



¹The unweighted data are from nine Ft. Lauderdale EDs reporting to DAWN 2008. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.
 SOURCE: Miami/Ft. Lauderdale Division EDs, DAWN Live!, OAS, SAMHSA, accessed May 5, 2009

Exhibit 9. Number of Primary Substance Abuse Treatment Admissions Among Clients Under 18 and Clients Age 18 and Over for Selected Drugs, Florida: 2008



SOURCE: OAS, SAMHSA, Treatment Episode Data Sets (TEDS), 2008

Exhibit 10. Top 10 Most Frequently Identified Drugs of Total Analyzed Drug Items, South Florida: CY 2008¹

Drug	Number	Percentage
Cocaine	19,156	65.6
Cannabis	4,928	16.9
Heroin	736	2.5
Alprazolam	558	1.9
3,4-Methylenedioxymethamphetamine (MDMA)	259	0.9
Hallucinogen	236	0.8
Oxycodone	205	0.7
Methamphetamine	168	0.6
1-Benzylpiperazine (BZP)	95	0.3
Hydrocodone	65	0.2
Other ²	2,833	9.7
TOTAL	29,239	100.0

¹January 2008–December 2008.

²All other analyzed items.

NOTES: 1. Data are for Miami/Fort Lauderdale and include Miami/Fort Lauderdale/Pompano Beach MSA and include Miami/Dade, Broward, and Palm Beach Counties. 2. Controlled Substances represent 1,647 cases and are included under “Other.” 3. Percentages may not sum to the total due to rounding.

SOURCE: NFLIS, DEA

Exhibit 11. Top 10 Most Frequently Identified Drugs of Total Analyzed Drug Items, Broward County: CY 2008¹

Drug	Number	Percentage
Cocaine	5,655	58.4
Cannabis	836	8.6
Oxycodone	804	8.3
Alprazolam	636	6.6
Amphetamine	210	2.1
Methamphetamine	201	2.0
3,4-Methylenedioxymethamphetamine (MDMA)	165	1.7
Hydrocodone	121	1.2
Heroin	119	1.2
Carisoprodol	67	0.7
Other ²	872	9.0
TOTAL	9,686	100.0

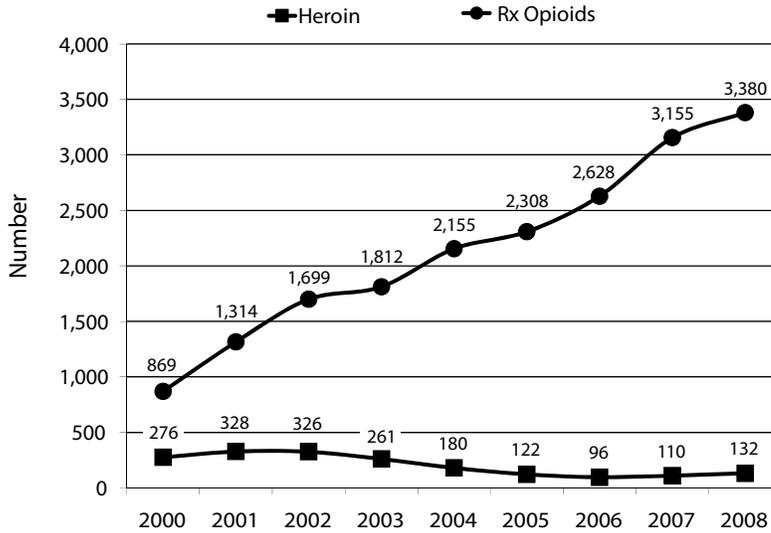
¹January 2008–December 2008.

²All other analyzed items.

NOTES: 1. Data are for Broward County, Florida. 2. TOTAL includes 957 prescription opioid items (9.9 percent) and 759 prescription benzodiazepine items (7.8 percent). 3. Percentages may not sum to the total due to rounding.

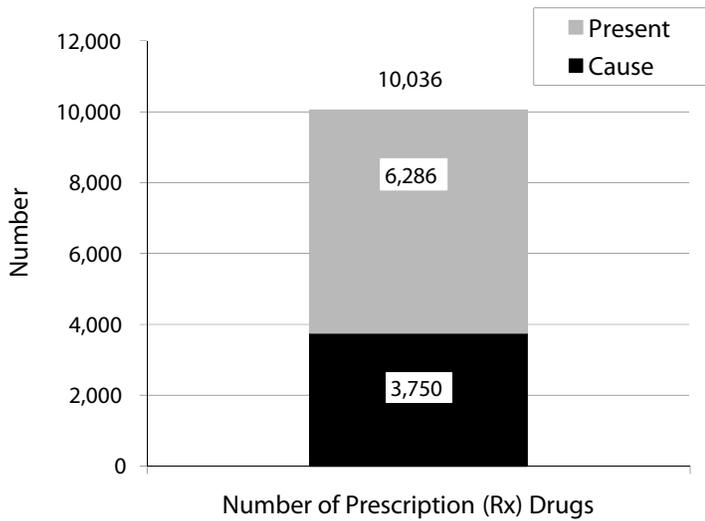
SOURCE: Broward Sheriff’s Office Crime Laboratory

Exhibit 12. Number of Prescription (Rx) Opiates/Opioids¹, Compared With Heroin, Identified Among Decedents, Florida: 2000–2008



¹The three prescription (Rx) opioids are methadone, hydrocodone, and oxycodone. The total for all prescription (Rx) opioids was 5,454 in 2008. SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Reports, 2000–2008

Exhibit 13. Number of Prescription (Rx) Drugs Identified Among Decedents as Present or Causing Death, Florida: 2008



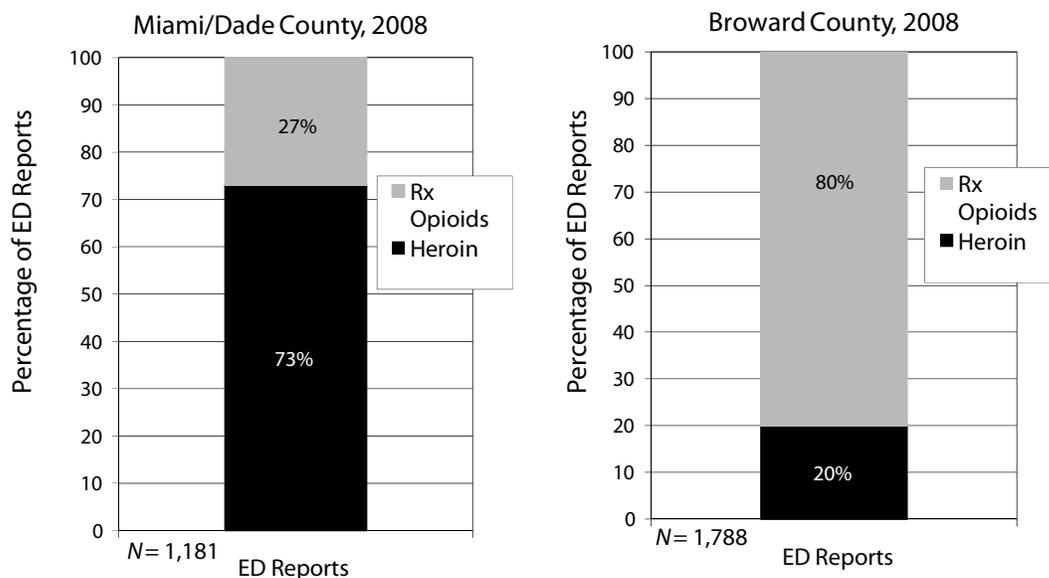
NOTE: A total of 2,184 individuals died with at least one prescription drug in their system that was, in the opinion of the Medical Examiner, the cause of death (Lethal Dose). These drugs may have been mixed with other prescription drugs, illicit drugs, and/or alcohol. SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Report 2008

Exhibit 14. Number of Prescription (Rx) Opioids Identified Among Decedents, Florida: 2008

ME District	Rx Opioid Occurrences
1. St. Petersburg	631
2. Jacksonville	363
3. Palm Beach County	Miami/Dade Ranks 15th of 24 Districts With 124 Occurrences
4. Broward County	342
5. Tampa	337
6. Orlando	319
7. Melbourne	235
8. Leesburg	181

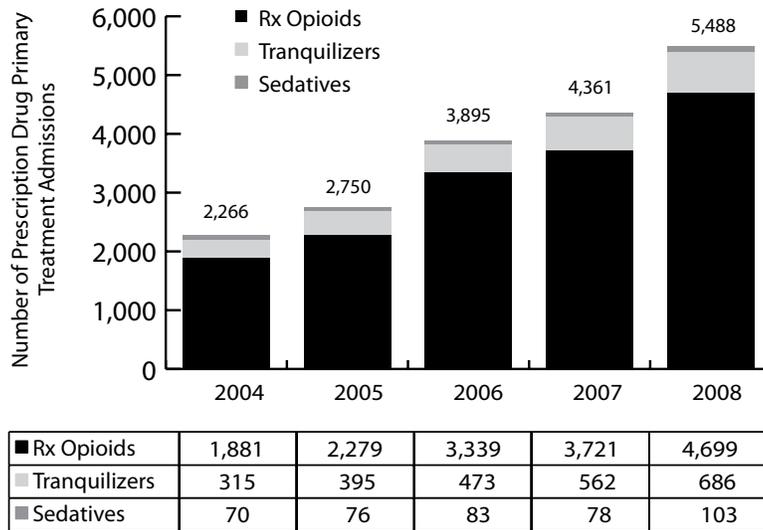
SOURCE: Florida Department of Law Enforcement, Florida Medical Examiners Commission Report, 2008

Exhibit 15. ED Reports (Unweighted) Related to Heroin and Prescription (Rx) Opioids as a Percentage of all Opiates/Opioids, Miami/Dade and Broward Counties, Florida: 2008



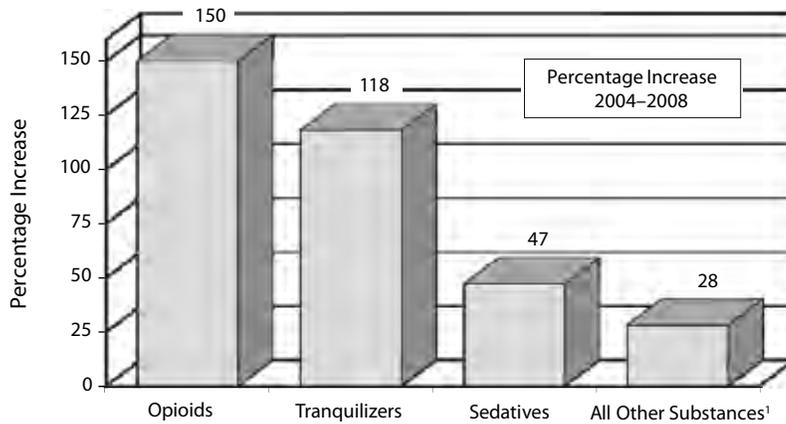
SOURCE: Emergency Department DAWN Live!, OAS, SAMHSA, accessed May 5, 2009

Exhibit 16. Number of Primary Treatment Admissions for Prescription (Rx) Opioids, Tranquilizers, and Sedatives, Florida: 2004–2008



SOURCE: OAS, SAMHSA, Treatment Episode Data Sets (TEDS), 2004–2008

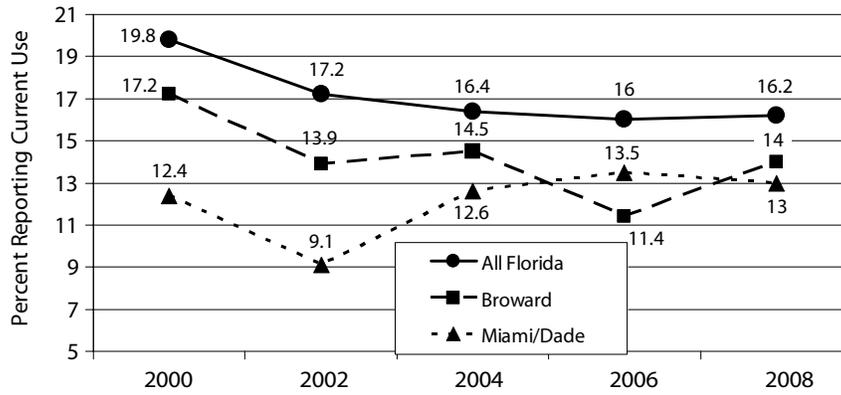
Exhibit 17. Percentage Increase in Primary Treatment Admissions for Prescription Opioids, Tranquilizers, Sedatives and All Other Substances, Florida: 2004–2008



¹All other substances includes alcohol.

Source: SAMHSA: Treatment Episode Data Sets (TEDS) 2004–2008

Exhibit 18. Current (Past 30-Day) Marijuana Use Among High School Students, Miami/Dade and Broward Counties, Compared With the State of Florida: 2000–2008



Source: Florida Youth Substance Abuse Surveys, 2000–2008

Drug Abuse Trends in Minneapolis/St. Paul, Minnesota: 2008

Carol L. Falkowski¹

ABSTRACT

Heroin and other opiate-related indicators continued significant upward trends in 2008. Treatment admissions for heroin and other opiates combined more than doubled since 2002, and increased by 14.9 percent from 2007 to 2008 alone. Opiates other than heroin, primarily prescription narcotics that are taken orally, accounted for 6.2 percent of total treatment admissions in 2008, compared with only 1.4 percent in 2000. A record-high number of 1,187 clients in the Twin Cities in 2008 reported other opiates as the primary substance problem, almost a three-fold increase since 2002. Twin Cities hospital emergency department (ED) visits involving the nonmedical use of narcotic analgesics increased 67.8 percent from 2005 to 2007. Minneapolis had the highest purity level of Mexican heroin of any city reporting on the Drug Enforcement Administration's Heroin Domestic Monitor Program, and was among the cities with the lowest prices per milligram. Heroin-involved visits to Twin Cities hospital EDs increased by 65.3 percent from 2005 to 2007. Males arrested in Hennepin County who tested positive for opiates increased from 2007 to 2008, as did opiate-related overdose deaths in Hennepin, but not Ramsey County. Marijuana-related hospital ED visits increased by 33.8 percent from 2006 to 2007. Marijuana continued to account for more admissions to addiction treatment programs than any other illicit drug, with 3,199 admissions in 2008 (16.6 percent of total admissions). All

methamphetamine-related indicators declined in 2008, following significant increases from 2000 through 2005. In 2008, 6.0 percent of admissions to Twin Cities addiction treatment programs were for methamphetamine, compared with 12 percent in 2005. Methamphetamine-related hospital ED visits also declined by 50.1 percent from 2005 to 2007, as did the percentage of males arrested in Hennepin County who tested positive for methamphetamine. Cocaine-related treatment admissions declined by 39.8 percent since 2005, and in 2008 accounted for 9.9 percent of all treatment admissions. In Hennepin County, cocaine-related deaths fell sharply, from 59 in 2007 to 21 in 2008, a 64.4 percent decline, but remained stable in Ramsey County. Cocaine-involved visits to Twin Cities hospital EDs declined by 23.3 percent from 2006 to 2007, and Hennepin County male arrestees who tested positive for cocaine fell from 28.5 percent of total arrestees in 2007 to 21.6 percent in 2008.

INTRODUCTION

This report is produced twice annually for participation in the Community Epidemiology Work Group of the National Institute on Drug Abuse, an epidemiological surveillance network of researchers from 21 U.S. metropolitan areas. This report is available online at www.dhs.state.mn.us/adad.

Area Description

The Minneapolis/St. Paul ("Twin Cities") metropolitan area 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. Recent estimates of the population of each county are as follows: Anoka, 313,197; Dakota, 375,462; Hennepin, 1,239,837; Ramsey, 515,274; and Washington, 213,395; for a total of 2,557,165, or roughly one-half of the Minnesota State population. In the five-county metropolitan area,

¹The author is director of the Alcohol and Drug Abuse Division, Minnesota Department of Human Services, St. Paul, Minnesota.

84 percent of the population is White. African Americans constitute the largest minority group in Hennepin County, while Asians are the largest minority group in Ramsey, Anoka, Dakota, and Washington Counties.

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 and groups. Drugs are typically shipped or transported into the Minneapolis/St. Paul area for further distribution throughout the State.

Data Sources

Information used in this report was gathered from the following sources:

- **Hospital emergency department (ED) data** for 2003–2007 were provided by the Drug Abuse Warning Network (DAWN) system administered by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA). These newly-available, population-based estimates allow comparisons over time, unlike data in previous recent reports. There are 28 eligible hospitals in the Minneapolis and St. Paul Standard Metropolitan Statistical Area; 26 are in the DAWN sample. Since all DAWN cases are reviewed for quality control, the data may be corrected and, therefore, are subject to change. A full description of the DAWN system is found at <http://dawninfo.samhsa.gov>.
- **Treatment data** came from addiction treatment programs in the five-county metropolitan area, as reported on the Drug and Alcohol Abuse Normative Evaluation System (DAANES) of the Performance Measurement and Quality

Improvement Division, Minnesota Department of Human Services (through December 2008).

- **Mortality data** on drug-related deaths were provided by the Hennepin County Medical Examiner and the Ramsey County Medical Examiner (through December 2008). 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. Ramsey County cases include those in which drug toxicity was the immediate cause of death and those in which drugs were present at the time of death.
- **Crime laboratory data** came from the National Forensic Laboratory Information System (NFLIS). This system, which began in 1997, is sponsored by the U.S. Drug Enforcement Administration (DEA), and collects solid dosage drug analyses conducted by State and local forensic laboratories across the country on drugs seized by law enforcement (January through December 2008). Data presented here are from a seven-county metropolitan area (Anoka, Dakota, Hennepin, Ramsey, Washington, Scott, and Carver Counties).
- **Heroin purity and price data** were provided by the Heroin Domestic Monitor Program (HDMP) of the DEA. These data are based on actual undercover heroin purchases made by the DEA on the streets of 28 cities in the United States. Data on heroin purity and price in this report are for cases in which the geographic source of heroin was Mexico.
- **Data resulting from drug testing among arrestees in Hennepin County** for 2007 and 2008 were provided by the Arrestee Drug Abuse Monitoring (ADAM II) System, supported by the White House Office of National Drug Control Policy.
- **Student survey data** came from the Minnesota Student Survey, which is administered statewide every 3 years to students in grades 6, 9,

and 12. Results presented in this report are from students in the five-county metropolitan area.

- **Human immunodeficiency virus (HIV) infection data** for 2008 were provided by the Minnesota Department of Health, acquired immune deficiency syndrome (AIDS)/HIV Surveillance System.
- **Additional information** came from interviews with treatment program staff, narcotics agents, and school-based drug and alcohol specialists, conducted in May 2008.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

The actual number of admissions to addiction treatment programs for cocaine declined by 39.8 percent from 2005 to 2008 (exhibit 1). For the first time in recent history, treatment admissions for heroin and other opiates combined surpassed the number of admissions for cocaine.

Cocaine was the primary substance problem for 9.9 percent of total treatment admissions in 2008 (exhibit 2), compared with 11.6 in 2007 (exhibit 3). Most (75 percent) cocaine treatment admissions in 2008 were for crack cocaine (exhibit 4). Almost one-half (49 percent) were African American; 35.1 percent were female; and more than two-thirds (69.6 percent) of clients were age 35 and older.

Cocaine-involved visits to Twin Cities hospital EDs declined by 23.3 percent from 2006 to 2007 (exhibit 5), although the decrease was not statistically significant. The percentage of Hennepin County male arrestees who tested positive for cocaine fell from 28.5 in 2007 to 21.6 in 2008 (exhibit 6).

In Hennepin County, accidental cocaine-related deaths fell from 59 in 2007 to 21 in 2008, a 64-percent decline (exhibit 7). In Ramsey County, deaths remained stable with 11 in 2007 and 10 in 2008. Combining Hennepin and Ramsey

Counties, cocaine-related deaths declined by 48 percent from 2000 to 2008 (exhibit 8).

Cocaine accounted for 28.2 percent of the drug seizures reported to NFLIS in 2008 (exhibit 9). Gangs in both cities remained involved in the street-level retail distribution of crack/cocaine.

Heroin/Opiates/Opioids

Although nationally heroin use appears to be stable or declining, it appears to be increasing in the Twin Cities and throughout Minnesota. Rising Mexican heroin production contributes to this trend, inasmuch as Mexico is the primary source of heroin in this geographical area. Increased addiction to prescription narcotics may also increase the likelihood of more prevalent future heroin problems. Heroin use may increase in the future, if those addicted to prescription narcotics can find heroin as a more affordable, available alternative. This pattern has already been noted in other parts of the country.

Treatment admissions reporting heroin and other opiates as the primary substance problems continued to climb in the Twin Cities, a trend that began in 2000. The number of treatment admissions for heroin and other opiates combined more than doubled since 2002, and increased by 14.9 percent from 2007 to 2008 alone (exhibit 10). Heroin accounted for 6.7 percent of total admissions in 2008, and other opiates accounted for 6.2 percent (exhibit 2). These compare with 3.3 percent for heroin and 1.4 percent for other opiates in 2000.

Of the 1,292 clients admitted to Twin Cities area treatment programs with heroin as the primary substance problem in 2008, very few (0.2 percent) were younger than 18, and injecting was the most common route of administration (62.2 percent). Females accounted for 33.5 percent of clients, Whites for 59.3 percent, and almost one-half (49.4 percent) were age 35 and older (exhibit 4).

Opiates other than heroin ("other opiates") include prescription narcotic analgesics (painkillers); therefore, the most common route of administration was oral (74.6 percent). Other opiates

were reported as the primary substance problem by a record-high number of 1,187 clients in the Twin Cities in 2008, almost a three-fold increase since 2002 (exhibit 1). Treatment admissions for other opiates accounted for 6.2 percent of total treatment admissions in 2008, compared with 4.9 percent of total treatment admissions in 2007, and only 1.4 percent in 2000. The majority of clients were White (85.8 percent); almost one-half were females (45.4 percent); and 46.2 percent were age 35 and older (exhibit 4). Enrollment in Twin Cities methadone maintenance treatment programs grew from 1,779 patients as of January 2002, to 2,378 in January 2009, a 33.7-percent increase.

Heroin-involved visits to Twin Cities hospital EDs increased by 65.3 percent from 2005 to 2007 (exhibit 5), although the increase was not statistically significant. Hospital emergency department visits involving the nonmedical use of narcotic analgesics increased by 67.8 percent from 2005 to 2007 (exhibit 5). Of the 2,801 cases in 2007, 52.8 percent were female, and 60.4 percent were age 35 and older. Hennepin County male arrestees who tested positive for opiates (including heroin and other opiates) rose from 5.3 percent in 2007 to 7.2 in 2008 (exhibit 6).

Opiate-related deaths rose from 67 to 84 from 2007 to 2008 in Hennepin County, and declined somewhat in Ramsey County, from 39 to 31, respectively. In 2008, 20 of these Hennepin County deaths and 4 of the Ramsey County deaths involved methadone. Four deaths in Hennepin County and one in Ramsey County involved fentanyl, a potent prescription synthetic narcotic analgesic. Oxycodone, another prescription narcotic, was involved in 13 deaths in Hennepin and 7 deaths in Ramsey County. Seven of the opiate-related deaths in Ramsey County also involved cocaine use, as did eight in Hennepin County.

Use of methamphetamine and opiates in combination was a factor in several accidental opiate deaths. This combination is known as the new "speedball," a term previously used to describe the simultaneous use of cocaine and heroin.

Heroin accounted for 2.0 percent of the drug samples analyzed by NFLIS in 2008. Oxycodone accounted for 1.4 percent, and hydrocodone 1.0 percent. All levels of law enforcement reported an increase in the seizure of prescription drugs (exhibit 9).

The primary source of heroin in the Twin Cities is Mexico. Mexican black tar heroin was available in both cities. Of the Mexican heroin samples purchased by the DEA and reported in the HDMP, Minneapolis had the highest purity level of any U.S. HDMP city in 2007, with 59.9 percent (exhibit 11). At the same time, the average cost per milligram of pure heroin was among the lowest of all HDMP cities (exhibit 12). It is likely that the presence of such high-purity, low-cost heroin contributed to the increased opiate-related mortality, and may have fueled the sporadically heightened availability of heroin, both in the Twin Cities and other more remote parts of the State, as reported by numerous law enforcement and other sources.

A small portion of Minnesota's Hmong immigrant population regularly smokes opium. Packages concealing opium continued to be shipped from Asia to the Twin Cities.

Methamphetamines/Other Stimulants

In the wake of rising consequences related to increased methamphetamine manufacture, abuse, and addiction from 2000 through 2005, notable downward trends continued into 2008.

Methamphetamine laboratories in Minnesota declined significantly since enactment of a 2005 Minnesota State law that restricted retail sales of pseudoephedrine-containing products. Methamphetamine use by high school students in the metropolitan area showed downward trends as well. Among high school seniors, 2.2 percent reported past-year methamphetamine use in 2007, compared with 4.8 percent in 2004, and 5.3 percent in 2001.

The number of clients entering treatment with methamphetamine as the primary substance problem declined by 56.3 percent from 2005 to

2008 (exhibit 13). Methamphetamine-related admissions to addiction treatment programs accounted for 6.0 percent of total treatment admissions in the Twin Cities in 2007, compared with 12.0 percent in 2005 (exhibit 4).

Of the 1,154 methamphetamine-related treatment admissions in 2008, 85.4 percent were White. Asians accounted for 3.1 percent and Hispanics 4.9 percent, the highest percentage of Asians and Hispanics within any drug category. Smoking was the most common route of administration (67.3 percent). In 2008, only 2.1 percent of the methamphetamine clients were younger than 18, compared with 11.5 percent in the first half of 2005 (exhibit 4).

Methamphetamine-involved visits to Twin Cities hospital EDs declined by 50.1 percent from 2005 to 2007 (exhibit 5). The percentage of Hennepin County male arrestees who tested positive for methamphetamine fell from 5.1 in 2007 to 2.7 in 2008 (exhibit 6).

Combining Hennepin and Ramsey Counties, there were 14 methamphetamine-related deaths in 2008, compared with 13 in 2006, and a high of 28 in 2004 (exhibits 7 and 8).

Seizures of methamphetamine by law enforcement accounted for 26.5 percent of the samples reported to NFLIS in 2008, compared with 51.0 percent in 2005 (exhibit 9).

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 a 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.

Methylphenidate (Ritalin®), a prescription drug used in the treatment of attention deficit hyperactive disorder, is also used nonmedically as a drug of abuse to increase alertness and suppress appetite by some adolescents and young adults.

Crushed and snorted or ingested orally, each pill is sold for \$5, or simply shared with fellow middle school or high school students at no cost. It is sometimes known as a “hyper pill” or “the study drug.”

Marijuana

Past year marijuana use was reported by 33 percent of high school seniors in 2007, compared with 29.2 percent in 2004.

In spite of a drop in marijuana treatment admissions since 2003, marijuana still accounted for more admissions into addiction treatment programs than any other illicit drug in the Twin Cities, with 3,199 admissions in 2008 (16.6 percent of total treatment admissions) (exhibit 2). Of these, 27.4 percent were younger than 18; 41.0 percent were age 18–25; and only 13.3 percent were age 35 and older. Only 21.8 percent were female (the lowest percentage of females in any primary drug category); 59.4 percent were White, 26.6 percent were African American, and 3.6 percent were American Indian (exhibit 4).

Marijuana-involved visits to Twin Cities hospital EDs, however, increased by 33.8 percent from 2006 to 2007 (exhibit 5), although the increase was not statistically significant. The percentage of Hennepin County male arrestees who tested positive for marijuana also increased from 43.4 in 2007 to 47.6 in 2008 (exhibit 6).

Marijuana/cannabis accounted for 27.2 percent of drug samples reported to NFLIS in 2008 (exhibit 9). Marijuana sold for \$5 per joint. Marijuana joints dipped in formaldehyde, which is often mixed with phencyclidine (PCP), are known as “wet sticks,” “water,” or “wet daddies.” Joints containing crack are known as “primos.”

Club Drugs/Hallucinogens

The drug 3,4-methylenedioxymethamphetamine, known as MDMA or ecstasy, “X,” or “e,” sold for \$20 per pill. MDMA accounted for 4.1 percent of drugs samples in 2008 according to NFLIS

(exhibit 9). MDMA-related visits to hospital EDs grew from 204 in 2004 to 433 in 2008 (exhibit 5).

Lysergic acid diethylamide (LSD or “acid”), a strong, synthetically-produced hallucinogen, typically sold as saturated, tiny pieces of paper known as “blotter acid,” for \$5 to \$10 per dosage unit.

According to the Minnesota Student Survey, any use of MDMA in the past year rose among high school seniors from 4.3 percent in 2004 to 5.7 percent in 2007, and reported LSD use increased from 4.9 to 6.2 percent. There were 139 hospital ED visits for miscellaneous hallucinogens in 2007.

Gamma hydroxybutyrate (GHB), a concentrated liquid abused for its stupor-like depressant effects, is also used as a predatory, knockout, drug-facilitated rape drug. Ketamine, also known as “Special K,” is a veterinary anesthetic that first appeared as a drug of abuse among young people in Minnesota in 1997. Hospital emergency visits with GHB and ketamine were rare from 2004 to 2007.

Dextromethorphan (also known as “DXM”) 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 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.

Alcohol

Alcohol remained the most widely abused substance. Alcohol consumption (defined as any use in past year) was reported by 60.8 percent of metropolitan area high school seniors in 2007, virtually unchanged from the 2004 survey (60.6

percent), but lower than the highest proportion of 78.1 percent in 1992.

Roughly one-half of the total admissions to addiction treatment programs (52.6 percent) reported alcohol as the primary substance problem in 2008 (exhibit 2). Over one-half (60.1 percent) were age 35 and older; 2.1 percent were under the age of 18; and 77.2 percent were White.

In Hennepin County in 2008, 87 deaths were alcohol-involved, including those where alcohol toxicity was the cause of death, and those in which acute alcohol intoxication was listed as a significant contributing condition. This compares with 91 in 2007.

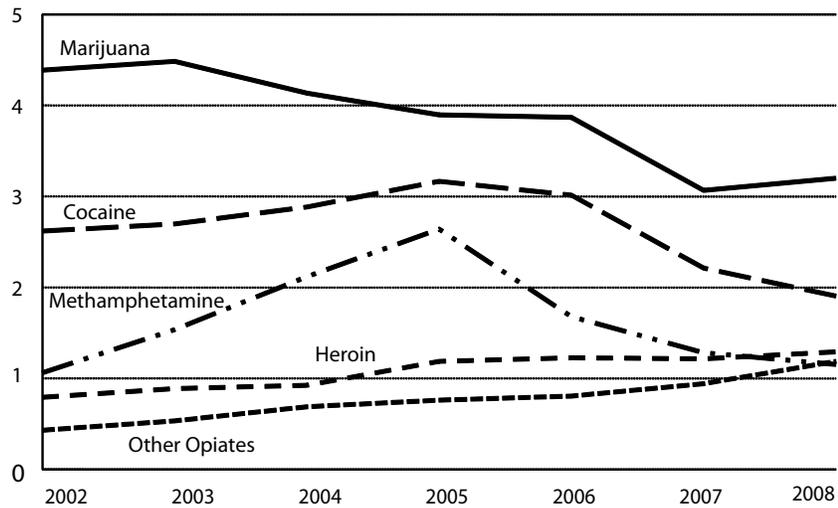
INFECTIOUS DISEASES RELATED TO DRUG ABUSE

All but 12 percent of HIV infections diagnosed in Minnesota in 2008 were in the Minneapolis/St. Paul area (exhibit 14). Exposure categories for Minnesota cases of HIV infection among males were as follows: men who have sex with men (MSM) (76 percent); injection drug use (IDU) (5 percent); MSM/IDU (7 percent); heterosexual contact (11 percent); and 1 percent other (exhibit 15). Among females, 90 percent of HIV infections were attributed to heterosexual transmission, 8 percent to IDU, and 2 percent to other modes of transmission (exhibit 16).

The level of hepatitis C virus (HCV), a blood-borne liver disease, remained prevalent among injection drug abusers.

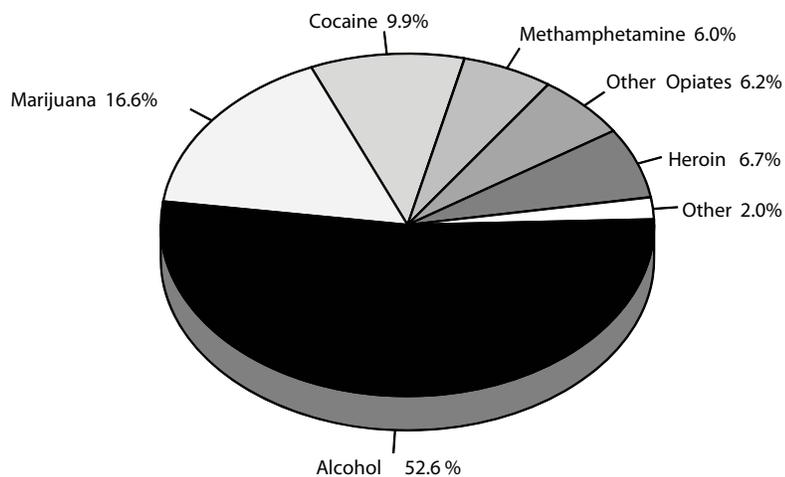
For inquiries concerning this report, contact Carol Falkowski, Director, Alcohol and Drug Abuse Division, Minnesota Department of Human Services, 540 Cedar Street, St. Paul, MN 55115, Phone: 651-431-2457, Fax: 651-431-7449, E-mail: carol.falkowski@state.mn.us.

Exhibit 1. Number of Nonalcohol Admissions to Addiction Treatment Programs, by Primary Substance Problem, Twin Cities: 2002–2008



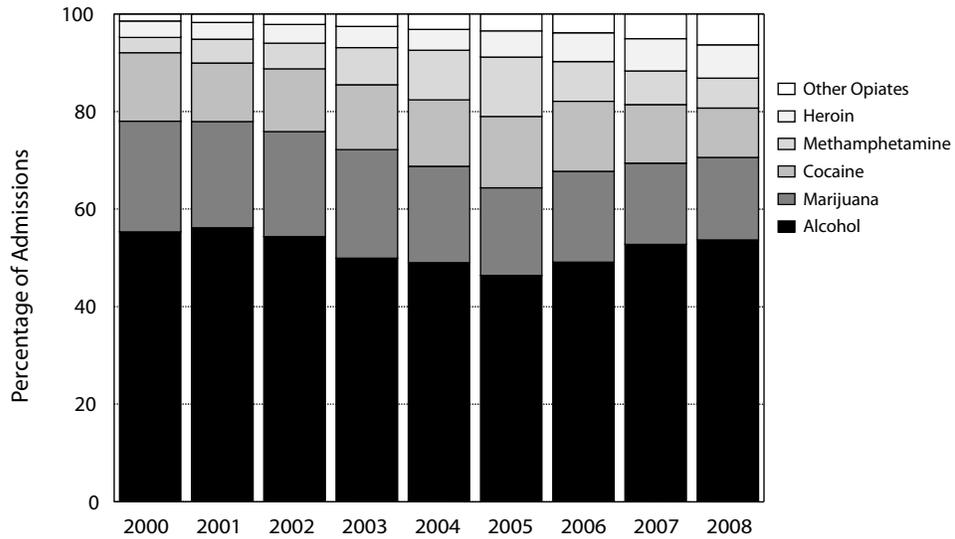
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

Exhibit 2. Percentage of Admissions to Addiction Treatment Programs, by Primary Substance Problem, Twin Cities Area: 2008



SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

Exhibit 3. Percentage of Admissions to Twin Cities Addiction Treatment Programs, by Primary Substance Problem: 2000–2008



SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

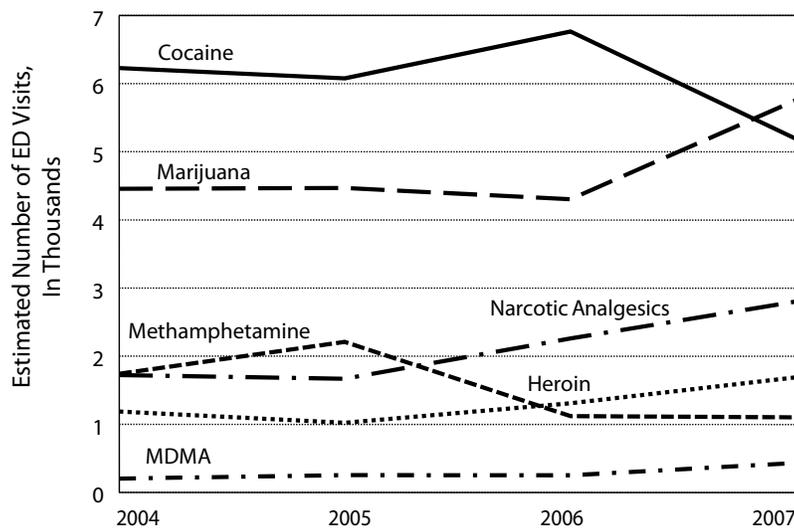
Exhibit 4. Characteristics of Clients Admitted to Area Addiction Treatment Programs, by Primary Substance Problem, Twin Cities: 2008

Total Admissions (N = 19,263)	Alcohol n = 10,131 52.6%	Marijuana n = 3,199 16.6%	Cocaine/ Crack n = 1,905 9.9%	Metham- phetamine n = 1,154 6.0%	Heroin n = 1,292 6.7%	Other Opiates n = 1,187 6.2%
Gender						
Male	68.5	78.2	64.9	62.7	66.5	54.6
Female	31.5	21.8	35.1	37.3	33.5	45.4
Race/Ethnicity						
White	77.2	59.4	39.9	85.4	59.3	85.8
African American	12.8	26.6	49.0	1.6	31.1	4.2
Hispanic	3.5	4.7	4.1	4.9	3.0	1.9
American Indian/Other	3.5	3.6	3.5	1.9	3.5	4.5
Asian	1.0	1.5	0.7	3.1	0.9	1.8
Other	2.0	4.1	2.7	3.0	2.2	1.8
Age						
17 and younger	2.1	27.4	1.3	2.1	0.2	2.0
18–25	17.4	41.0	9.2	25.6	24.9	23.7
26–34	20.3	18.3	19.9	37.6	25.5	28.1
35 and older	60.1	13.3	69.6	34.7	49.4	46.2
Route of Administration						
Smoking	–	–	75.0	67.3	5.0	3.6
Sniffing	–	–	20.7	8.4	31.4	11.3
Injecting	–	–	2.0	15.3	62.2	9.3
Oral	–	–	0	6.3	0	74.6
Other/Unknown	–	–	2.1	2.7	1.3	1.2

¹Methamphetamine category includes amphetamines. Percentages do not add to 100 due to "other" category (2 percent) which is not displayed.

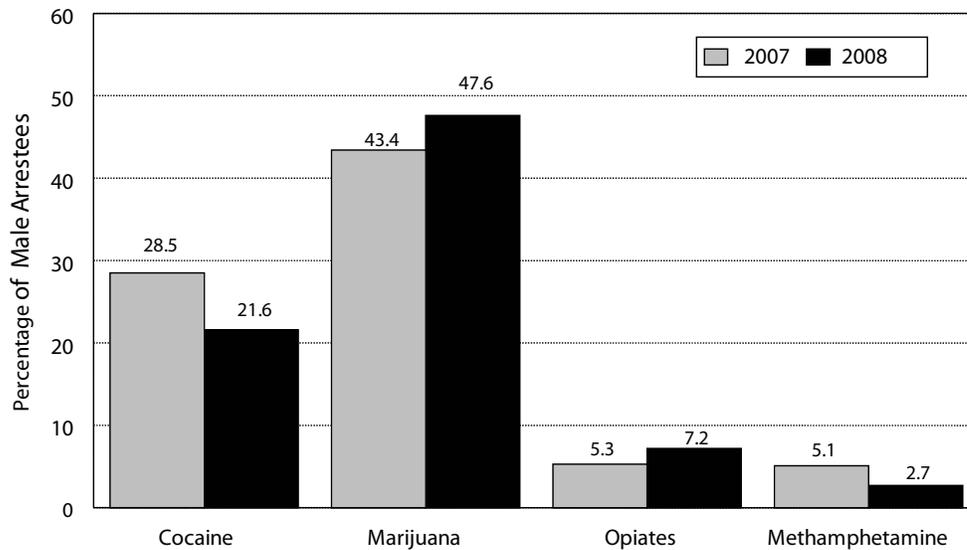
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

Exhibit 5. Estimates of Drug Abuse-Related Emergency Department Visits, For Selected Drugs, Twin Cities: 2004–2007



SOURCE: DAWN, OAS, SAMHSA Network, 11/2008 update; estimates of ED visits are based on a representative sample of non-Federal short-stay hospitals with 24-hour emergency departments

Exhibit 6. Percentage of Male Arrestees¹ Who Tested Positive for Methamphetamine and Other Drugs in Hennepin County (Minneapolis/St. Paul Area): 2007 and 2008



¹Sampled eligible arrestees in 2007 = 881 and in 2008 = 854.

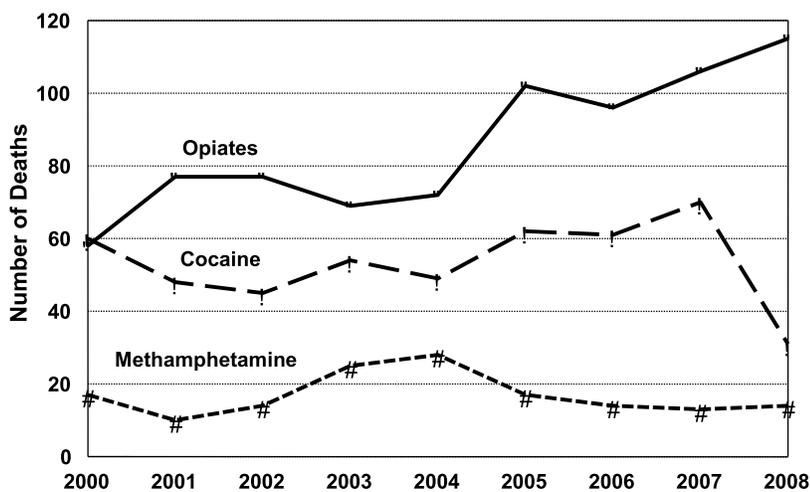
SOURCE: ADAM II, 2007 Report and 2008 Report, White House Office of National Drug Control Policy

Exhibit 7. Number of Drug-Related Deaths, Hennepin and Ramsey Counties (Minneapolis/St. Paul Area): 2000–2008

County	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hennepin County									
Cocaine	43	37	34	44	39	50	48	59	21
Opiates	41	58	59	50	47	60	69	67	84
Methamphetamine	6 (includes 3 MDMA)	8 (includes 1 MDMA)	11 (includes 3 MDMA)	15 (includes 1 MDMA)	19 (includes 8 MDMA)	10 (includes 3 MDMA)	8 (includes 1 MDMA)	6 (includes 2 MDMA)	9 (includes 1 MDMA)
Ramsey County									
Cocaine	17	11	11	10	10	12	13	11	10
Opiates	17	19	18	19	25	42	27	39	31
Methamphetamine	11 (includes 3 MDMA)	2	3	10	9	7	6	7	5

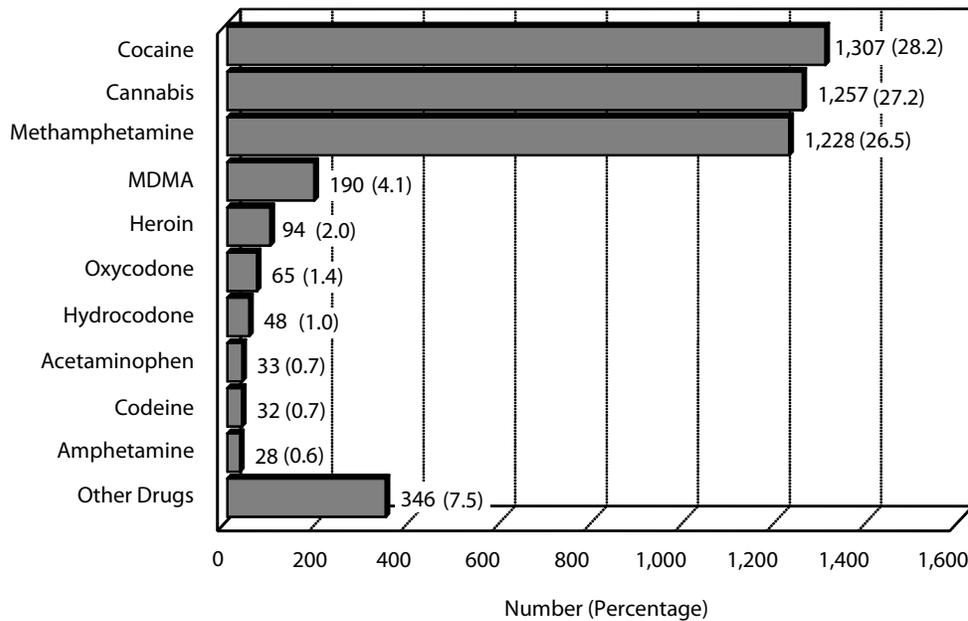
SOURCE: Hennepin County Medical Examiner and Office of the Ramsey County Medical Examiner, 2009

Exhibit 8. Number of Drug-Related Deaths in Hennepin and Ramsey Counties Combined (Minneapolis/St. Paul Area): 2000–2008



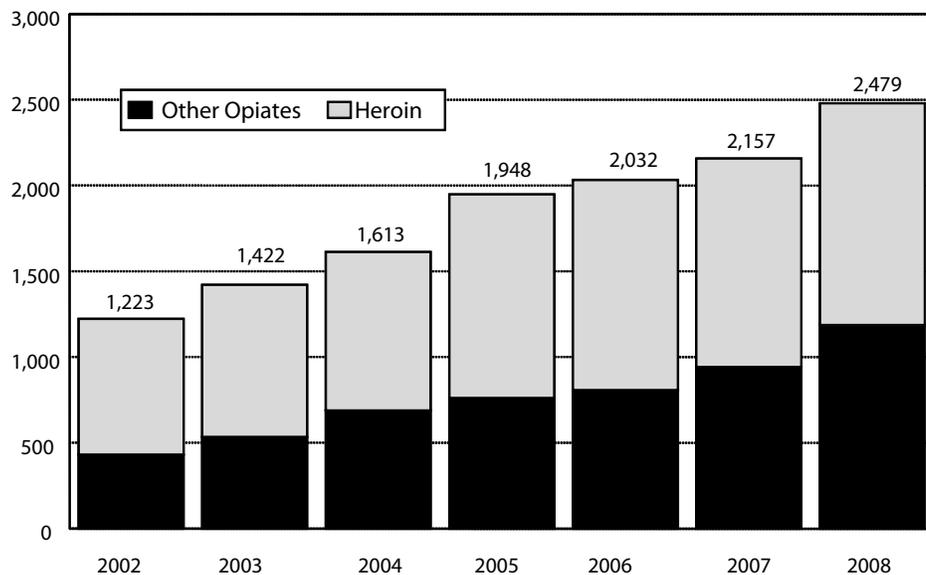
SOURCE: Hennepin County Medical Examiner and Ramsey County Medical Examiner, 2009

Exhibit 9. The Top 10 Most Frequently Identified Drug Items, by Number and Percentage¹ of Total Analyzed Drug Items, Twin Cities: 2008



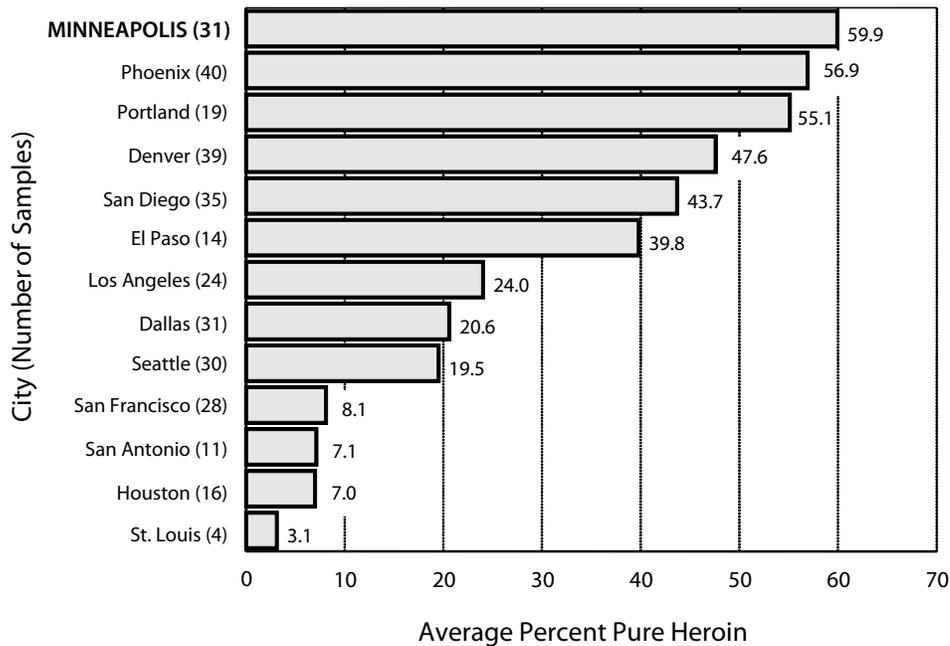
¹Percentages may not add to the total due to rounding. Percentages are indicated in parentheses after numbers on the chart. SOURCE: NFLIS, DEA; accessed April 14, 2009; Twin Cities metropolitan area includes the counties of Hennepin, Ramsey, Dakota, Washington, Anoka, Scott, and Carver

Exhibit 10. Number of Admissions to Addiction Treatment Programs with Heroin and Other Opiates as the Primary Substance Problem, Twin Cities: 2002–2008



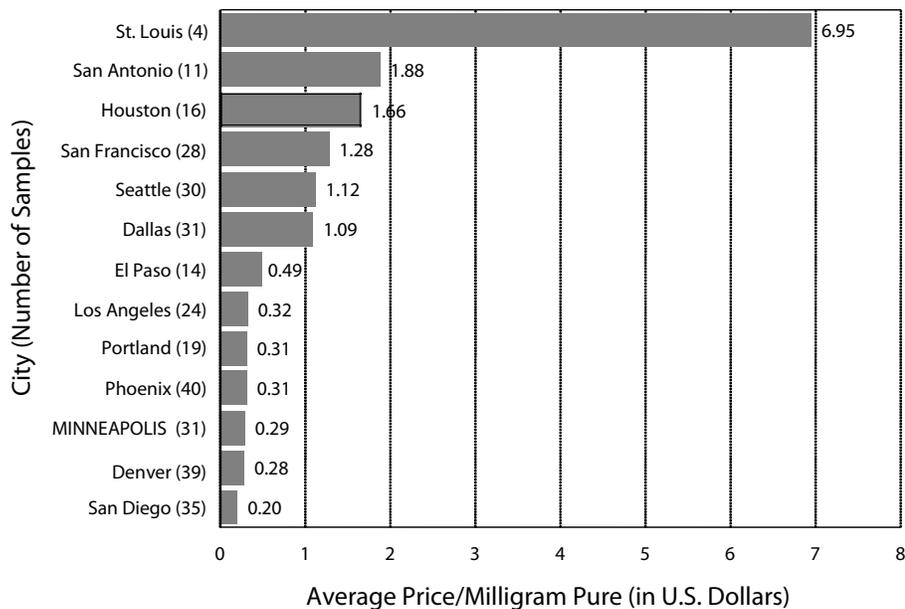
SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

Exhibit 11. Average Percent Purity of Mexican Heroin, U.S. Cities: 2007



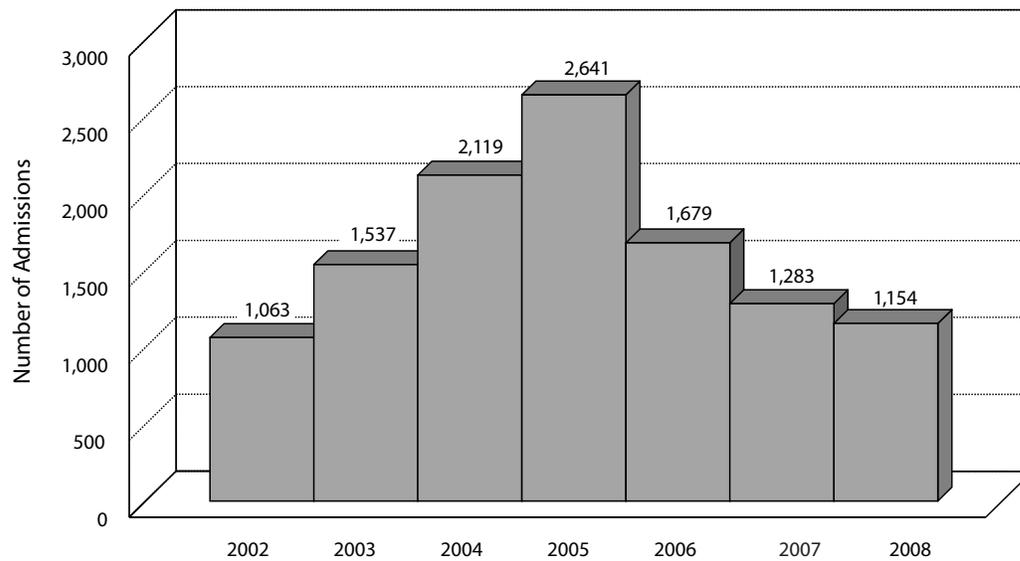
Note: Boston, Miami, Washington DC and Orlando, are not displayed due to two or fewer samples in each of those cities
 SOURCE: HDMP, DEA, November 2008

Exhibit 12. Average Price Per Milligram Pure of Mexican Heroin, Sampled U.S. Cities: 2007



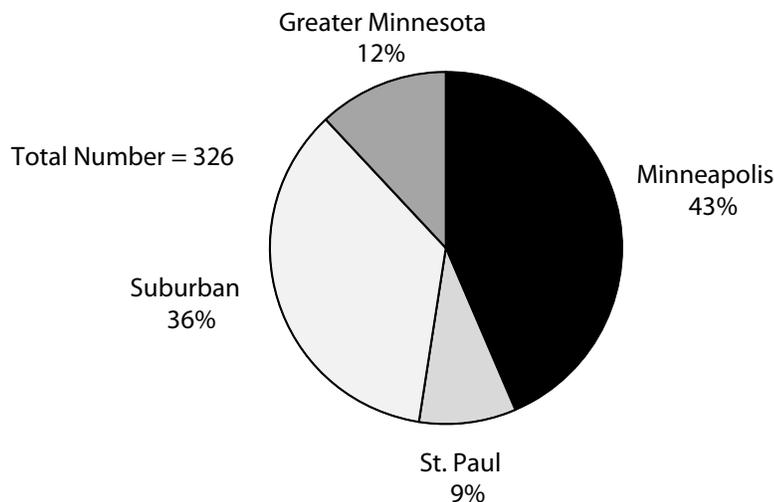
Note: Boston, Miami, Washington DC and Orlando, are not displayed due to two or fewer samples in each of those cities
 SOURCE: HDMP, DEA, November 2008

Exhibit 13. Number of Admissions to Twin Cities Addiction Treatment Programs with Methamphetamine as the Primary Substance Problem: 2002–2008



SOURCE: Minnesota Department of Human Services, Drug and Alcohol Abuse Normative Evaluation System (DAANES), May 2009

Exhibit 14. Proportion of HIV Infections¹, by Residence at Diagnosis², Minnesota: 2008

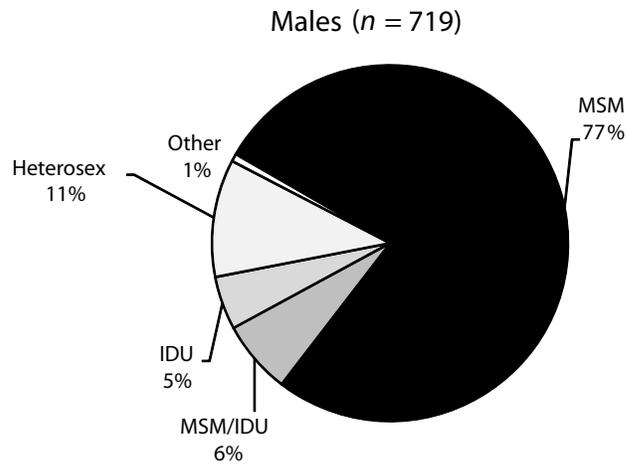


¹HIV or AIDS at first diagnosis.

²Suburban is defined as the seven-county metropolitan area including Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington Counties. Greater Minnesota is defined as including all other Minnesota counties, outside the seven-county metropolitan area.

SOURCE: Minnesota Department of Health, Minnesota HIV/AIDS Surveillance System, 2009

Exhibit 15. Percentage of HIV infections¹ Among Males by Estimated Mode of Exposure², Minneapolis: Diagnosis Years 2006–2008 Combined

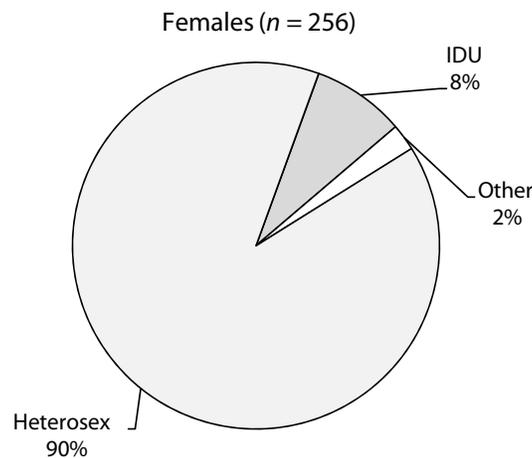


¹HIV or AIDS at first diagnosis.

²Mode of exposure proportions have been estimated using cases for 2004–2005 with known risk. Exposure Categories are MSM = Men who have sex with men; IDU = Injecting drug use; Heterosex= Heterosexual contact; Other = Hemophilia, transplant, transfusion, mother with HIV, or HIV risk. For more detail see the HIV Surveillance Technical notes.

SOURCE: Minnesota Department of Health, Minnesota HIV/AIDS Surveillance System, 2009

Exhibit 16: Percentage of HIV Infections¹ Among Females by Estimated Mode of Exposure², Minneapolis: Diagnosis Years 2006–2008 Combined



¹HIV or AIDS at first diagnosis.

²Mode of exposure proportions have been estimated using cases for 2004–2005 with known risk. Exposure Categories are : MSM = Men who have sex with men; IDU = Injecting drug use; Heterosex= Heterosexual contact; Other = Hemophilia, transplant, transfusion, mother with HIV, or HIV risk. For more detail see the HIV Surveillance Technical notes.

SOURCE: Minnesota Department of Health, Minnesota HIV/AIDS Surveillance System, 2009

Drug Use Trends in New York City: 2008

Rozanne Marel, Ph.D., Robinson B. Smith, M.A., and Gregory Rainone, Ph.D.¹

ABSTRACT

This report describes current drug abuse patterns and trends for the five boroughs of New York City. Cocaine remains a major problem in New York City. Cocaine indicators were mixed for this reporting period, but several showed signs of increasing. Drug Abuse Warning Network (DAWN) weighted data showed a significant increase between 2004 and 2007. Primary cocaine treatment admissions remained stable at 19 percent of all admissions, but more clients in treatment had a primary, secondary, or tertiary problem with cocaine than with any other drug. There were more DAWN Live! reports for cocaine, as well as more National Forensic Laboratory Information System (NFLIS) items for cocaine, than for any other drug. Street reports are that cocaine is highly available, although crack may be of a lower quality. Almost one-third of arrestees tested positive for cocaine in Arrestee Drug Abuse Monitoring (ADAM) II Program in 2008. This is the same level as 2007, but lower than 2000–2002 ADAM levels. Heroin remains a major problem in New York City, but heroin indicators were mixed. More than one-quarter of all primary treatment admissions were for heroin. Among primary heroin treatment admissions, the percentage of injectors remained at 39 percent. There was no significant change in the DAWN weighted data for 2004–2007, nor was there a significant change in heroin prices. ADAM II opiate levels remained the same as 2007, but were lower than earlier ADAM levels. Other than cocaine, alcohol,

and marijuana, there were more DAWN Live! reports for heroin than for any other drug. Eleven percent of NFLIS items were heroin. 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 almost one-quarter of all treatment admissions. More than one-quarter of NFLIS items analyzed were marijuana. There were more DAWN Live! reports for marijuana than for heroin. Only cocaine and alcohol had more reports than these two. Weighted DAWN data for marijuana increased 145 percent between 2004 and 2007. More arrestees tested positive for marijuana and self-reported use than for any other drug. Marijuana continues to be of good quality and widely available. The price remained stable during this reporting period. Marijuana in a blunt cigar often serves as the base to which other drugs are added. Although indicators for prescription use remained low, the street studies unit (SSU) continues to report the availability of many kinds of prescription drugs on the street. Among the DAWN Live! reports, opiates/opioids accounted for 4,598 reports, and benzodiazepines totaled 2,187. Among the opiates/opioids, methadone reports accounted for the largest number (2,519). DAWN weighted data showed significant increases between 2004 and 2007 for opiates/opioids as a category, and specifically methadone, oxycodone, and hydrocodone; benzodiazepines as a category also increased, specifically alprazolam and clonazepam. Although prescription drugs represented only a small number of NFLIS items analyzed, the specific drugs that accounted for more than 200 items each were alprazolam, methadone, oxycodone, hydrocodone, and clonazepam. Prescription drugs represented only a small fraction of primary admissions to treatment. Methamphetamine indicators remained low. Treatment admissions, DAWN Live! reports, and NFLIS items involving the drug are all at very low levels. Methamphetamine use among arrestees remained low, according to ADAM II data. According to the SSU, there is little methamphetamine availability or selling activity. According

¹The authors are affiliated with the New York State Office of Alcoholism and Substance Abuse Services, New York, New York.

to the National Drug Intelligence Center (NDIC), the wholesale price of methamphetamine changed significantly between December 2007 and June 2008. In an unusual pattern, the price decreased at the low end, but increased at the high end. 3,4-Methylenedioxymethamphetamine (MDMA) indicators remained low. MDMA primary treatment admissions represented a very small number. An extremely small number of DAWN Live! reports were for MDMA. DAWN weighted data for MDMA remained low and did not change significantly between 2004 and 2007. HIV/AIDS Update: 102,404 New Yorkers (1.3 percent of the population) were living with human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS) as of December 31, 2007. In 2007, there were 2,012 deaths among persons with HIV/AIDS (19.3 deaths per 1,000 persons). In 2007, the death rate among injection drug users (30.9 per 1,000) was almost 60 percent higher than the overall death rate.

INTRODUCTION

Area Description

New York City, with 8 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 320 square miles. It has nearly 600 miles of waterfront and one of the world's largest harbors.

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 2000 U.S. Census show that the population diversity continues: 35 percent are White; 27 percent are Black; 27 percent are Hispanic of any race; and 10 percent are Asian and Pacific Islander. The five largest Asian groups in New

York City are Chinese, Asian Indian, Korean, Filipino, and Pakistani; the five largest groups of Hispanic origin are Dominican, Mexican, Puerto Rican, Colombian, and Ecuadorian. Moreover, New York City includes people who identify with races/ethnicities from all over the world. Nearly 3 million New York City residents are foreign born, which represents 36 percent of the resident population. Approximately 1.2 million legal immigrants became New York City residents between 1990 and 2000. The Dominican Republic remains the city's largest source of immigrants.

The highest percentage of foreign-born New Yorkers resides in Queens (46 percent). It is estimated, for example, that in Queens alone more than 120 languages are spoken. Brooklyn has the next highest percentage of foreign-born residents (38 percent), followed by Manhattan (29 percent), the Bronx (29 percent), and Staten Island (16 percent). According to the New York City Department of Health and Mental Hygiene, foreign-born New Yorkers are less likely than those born in the United States to have insurance and primary care providers, and consequently face barriers to accessing health care and treatment.

The City remains the economic hub of the Northeast. Its main industries include services and wholesale and retail trade. The unemployment rates were dramatically higher in early 2009, compared with 2008. The unemployment rate in New York City for April 2009 was 8.0 percent; the rate for New York State was 7.7 percent. The unemployment rate for the Nation was 8.9 percent. The unemployment figures for April 2008 were 4.9 for New York City; 5.0 for New York State; and 5.0 for the Nation.

Data Sources

This report describes current drug abuse trends in New York City from 1995 to 2008, using the data sources summarized below:

- **Emergency department (ED) data** for 2008 were derived from the Drug Abuse Warning Network (DAWN) *Live!* restricted-access online query system administered by the Office

of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA). Eligible hospitals in the New York Five Boroughs Division totaled 52; hospitals in the DAWN sample numbered 40, with the number of emergency departments in the sample totaling 61 (some hospitals have more than one emergency department). During this 12-month period, between 39 and 40 EDs reported data each month. The completeness of data reported by participating EDs varied by month (exhibit 1). Exhibits in this report reflect cases that were received by DAWN as of May 4–May 13, 2009. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted. Therefore, the data presented in this report are subject to change. Data derived from DAWN *Live!* represent drug reports in drug-related ED visits. Drug reports exceed the number of ED visits, since a patient may report use of multiple drugs (up to six drugs and alcohol). The DAWN *Live!* data are unweighted and are not estimates for the reporting area. These data cannot be compared to DAWN data from 2002 and before, nor can preliminary data be used for comparison with future data. Weighted ED data for calendar years 2004–2007 were derived from DAWN, OAS, SAMHSA. The weighted data 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 for selected drugs. Confidence intervals denote the lower and upper bounds of the estimates/rates at the 95-percent confidence level. This report follows the 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. 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/>. ED drug visit data before 2003 were derived from the DAWN, OAS, SAMHSA, for 1995 through 2002. These

weighted data are based on a representative sample of hospitals in New York City and Westchester, Rockland, and Putnam Counties.

- **Drug abuse-related death data** were provided by the New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics. Data were made available for the period of 2001 through 2007 and cover the five counties comprising New York City. These data have been coded in accordance with the International Classification of Diseases (i.e., ICD-9 for years 1995–1998 and ICD-10 starting in 1999) and are defined as “Mental and Behavioral disorders due to use of cocaine/drug dependence” and “Mental and Behavioral disorders due to use of Opioids (including Heroin)/drug dependence.” Cocaine-related death cases from 2001 forward were selected from underlying cause of F14 or any multiple causes in F14 or T40.5 due to changes in cause-of-death coding practices which began in 2007. Heroin-related death cases from 2001 forward were selected from any multiple cause of death with ICD-10 code T40.1 due to the changes in cause-of-death coding practices. Comparison with previous years’ data should be made with caution. See Summary of Vital Statistics 2007 for New York City.pdf -Special Section (pp. 73-75) www.nyc.gov/html/doh/html/vs/versushtml. Data for CY 2006 are preliminary pending completion of review by the National Center for Health Statistics (www.cdc.gov/nchs/). Additional drug-related data were from the New York City Department of Health and Mental Hygiene, Bureau of Alcohol & Drug Use Prevention, Care & Treatment.
- **Treatment admissions data** were provided by the New York State Office of Alcoholism and Substance Abuse Services (OASAS) for 1995 through 2008, and included both State-funded and nonfunded admissions. Demographic data are for 2008.
- **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 2008.

- **Arrestee data** were derived from the 2008 Annual Report, Arrestee Drug Abuse Monitoring (ADAM) II Program, Office of National Drug Control Policy, April 2009, and included weighted data from male arrestees in Manhattan, New York City.
- **Drug price, purity, and trafficking data** were provided by information from the OASAS Street Studies Unit (SSU) reports and *National Illicit Drug Prices—June 2008*, a National Drug Intelligence Center (NDIC) Intelligence Bulletin, December 2008.
- **Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data** were provided by the New York City Department of Health and Mental Hygiene, HIV Epidemiology Program for 1981–2007, including the HIV Epidemiology and Field Services Semiannual Report, Vol. 3, No. 2, January 1, 2007–December 31, 2007. Data were also provided by the New York City HIV/AIDS Surveillance Slide Sets. New York: New York City Department of Health and Mental Hygiene, 2007. Updated March 2009. Accessed June 6, 2009 at www.nyc.gov/html/doh/html/dires/epi_surveillance.shtml.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine indicators remained stable during this reporting period. In general, the drug still accounts for major problems in New York City (exhibit 2).

For the five boroughs of New York City, there were 16,699 unweighted DAWN *Live!* reports for cocaine in January–December 2008. Weighted DAWN estimates are available for New York City for the years 2004–2007. According to these estimates, there were 35,706 (CI=21,931–49,481) DAWN emergency department visits for cocaine

in 2007 (exhibit 3). This is a significant change from 2004 when there were an estimated 20,445 visits (CI=13,141–27,749), and represents a 75-percent increase.

According to the New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics, there were 443 cocaine-related deaths in 2007.

While primary cocaine treatment admissions to State-funded and nonfunded programs in New York City had declined from 17,572 in 1998 to 14,059 in 2000, they increased to 17,450 in 2006, but fell to 15,596 in 2008. It should be noted that even when the cocaine treatment admissions were in decline, they did not show the same type of dramatic long-term decline that was seen in other indicators. In 2008, cocaine admissions constituted 19 percent of New York City's 84,309 total drug and alcohol treatment admissions. In addition to these primary cocaine admissions, there were 19,326 admissions who reported cocaine as a secondary substance, and 4,043 who reported cocaine as a tertiary substance. Among the 84,309 drug and alcohol treatment admissions in 2008, 38,965 (46 percent) mentioned cocaine as a primary, secondary, or tertiary substance of abuse.

Exhibit 4 shows demographic characteristics of cocaine treatment admissions for 2008 by the two primary modes of use: smoking crack (representing 61 percent of cocaine admissions), and using cocaine intranasally (representing 36 percent). Clients who smoked crack were more likely than intranasal users to be female (36 versus 23 percent), Black (68 versus 41 percent), and without income (41 versus 32 percent). Clients using intranasally were more likely to be Hispanic or White and to have some criminal justice status. For both groups the secondary drugs of abuse tended to be alcohol and marijuana. It should be noted that all admissions for primary cocaine abuse represented an aging population, and those smoking crack tended to be older than those using cocaine intranasally.

Another data source, the DEA's NFLIS, showed that of the 55,693 drug items analyzed and reported for New York City, from January

through December 2008, 25,162 (45 percent) were cocaine.

The NDIC reported that prices for cocaine powder for June 2008 were: \$23,000–\$32,000 per kilogram; mid-level sales of \$650–\$1,200 per ounce; and retail prices of \$80–\$160 per 1/8 ounce, \$25–\$80 per gram, and \$5–\$20 per bag. The NDIC reported that crack sold for \$23,000–\$35,000 per kilogram; \$650–\$1,600 per ounce; \$100–\$200 per 1/8 gram; \$27–\$31 per gram; \$5–\$30 per bag; and \$5–\$15 per rock. There were no significant changes in price noted by the NDIC between December 2007 and June 2008.

According to the SSU, cocaine hydrochloride (HCl) continued to be readily available. Although cocaine continued to be sold primarily from indoor venues, there were reports of small amounts of powder cocaine being sold on the street. Cocaine prices can fluctuate, as sellers vary the purity of the product and offer several different size packages.

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 techno-method or virtual connection method is becoming increasingly utilized. A buyer makes a connection with a seller through the use of a beeper, cell phone, or Internet. In many cases, sellers use disposable cell phones, or buy phones using false identification. These phones and their numbers are changed regularly to hamper law enforcement efforts. Text messaging is also becoming popular because it avoids the vulnerability of voice recognition. After cell phone or text message contact, the seller may set up a meeting, where he arranges for the delivery of the ordered goods which are dropped off at a customer's office, home, or other location, such as a nearby fast-food or take-out restaurant. Many dealers and buyers prefer these prearranged meetings at restaurants, grocery stores, or other

such businesses to deliveries at private offices or homes.

Cocaine sellers typically work out of their own apartments or ones belonging to relatives. Cocaine selling on the street, however, continued to be popular among sellers who primarily sold small amounts of cocaine with prices under \$50.

Crack users reported that crack continued to be available throughout the City, but that the quality had declined. Several street sources reported that behaviors of crack users seemed less intense, aggressive, and less paranoid than in the past. This may suggest that there has been a decrease in the potency of the crack. According to one field worker, "When I interact with some crack users, their energy level, distractibility, general hyperness, paranoia, anxiety, aggressiveness, and the apparent need to quickly get away from the coping site in order to use their stuff seems substantially less intense. It may be due to a reduction in purity. The recent economic downturn may have forced dealers to substantially dilute their product." The change in crack users' behaviors may also be a reflection of the combining of prescription pills with crack.

Crack selling operations tend to be clustered in and around public housing developments and street corners. Because of law enforcement targeting of crack sellers and selling locations, selling techniques are less overt. There has been a substantial decline in "open-air" market activity, and the number of sellers operating on the street appears to have declined significantly. Those who operate on the street may work from multiple locations on a regular schedule. During the day, the seller moves from one location to another. According to street sources, the concept of sale territory is no longer valid. While most sellers will favor a given location due to proximity and familiarity (typically street sellers live in the same area), the notion of "ownership" (i.e., this is my spot) is no longer an expectation. Hierarchical, organized group selling of crack is a thing of the past. Even when members of a gang are collectively engaged in selling, the activity does not typically reflect a gang sponsored endeavor. Although solo sellers

do exist, they are usually very small-time sellers with a small clientele. Most crack “copping sites” (i.e., selling and purchasing locations) involve many people and an assembly line-like division of labor. This approach serves as a safeguard against rip-offs, and since transactions do not involve a direct exchange of money for drugs, this makes successful prosecution for drug dealing inherently more difficult. In this group approach, no one person ever has possession of both the drugs and the money at the same time. The street operation usually involves a team of two or three persons working in concert. The “steerer” identifies and screens potential buyers. The steerer escorts the buyer through the selling process, and can at any time discontinue the exchange process by abandoning the buyer and alerting his cohorts through nonverbal prearranged signals to discard potential evidence and walk away from the location. In the absence of any uneasiness, the steerer guides the buyer to the money person. Using street slang, the buyer indicates what he wants and pays for the amount desired. The steerer then escorts the buyer to the person holding the drugs who is known as the “pup” (Pick-UP guy). The steerer usually conveys to the pup how much product to turn over to the buyer.

At any given selling location, there is only one standard price; however, SSU staff found crack sold in \$5, \$10, and \$20 amounts. The most common price continued to be \$10, which represents approximately 0.1 grams. There have been recent reports of crack available for as little as \$3, probably reflecting the economy. Another indication of the poor economy is the fact that some drug dealers in the City also sell phone cards, cigarettes, or other products that will help generate income.

There are three basic packaging methods associated with crack in New York City. These are 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 5). For example, almost one-third of New York City’s primary treatment admissions in 2006 were for heroin. Over the last several years, there has been a marked change in the price and purity of heroin, with a substantial decrease in purity and increase in price.

For the five boroughs of New York City, there were 8,522 preliminary unweighted DAWN *Live!* heroin ED reports for January through December 2008. Weighted DAWN data for 2004 through 2007 showed that in 2004 there were 13,383 (CI=8,541–18,225) estimated heroin ED visits, while in 2007, there were 16,884 (CI=10,529–23,239). This change is not significant.

According to the New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics, there were 108 heroin-related deaths in 2007.

Primary heroin admissions to treatment programs in New York City gradually increased between 1995 and 2004, from 18,287 to 23,802, a 30-percent increase (exhibit 5). The number of admissions has been stable for the last several years, and numbered 22,474 in 2008, constituting 26 percent of New York City’s 84,309 drug treatment admissions. In addition to the primary heroin admissions, 2,753 clients reported heroin as a secondary substance of abuse, and 1,280 reported it as a tertiary drug. Most treatment admissions with heroin as a substance of abuse reported it as the primary drug of abuse. This contrasts with cocaine; almost 60 percent of those reporting cocaine considered it a secondary or tertiary drug of abuse.

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 declined slightly, and ranged from 59 to 61 percent. In 2008, the proportion using intranasally was 60 percent. Meanwhile, heroin injection increased among heroin

admissions, from 32 percent in the second half of 1998 to 39 percent in 2008.

Exhibit 6 highlights general demographic characteristics of heroin abusers admitted to all New York City treatment programs in 2008 by mode of use. In general, primary heroin admissions were overwhelmingly male (78 percent); older than 35 (76 percent); more likely to be Hispanic (50 percent) than Black (25 percent) or White (20 percent); and likely to report cocaine as a secondary drug of abuse (43 percent). Compared with heroin injectors, intranasal users were more likely to be Black (33 versus 12 percent) and have some criminal justice status (29 versus 20 percent). In contrast, primary heroin injectors were more likely than intranasal users to be White (32 versus 13 percent), to report cocaine as a secondary drug of abuse (49 versus 39 percent), and to have started use before reaching age 20 (56 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 for heroin abuse. By 2008, the number of heroin admissions was 14,583.

NFLIS data showed that 11 percent of the 55,693 drug items analyzed for New York City in 2008 ($n=6,301$) contained heroin.

According to the NDIC, kilogram prices in June 2008 were \$43,000–\$75,000 for South American heroin, and \$50,000–\$90,000 for Southwest Asian heroin. The price for Southeast Asian heroin was \$150,000 per 700 grams. Mid-level prices were \$1,300–\$3,000 per ounce of South American, \$60–\$100 per bundle, and \$5–\$10 per bag.

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 marijuana or crack sellers. Most users reported that the potency was good. According to

various street contacts, the majority of the heroin available in the City comes from South America, and the distribution is controlled by Colombian/Dominican organized crime groups.

The majority of heroin copping sites are indoor or off-the-street operations. The amount sold in the standard \$10 bag appears to be unchanged. Each package contains approximately 0.10 to 0.13 grams of powder. The most popular packaging method is the glassine bag, which varies by color to denote a given area or dealer. In addition, brand names are sometimes used, but this practice is not as common as it once was. Some new heroin street names recently encountered by street sources include: Snapped, White House, VIOS, Sting Ray, BAMA, Death Row, and Slum Dog. There have been recent reports of a new packaging method called “Triple Threat,” where dealers offer a three-in-one pack combination, which includes a \$10 bag of crack, a \$10 bag of powder cocaine, and a \$10 bag of heroin.

Although most heroin users described themselves as snorters, they reported that more and more users they know were using needles. This is particularly true for young users (those younger than 30). A number of users reported regularly using the needle exchange.

Other Opiates/Narcotics

According to DAWN *Live!* data for the five boroughs of New York City for 2008, there were 4,598 ED reports for opiates/opioids. Most of these visits were for methadone (2,519), followed by oxycodone (449) and hydrocodone (222). The DAWN weighted estimates for 2004–2007 revealed an estimated 7,193 (CI=5,515–8,870) ED visits for opiates/opioids (exhibit 3). This represents a 99-percent increase since 2004 when there were 3,615 (CI=2,657–4,573). For the narcotic analgesics, most were for methadone, with an estimated 3,874 (CI=2,958–4,789) ED visits in 2007. Methadone visits increased 69 percent between 2004 and 2007. There were an estimated 652 (CI=559–745) oxycodone/combinations visits in 2007. These increased 152 percent between

2004 and 2007. There were 465 (CI=356–574) hydrocodone/combinations visits in 2007. These increased 65 percent.

According to the SSU, prescription opiates were available and popular on the street. OxyContin® was sold on the street for \$13–\$15 for a 40-milligram tablet, and \$20–\$25 for an 80-milligram tablet. A sealed bottle of 80-milligram OxyContin® could sell for \$900. SSU staff also reported that OxyContin® continued to be used to cut heroin or to boost methadone. Other medications being used to cut heroin included Vicodin®, Percocet®, Dilaudid®, Klonopin®, and Tylenol® with codeine (#4).

Suboxone® was also available on the street, with 8-milligram pills selling for \$10. Other narcotics being sold on the street included Tylenol® with codeine (#4) for \$2 per pill, and methadone diskets, selling for 40 milligrams at \$15 each or two for \$25. Some street sources reported that in order to get these narcotic pharmaceuticals, users were becoming more sophisticated in medical terminology, and may be telling their doctors they are experiencing severe back pain, or pain in the “lower tibia or fibula.”

Methamphetamine/Amphetamines

Although methamphetamine was popular in other parts of the Nation, there were relatively few arrests, ED reports, deaths, or treatment admissions related to the drug in New York City in 2008. In New York City, there were an estimated 406 weighted DAWN ED visits for stimulants in 2007, including 325 (CI=76–574) for methamphetamine (exhibit 3). NFLIS data showed that less than 1 percent of the 55,693 drug items analyzed for New York City in 2008 contained methamphetamine.

According to the SSU, the general demand for crystal methamphetamine in New York City remained low, and there was little availability or selling activity. The use of crystal methamphetamine was still primarily limited to the gay/male community. Some informants indicated that methamphetamine could be found, but the quality

was poor and the price was high. According to the NDIC, the wholesale price of methamphetamine changed significantly between December 2007 and June 2008. In an unusual pattern, the price decreased significantly at the low end, from \$18,000 per pound to \$13,000, but increased at the high end from \$20,000 to \$26,000.

Street field staff reported the availability of Adderall®, which appears to be popular among college students and teenagers. There were also reports of “Bumblebee,” a term for an amphetamine used by heroin users to maintain alertness and counteract the drowsy side effects of heroin. Street staff will continue to investigate the emergence of this amphetamine.

Marijuana

In New York City, marijuana indicators, which had recently increased steadily and dramatically, remained at a high level.

For the five boroughs of New York City, there were 9,086 preliminary unweighted DAWN *Live!* marijuana ED reports for 2008. For 2004 to 2007 the weighted DAWN estimates are as follows. In 2004 there were 5,920 estimated visits (CI=4,246–7,593). That increased to 10,192 in 2005 (CI=7,171–13,214); 12,938 (CI=9,111–16,765) in 2006; and to 14,500 (CI=10,351–18,649) in 2007. That increase of 145 percent between 2004 and 2007 is significant (exhibit 3).

Primary marijuana admissions to all treatment programs increased steadily over the past several years. Overall, the number increased more than 13-fold between 1991 and 2008, from 1,374 to 19,512, the highest annual number (exhibit 7). In 1991, primary marijuana admissions represented less than 5 percent of all treatment admissions; by 2008, these admissions represented 23 percent of admissions to all New York City treatment programs.

Exhibit 8 shows demographic characteristics of primary marijuana admissions to all New York City treatment programs in 2008. The vast majority were male (80 percent), and 23 percent were younger than 21. More than one-half (58 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 marijuana admissions, and 64 percent had some criminal justice status.

According to NFLIS data, 26 percent of the drug items analyzed for New York City in 2008 (n=14,557) contained cannabis/marijuana.

According to the NDIC, marijuana prices for 2008 ranged from \$300 to \$1,500 per pound wholesale for commercial grade, and from \$3,000 to \$7,000 per pound for hydroponic marijuana.

According to the SSU, marijuana continued to be widely available and in high demand. There is currently a tendency by drug users, regardless of primary drug, to mix and combine multiple drugs for simultaneous use, and marijuana in a blunt cigar often serves as the base to which other drugs are added.

The quality of marijuana varies greatly by seller and location. "Haze" marijuana comes in a variety of colors and flavors, and continues to be perceived as high quality. Usually street sales involve thumb-nail-size plastic zip-lock bags that sell for either \$10 or \$20. Some recent field work includes reports of the growing of two different types of marijuana into one plant. Field workers will continue to investigate.

Club Drugs

Club drugs are a collection of various synthetic chemical compounds that are often abused by young people in social settings, such as dance clubs, after-hour clubs, and other special events. Club drugs include 3,4-methylenedioxymethamphetamine (MDMA), gamma hydroxybutyrate (GHB), and ketamine. All-night parties are about endurance and sensory overstimulation, and, not surprisingly, many of the club drugs have stimulant or hallucinogenic properties.

DAWN *Live!* reports for New York City for MDMA for 2008 numbered 251. According to the weighted DAWN ED data for the five boroughs of New York City, there were an estimated 372

(CI=257–488) visits for MDMA in 2004 (exhibit 3). The estimate in 2007 was 506 (CI=319–692).

According to the SSU, MDMA, a stimulant with hallucinogenic properties, was easy to obtain in many areas of the City. Street sources reported that the term "flipping" is used to describe ecstasy. According to street slang, "kitty flipping" refers to a combination of ecstasy and ketamine; "elephant flipping" is ecstasy and PCP; "candy flipping" is ecstasy and LSD; "hippy flipping" is ecstasy and mushrooms; and "love flipping" combines ecstasy and mescaline. MDMA was available in tablet, capsule, and powdered form. According to the NDIC for June 2008, a dose sold for \$4–\$30 per tablet retail.

Available as a club drug in New York City, the veterinary anesthetic ketamine produces hallucinogenic effects similar to PCP, and visual effects similar to lysergic acid diethylamide (LSD). On the street, the drug is called "Special K," "K," "Vitamin K," and "Cat Valium," and sold for approximately \$25–\$50 per dosage unit in 2008. It comes in liquid, powdered, or tablet form, and it may be administered intranasally or injected. While ketamine is not currently a controlled substance under Federal law, it is listed as a controlled substance in New York State. It is available in club settings and has not been reported on the street.

Although not generally available on the street, GHB and the analogs (GBL, BD, GHV, and GVL) can be easily obtained in many dance clubs. It is also known as liquid MDMA, "grievous bodily harm," or "Georgia Homeboy." It is usually available in liquid form, and GHB may cost \$45–\$65 for a bottle cap full in a club; a single dose may cost about \$20.

Phencyclidine (PCP) and Lysergic Acid Diethylamide (LSD)

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 451 (CI=335–567) DAWN ED visits for PCP in 2004. That increased to 794 in 2005 (CI=599–989; 660 in 2006 (CI=526–794); and 884 in 2007

(CI=649–1,118). The 96-percent increase in that 3-year period is significant. DAWN visits for PCP represented the most for any illicit drug other than cocaine, heroin, and marijuana (exhibit 3).

LSD is a strong hallucinogen that has not been a major problem in New York City since the late 1960s and early 1970s. It is also known as acid, boomer, and yellow sunshine. According to DAWN ED data for New York City, there were an estimated 124 (CI=49–198) visits for LSD in 2007.

Benzodiazepines/Barbiturates

Psychoactive prescription drugs continued to be widely available and popular in 2008. The SSU continued to report a variety of drugs readily available on the street, some for as little as \$0.50 per pill.

In 2007, for the five boroughs of New York City, there were an estimated 3,519 (CI=2,535–4,502) benzodiazepine DAWN ED visits (exhibit 3). This is a significant increase (59 percent) since 2004 when there were an estimated 2,213 visits (CI=1,677–2,748). Among the benzodiazepines, the specific drugs with the most reports in 2007 were alprazolam (1,526, CI=971–2,082), which increased 60 percent in the 3 years; clonazepam (909, CI=658–1,160); diazepam (262, CI=184–339); and lorazepam (248, CI=176–321).

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® is often obtained through a prescription paid by Medicaid and sold on the street for \$5 per 2-milligram pill. Most of these medications come in a variety of strengths, and not all strengths are found on the street. Elavil® sold for \$1 for 50 milligrams, and Catapres® sold for \$1 for a 0.3-milligram pill.

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 entered 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, 2007, 102,404 New Yorkers had been diagnosed with HIV or AIDS (representing 1.3 percent of the population); 39,416 (38 percent) were living with HIV (non-AIDS), and 62,988 (62 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) is 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 2007, there were 2,012 deaths among persons with HIV/AIDS in New York City (19.3 deaths per 1,000 persons).

Of the 102,404 PLWHA in New York City as of December 31, 2007, 70 percent were male and 30 percent were female. In terms of race/ethnicity, 45 percent were Black, 32 percent were Hispanic, and 21 percent were White. For transmission risk factors, 31 percent (31,912) were men who have sex with men (MSM); 21 percent (21,382) had an injection drug use history; 18 percent reported a heterosexual transmission factor; 2 percent had a perinatal transmission risk factor; less than 1 percent had another risk factor; and 27 percent had an unknown risk factor or were under investigation.

In 2007, the death rate among IDUs (30.9 per 1,000) was almost 60 percent higher than the overall death rate (19.3 per 1,000). Forty percent of deaths among IDUs with AIDS were non-HIV-related (up from 9 percent in 1998). Most non-HIV-related deaths among IDUs with AIDS were caused by substance abuse (33 percent), cardiovascular diseases (24 percent), and non-AIDS-defining cancers (20 percent).

According to the New York City Department of Health and Mental Hygiene HIV Epidemiology Program 2nd Semiannual Report, 3,787 new HIV diagnoses were reported in NYC in 2007. Diagnoses declined by more than 500 cases a year between 2001 and 2004. Since 2004, the decline

has flattened. Seventy-three percent of persons newly diagnosed in 2007 were male, 50 percent of new diagnoses were Black, and 40 percent of new diagnoses were MSM.

A new CDC (Centers for Disease Control and Prevention) test identifies newly infected, and allowed for the first citywide estimate of HIV incidence. The findings showed that Blacks and Hispanics, males, persons age 30 and over,

and MSM were at highest risk for incident HIV infection in 2006.

For inquiries concerning this report, contact Rozanne Marel, Ph.D., Assistant Chief of Epidemiology, New York State Office of Alcoholism and Substance Abuse Services, 501 7th Avenue, 9th Floor, New York, New York 10018, Phone: 646-728-4605, Fax: 646-728-4685, or E-mail: RozanneMarel@oasas.state.ny.us.

Exhibit 1. DAWN ED Sample and Reporting Information, New York City: January–December 2008

CEWG Area	Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
				90–100%	50–89%	<50%	
New York City	52	40	61	25–37	3–12	0–3	21–22

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

²Some hospitals have more than one emergency department.

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed May 4, 2009

Exhibit 2. Trends in Selected Indicator Data for Cocaine in New York City: 1995–2008 (Semiannual and Annual)

Year	Semiannual/ Annual Periods	Deaths Involving Cocaine ¹	Cocaine ED Visits ²	Cocaine ED Reports ³	Treatment Admissions: Cocaine as Primary Drug of Abuse ⁴	Cocaine Arrests ⁵	Births to Women Using Cocaine ⁶
1995	1H	–	–	9,915	8,371	–	–
	2H	–	–	9,808	7,836	–	–
	Total	–	–	19,715	16,207	40,846	1,059
1996	1H	–	–	11,070	8,561	–	–
	2H	–	–	10,522	8,817	–	–
	Total	–	–	21,592	17,378	38,813	1,005
1997	1H	–	–	10,233	9,048	–	–
	2H	–	–	9,969	8,401	–	–
	Total	–	–	20,202	17,449	35,431	864
1998	1H	–	–	9,989	8,999	–	–
	2H	–	–	9,560	8,573	–	–
	Total	–	–	19,549	17,572	35,577	742
1999	1H	–	–	7,386	8,346	–	–
	2H	–	–	7,413	7,567	–	–
	Total	–	–	14,799	15,913	31,781	626
2000	1H	–	–	6,883	7,337	–	–
	2H	–	–	7,367	6,722	–	–
	Total	–	–	14,250	14,059	31,919	490
2001	1H	–	–	7,449	7,343	–	–
	2H	–	–	6,450	7,032	–	–
	Total	486	–	13,898	14,375	23,498	438
2002	1H	–	–	6,679	7,736	–	–
	2H	–	–	7,282	7,872	–	–
	Total	475	–	13,961	15,608	26,773	363
2003	1H	–	–	–	8,203	–	–
	2H	–	–	–	7,911	–	–
	Total	498	–	–	16,114	25,868	354
2004	1H	–	–	–	8,410	–	–
	2H	–	–	–	8,301	–	–
	Total	517	–	20,445	16,711	27,963	337
2005	1H	–	–	–	8,215	–	–
	2H	–	–	–	7,741	–	–
	Total	529	–	30,478	15,956	26,773	301
2006	1H	–	–	–	8,582	–	–
	2H	–	–	–	8,868	–	–
	Total	526	–	36,791	17,450	27,992	298
2007	1H	–	–	–	8,618	–	–
	2H	–	–	–	7,988	–	–
	Total	443	–	35,706	16,606	–	–
2008	1H	–	–	–	8,177	–	–
	2H	–	–	–	7,419	–	–
	Total	–	16,699	–	15,596	–	–

¹ New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics; cocaine-related death cases from 2001 forward were selected from underlying cause of F14 or any multiple causes in F14 or T40.5 due to changes in cause-of-death coding practices which began in 2007. Comparison with previous years' data should be made with caution. See Summary of Vital Statistics 2007 for New York City.pdf

-Special Section (pp. 73–75) www.nyc.gov/html/doh/html/vs/vs.shtml. Data for CY2006 are preliminary pending completion of review by the National Center for Health Statistics (www.cdc.gov/nchs/).

²DAWN *Live!*, OAS, SAMHSA, accessed May 6, 2009. The 2008 number of reports are unweighted data and are from 61 EDs in the five boroughs of New York City reporting to DAWN in 2008. During this 12-month period, however, between 39 and 40 EDs reported data each month. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.

³DAWN, OAS, SAMHSA, updated 11/2008. Prior to 2004–2007, DAWN, OAS, SAMHSA, weighted data, based on a representative sample of hospitals for New York City, Westchester, Rockland, and Putnam Counties; data for 2004–2007 are not comparable to data prior to 2003.

⁴New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.

⁵New York City Police Department.

⁶New York City Department of Health and Mental Hygiene.

SOURCES: New York City Department of Health and Mental Hygiene; DAWN *Live!*, OAS, SAMHSA, accessed May 6, 2009; DAWN, OAS, SAMHSA, updated 11/2008; New York State Office of Alcoholism and Substance Abuse Services (OASAS); and New York City Police Department

Exhibit 3. Estimated Drug-Related Emergency Department (ED) Visits for Selected Illicit, Psychotherapeutic, and CNS Drugs of Abuse, with Relative Standard Errors and Confidence Intervals¹, in New York City: 2007

Selected Drugs	Estimated Numbers of Visits ²	Relative Standard Error (RSE) as Percent	Lower 95% Confidence Limit ¹	Upper 95% Confidence Limit ¹
Nonalcohol Illicit Drugs	76,388	14.7	54,384	98,391
Cocaine	35,706	19.7	21,931	49,481
Heroin	16,884	19.2	10,529	23,239
Marijuana	14,500	14.6	10,351	18,649
Methamphetamine	325	39.0	76	574
MDMA	506	18.8	319	692
PCP	884	13.5	649	1,118
Nonmedical Use of Pharmaceuticals	19,022	7.6	16,187	21,857
<i>Psychotherapeutic Agents</i>				
Benzodiazepines	3,519	14.3	2,535	4,502
<i>Selected CNS Agents</i>				
Opiates/Opioids	7,193	11.9	5,515	8,870
<i>Narcotic Analgesics</i>	5,331	9.5	4,339	6,324
Fentanyl	... ³
Hydrocodone	465	12.0	356	574
Methadone	3,874	12.1	2,958	4,789
Morphine	133	17.3	88	178
Oxycodone	652	7.3	559	745

¹Confidence intervals showing the lower and upper bounds at 95-percent confidence level.

²Summing or combining visits produces incorrect and inflated counts.

³Dots (...) indicate that an estimate with a relative standard error of greater than 50 percent has been suppressed or the estimated quantity was less than 30.

SOURCE: Site-specific data obtained by request from the DAWN, OAS, SAMHSA, updated 11/2008

Exhibit 4. Characteristics of Primary Cocaine Admissions¹ to State-Funded² and Nonfunded³ Treatment Programs, by Route of Administration and Percent, in New York City: 2008

Demographic Characteristic	Percent Total (N=15,596)	Percent Smoking Crack (n=9,447)	Percent Using Cocaine Intranasally (n=5,674)
Gender			
Male	69	64	77
Female	31	36	23
Age at Admission			
25 and younger	6	4	9
26–35	18	15	24
36 and older	76	81	68
(Average age)	(41.2 years)	(42.1 years)	(39.8 years)
Race			
Black	57	68	41
Hispanic	24	17	36
White	14	11	18
No Source of Income ⁴	38	41	32
Some Criminal Justice Status	38	33	47
Age of First Use			
14 and younger	6	5	9
15–19	30	26	37
20–29	43	46	38
30 and older	20	23	16
Secondary Drug of Abuse			
Alcohol	38	40	35
Marijuana	22	21	24
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 New York State Office of Alcoholism and Substance Abuse Services (OASAS), including Medicaid and 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 5. Trends in Selected Indicator Data for Heroin in New York City: 1995–2008 (Semiannual and Annual)

Year	Semiannual/ Annual Periods	Deaths Involving Heroin ¹	Heroin/ Morphine ED Visits ²	Heroin/ Morphine ED Reports ³	Treatment Admissions: Heroin as Primary Drug of Abuse ⁴	Heroin Arrests ⁵	Average Purity of Street Heroin (%) ⁶
1995	1H	–	–	5,288	9,286	–	–
	2H	–	–	5,440	9,001	–	–
	Total	–	–	10,706	18,287	38,131	(69.4)
1996	1H	–	–	5,654	9,161	–	–
	2H	–	–	5,478	9,617	–	–
	Total	–	–	11,132	18,778	37,901	(56.3)
1997	1H	–	–	4,900	10,276	–	–
	2H	–	–	4,581	10,431	–	–
	Total	–	–	9,481	20,707	35,325	(62.5)
1998	1H	–	–	4,613	10,793	–	–
	2H	–	–	4,605	10,203	–	–
	Total	–	–	9,218	20,996	37,483	(63.6)
1999	1H	–	–	4,153	10,690	–	–
	2H	–	–	5,150	10,189	–	–
	Total	–	–	9,302	20,879	32,949	(61.8)
2000	1H	–	–	5,378	10,944	–	–
	2H	–	–	5,630	10,672	–	–
	Total	–	–	11,009	21,616	33,665	(62.9)
2001	1H	–	–	5,428	11,324	–	–
	2H	–	–	5,216	11,455	27,863	–
	Total	18	–	10,644	22,779	–	(56.0)
2002	1H	–	–	4,954	11,357	–	–
	2H	–	–	5,443	11,157	–	–
	Total	24	–	10,397	22,514	34,098	(61.4)
2003	1H	–	–	–	11,540	–	–
	2H	–	–	–	12,023	–	–
	Total	40	–	–	23,563	–	(53.5)
2004	1H	–	–	–	12,059	–	–
	2H	–	–	–	11,743	–	–
	Total	38	–	13,383	23,802	–	(43.3)
2005	1H	–	–	–	11,127	–	–
	2H	–	–	–	10,665	–	–
	Total	32	–	18,179	21,792	–	(49.4)
2006	1H	–	–	–	11,189	–	–
	2H	–	–	–	11,055	–	–
	Total	48	–	17,892	22,244	–	(44.5)
2007	1H	–	–	–	11,356	–	–
	2H	–	–	–	11,256	–	–
	Total	108	–	16,884	22,612	–	–
2008	1H	–	–	–	11,016	–	–
	2H	–	–	–	11,458	–	–
	Total	–	8,522	–	22,474	–	–

¹New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics; heroin-related death cases from 2001 forward were selected from any multiple cause of death with ICD-10 code T40.1 due to changes in cause-of-death coding practices which began in 2007. Comparison with previous years' data should be made with caution. See Summary of Vital Statistics 2007 for New York City.pdf -Special Section (pp. 73–75) www.nyc.gov/html/doh/html/vs/vs.shtml. *Data for CY2006 are preliminary pending completion of review by the National Center for Health Statistics (www.cdc.gov/nchs/).

²DAWN *Live!*, OAS, SAMHSA, accessed May 6, 2009. The 2008 number of reports are unweighted data and are from 61 EDs in the five boroughs of New York City reporting to DAWN in 2008. During this 12-month period, however, between 39 and 40 EDS reported data each month. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.

³DAWN, OAS, SAMHSA, updated 11/2008. Prior to 2004–2007, DAWN, OAS, SAMHSA, weighted data, based on a representative sample of hospitals for New York City, Westchester, Rockland, and Putnam Counties. Prior to 1996, the data include heroin/morphine deaths as well as opiates not specified by type. Between 1996 and 2002, the data include only heroin/morphine deaths. Data for 2004–2007 are not comparable to data prior to 2003.

⁴New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.

⁵New York City Police Department.

⁶DEA.

SOURCES: New York City Department of Health and Mental Hygiene; DAWN *Live!*, OAS, SAMHSA, accessed May 6, 2009; DAWN, OAS, SAMHSA, updated 11/2008; New York State Office of Alcoholism and Substance Abuse Services (OASAS); New York City Police Department; DEA

Exhibit 6. Characteristics of Primary Heroin Admissions¹ to State-Funded² and Nonfunded³ Treatment Programs, by Route of Administration and Percent, in New York City: 2008

Demographic Characteristic	Percent Total (N=22,474)	Percent Using Heroin Intranasally (n=13,389)	Percent Injecting Heroin (n=8,764)
Gender			
Male	78	78	78
Female	22	22	22
Age at Admission			
25 and younger	5	3	8
26–35	19	14	26
36 and older	76	82	66
(Average age)	(42.0 years)	(43.3 years)	(40.1 years)
Race			
Black	25	33	12
Hispanic	50	49	50
White	20	13	32
No Source of Income ⁴	35	34	35
Some Criminal Justice Status	26	29	20
Age of First Use			
14 and younger	12	10	15
15–19	35	31	41
20–29	36	38	34
30 and older	17	21	10
Secondary Drug of Abuse			
Alcohol	11	12	10
Marijuana	8	10	6
Cocaine	43	39	49

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.

³Nonfunded programs receive funding through sources other than OASAS, including Medicaid and 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 7. Trends in Selected Indicator Data for Marijuana in New York City: 1995–2008 (Semiannual and Annual)

Year	Semiannual/ Annual Periods	Marijuana ED Visits ¹	Marijuana ED Reports ²	Treatment Admissions: Marijuana as Primary Drug of Abuse ³	Marijuana Arrests ⁴
1995	1H	–	1,516	2,171	–
	2H	–	1,460	2,159	–
	Total	–	2,974	4,330	12,357
1996	1H	–	1,723	2,845	–
	2H	–	1,848	3,185	–
	Total	–	3,571	6,030	18,991
1997	1H	–	1,939	3,794	–
	2H	–	1,900	3,657	–
	Total	–	3,839	7,451	27,531
1998	1H	–	1,986	4,554	–
	2H	–	1,696	4,473	–
	Total	–	3,682	9,027	42,030
1999	1H	–	1,799	5,119	–
	2H	–	1,692	5,100	–
	Total	–	3,491	10,219	43,122
2000	1H	–	1,856	5,664	–
	2H	–	1,688	5,487	–
	Total	–	3,544	11,151	60,455
2001	1H	–	1,904	6,677	–
	2H	–	1,598	6,593	–
	Total	–	3,502	13,270	47,651
2002	1H	–	1,827	7,512	–
	2H	–	2,097	6,798	–
	Total	–	3,924	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	–	–	9,832	–
	2H	–	–	9,680	–
	Total	9,086	–	19,512	–

¹DAWN Live!, OAS, SAMHSA, accessed May 6, 2009. The 2008 number of reports are unweighted data and are from 61 EDs in the five boroughs of New York City reporting to DAWN in 2008. During this 12-month period, however, between 39 and 40 EDS reported data each month. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted, and, therefore, are subject to change.

²DAWN, OAS, SAMHSA, updated 11/2008. Prior to 2004–2007, DAWN, OAS, SAMHSA, weighted data, based on a representative sample of hospitals for New York City, Westchester, Rockland, and Putnam Counties. Data for 2004–2007 are not comparable to data prior to 2003.

³New York State Office of Alcoholism and Substance Abuse Services (OASAS)-funded and nonfunded treatment admissions.

⁴New York City Police Department.

SOURCES: DAWN *Live!*, OAS, SAMHSA, accessed May 6, 2009; DAWN, OAS, SAMHSA, updated 11/2008; New York State Office of Alcoholism and Substance Abuse Services (OASAS); and New York City Police Department

Exhibit 8. Characteristics of Primary Marijuana Admissions¹ to State-Funded² and Nonfunded³ Treatment Programs, by Percent, in New York City: 2008

Demographic Characteristic	Percent Total (N=17,323)
Gender	
Male	80
Female	20
Age at Admission	
20 and younger	23
21–25	25
26–35	32
36 and older	20
(Average Age)	(27.8 years)
Race	
Black	58
Hispanic	29
White	7
No Source of Income ⁴	31
Some Criminal Justice Status	64
Age of First Use	
14 and younger	48
15–19	44
20–29	7
30 and older	1
Secondary Drug of Abuse	
Alcohol	34
Cocaine	12

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 and 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: 2008

Samuel J. Cutler, Marvin F. Levine, M.S.W.,
Roland C. Lamb, M.A.¹

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. Marijuana comprised the plurality of primary treatment admissions, National Forensic Laboratory Information System (NFLIS) drug counts, and Adult Probation/Parole Department (APPD) urine/drug screens. Street prices were stable. Regarding treatment admissions, the trends of increasing proportions of males (up to 82.2 percent) and African Americans (up to 77.5 percent) continued in 2008. The proportions by age group for admissions to treatment have remained stable from early 2005 through 2008. Marijuana use is common by itself or in combination with phencyclidine (PCP), benzodiazepines, heroin, cocaine, or alcohol. Indications of cocaine abuse declined in several areas—NFLIS rank, proportion of treatment admissions, number of mortality cases, and the percent positive of APPD urine/drug screens. In 2008 treatment data, the age group with the largest percentage continued to be 41 or older (44.7 percent). The number of deaths with the presence of cocaine decreased 13.1 percent from 2007 to 2008. Cocaine was most commonly used in combination with marijuana, alcohol, or heroin. Crack smoking continued as the dominant form of cocaine use; 85.8 percent of clients who

entered treatment in 2008 were identified as crack smokers. Alcohol was the third most frequently mentioned drug in treatment admissions data (22.9 percent). The proportion of African Americans entering treatment with alcohol as their primary problem has increased from 55 percent in 2002 to 72.5 percent in 2008. Concomitantly, Whites have decreased from 42 to 24.6 percent and Hispanics (any race) increased from 6.5 to 11.3 percent. Alcohol in combination with other drugs detected in mortality cases declined from second rank to third (present in 21.4 percent of decedents in 2008). Alcohol ranked seventh in the APPD study (5.5 percent). It was most commonly reported as used along with or after cocaine and/or marijuana. The street-level purity of heroin, at 56.3 percent in 2007, continues to be among the highest in the Nation. The standard bag prices ranged from \$10–\$20. In 2008, heroin continued to rank fourth in treatment admissions, moved from third to second in deaths with the presence of drugs, and was third in the NFLIS data. In the APPD data, results for “total opioids” were positive in 13.2 percent of the tests. At the beginning of the period of declining heroin purity (2001), Whites comprised 54 percent of treatment admissions and have increased to 68.9 percent in 2008. African Americans declined from 42 percent in 2001 to 23.9 percent in 2008. As the purity levels bottomed out, the age 21–30 population entered treatment in increasing proportions (22 percent in 2001 to 42 percent in 2005); as the purity leveled off in 2006, so did this population entering treatment, at 41.3 percent in 2008. Deaths with the presence of heroin closely matched the purity trends from 2001 through 2008, with the exception of the period of the fentanyl outbreak from spring 2006 to spring 2007. Heroin was reported as most commonly used in combination with cocaine, sedatives, and marijuana in 2008. In 2008, 89.2 percent of females and 88.1 percent of males reported injection as their preferred route of administration. Within the category other opioids, use was at medium levels with mixed indicator results, depending on the drug. Drugs in this class remained low in treatment admissions,

¹The authors are affiliated with the City of Philadelphia, Department of Behavioral Health and Mental Retardation Services, Office of Addiction Services, Philadelphia, Pennsylvania, Dr. Arthur C. Evans, Jr., Director. Alan Dashoff, Lisa Mundy, Tracey Scott, Frank L. Johnson, and Michael Eberhart, M.P.H., provided assistance in preparing this report.

but mortality cases increased by 9.1 percent from 2007 to 2008. The 2008 NFLIS data revealed 860 oxycodone items, 216 codeine items, and 165 hydrocodone items. Use of benzodiazepines, while lower than use of drugs discussed above, remained as an adjunct drug according to trend data. Indications of abuse appeared to be stable or increasing in 2008. As a group, benzodiazepines ranked third in the mortality data. Alprazolam was clearly the benzodiazepine of choice, tying for fifth in the Medical Examiner's (ME) toxicology reports and fourth in the NFLIS data. Benzodiazepines were most commonly used in combination with heroin, oxycodone, or marijuana. Phencyclidine (PCP) indicators reflected medium levels of use, and were stable for all indicators except mortality (which had a small decline) in 2008. The most common cause of death with the presence of PCP remained homicide. ME toxicology tests revealed the increased presence of antipsychotics in 2008. Among antidepressants, ME data reflected lower levels of use in 2008 than in 2007. Treatment admissions for methamphetamine were practically nonexistent (n=2) and very low for other amphetamines (n=46) in 2008, but mortality cases increased.

INTRODUCTION

Area Description

Philadelphia, the largest city in the State, is located in the southeastern corner of Pennsylvania. The 2000 U.S. Census count of 1,517,550 Philadelphia residents was updated in 2007 to 1,454,382, a decline of almost 4.2 percent. The population was estimated as 53.3 percent female; 43.8 percent Black/African American; 42.7 percent White; 5.4 percent Asian; 6.2 percent other races; and 1.6 percent two or more races. This was the first U.S. Census estimate in which Black/African American was the largest group. Residents identified as being of Hispanic or Latino origin (of any race) were estimated at 10.3 percent of the population. The median age was 35.3. There were

4,891 housing units per square mile, but only 84.5 percent were occupied.

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 programs in Philadelphia County were provided by the Behavioral Health Special Initiative Client Data System (BHSCI/CDS); the data represent mentions of use of different drugs by clients admitted to treatment from 2004 through 2008. 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 decedents in Philadelphia. The time period is January 1, 1996, through December 31, 2008. The cases include persons who died from the adverse effects of one or multiple drugs, as well as persons who exhibited some substance presence but died from other causes. The Philadelphia ME also distinguishes between persons who appeared to have a lethal reaction to what might be considered a light or moderate amount of drugs and persons whose toxicology reports showed a high level of drugs in their systems. Alcohol cases are only reported in combination with one or more other drugs. The ME does not test for the presence of marijuana/tetrahydrocannabinol (THC)/cannabis.
- **Criminal justice urinalysis data** for adults who were 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 May 31, 2009.

- **Heroin purity and price data** were provided by the Drug Enforcement Administration (DEA), Domestic Monitor Program (HDMP), through 2007.
- **The National Forensic Laboratory Information System (NFLIS)** provided data on the analysis of drug samples tested by the Philadelphia Police Department forensic laboratory in 2007 and 2008. The total sample sizes during these time periods were 26,286 items in 2007, and 30,238 items in 2008.
- **Retail distribution of pharmaceutical drugs data** were provided through the DEA Automation of Reports and Consolidated Orders System (ARCOS) for the period 2000 through 2007.
- **Drug prices** were provided by the U.S. Department of Justice, National Drug Intelligence Center (NDIC), report for the period January to June 2008. The NDIC report indicated that price information was derived from undercover purchases and informants.
- **Acquired immunodeficiency syndrome (AIDS) data** were provided by the Philadelphia Department of Public Health's AIDS Activities Coordinating Office on AIDS cases reported from November 1, 1981, to December 31, 2008.

In addition to these sources, this report draws on focus group discussions with former drug users currently enrolled in treatment programs, as well as outreach workers assigned to homeless populations, current substance abusers, and persons with human immunodeficiency virus (HIV) infection.

DRUG ABUSE PATTERNS AND TRENDS

The latest indicator data revealed a different ranking order than reported in previous years of the four most heavily used and/or abused drugs in Philadelphia—marijuana, cocaine, alcohol, and heroin. These drugs continued to be frequently used in combination with each other and with

other supplemental drugs. In 2008, 87.6 percent of drugs mentioned by all clients entering treatment were one of these four drugs (exhibit 1). During this period, 70.9 percent of the treatment admissions were male, 22.5 female, and 6.6 percent were unknown/unrecorded. African Americans comprised 56.8 percent; Whites 32.6 percent; Hispanics (of any race) 12.1 percent; Asians or some other race 3.7 percent; and 6.9 percent were unknown/unrecorded. The age range with the highest number of clients was 21–30, at 37.3 percent (exhibit 2).

In 2008, among clients younger than 21 who entered treatment for the first time, the majority, 54.1 percent, mentioned marijuana as their problem drug, followed by alcohol, 17 percent.

In 2008, the average number of drugs detected in decedents by the ME (3.76) exceeded the previous 12-year average (1996 to 2007) of 3.07 drugs per case (exhibit 3). The average in 2008 was only surpassed by the 4.16 average in 2006, when most of the cases related to the fentanyl outbreak occurred. Only 13.9 percent of all mortality cases with positive toxicology reports were single drug cases in 2008.

The number of mortality cases with positive toxicology reports (1,040 in 2008) was the second highest on record, going back to at least 1970. There were 496 cases in the first half of 2008, and 544 cases in the latter half. Of the 1,040 deaths, adverse effect of drugs accounted for 36.9 percent; other deaths were attributed to overdose (6.3 percent), homicide (15.4 percent), suicide (10.0 percent), and “other causes” (31.3 percent) (exhibit 4).

In addition to disparities in the types of drugs, drug combinations, and demographic categories of decedents, there were differences with respect to the quantities of drugs by cause of death. The trend for average number of drugs per decedent by cause of death is shown in exhibit 5.

Comparing the percents positive by drug or drug group, between 2007 and 2008, antidepressants, alcohol-in-combination, phencyclidine (PCP), and cocaine decreased, while heroin/morphine, pharmaceutically produced opioids, antipsychotics, benzodiazepines, and speed-type drugs increased.

In 2008, White male decedents ($n=349$) outnumbered African-American male decedents ($n=329$), while White female decedents ($n=136$) outnumbered African-American female decedents (117). There were 93 deaths with the presence of drugs among Hispanics, and 16 such deaths among Asians and others.

Overall, Whites accounted for 46.6 percent of the deaths; African Americans constituted 42.9 percent; Hispanics represented 8.9 percent; and Asians and others accounted for 1.5 percent. These figures vary very little from the makeup of Philadelphia's population.

The total number of drugs detected during calendar year 2008 in Philadelphia through NFLIS was 30,238, with no count of alcohol. Of these, 86.2 percent were marijuana, cocaine, or heroin (exhibit 6).

The results of urinalysis tests of adults on probation or parole (APPD data) are shown in exhibit 7. Recent data indicated stability in the positive results for all drugs except cocaine, which declined from 36.3 percent of all positive tests in 2006, to 25.8 percent in the first 5 months of 2009. In this most recent period, a total of 20,940 samples were taken, of which 8,507 were positive for at least one of the nine drugs/drug classes in the testing panel.

Marijuana

Treatment admissions data revealed marijuana as ranking third from 2004 through 2007 and first in 2008 (exhibit 1). African Americans accounted for 77.5 percent of marijuana treatment mentions in 2008, followed by Whites (19.7 percent); Hispanics of any race (13 percent); and Asians and others (2.8 percent). The percentage that was male increased from 77 percent in 2001 to 82.2 percent in 2008. For clients entering treatment, trends by age have been stable, comparing 2005 with 2008, with the percentages by age group as follows:

	<21	21-30	31-40	>40
2005	9	44	27	19
2008	10	47	25	18

NFLIS data revealed that marijuana/cannabis was detected in the highest number of laboratory tests in 2008 ($n=11,420$), representing 37.8 percent (exhibit 6).

APPD urinalysis data of adults on probation or parole continued to detect the presence of marijuana in more samples than any other drug, with 47.3 percent of the tests having been positive for marijuana in the first 5 months of 2009 (exhibit 7).

The NDIC reported the street-level prices for marijuana, as of June 30, 2008, as \$10–\$20 for a “nickel bag,” unchanged from the report from 6 months earlier.

Focus group participants since the spring of 2004 continued to report the increasing use of flavored cigars for marijuana blunt smoking. These groups and outreach workers continued to report that marijuana use was widespread throughout Philadelphia.

The most frequently reported drugs used in combination with marijuana in 2008 were PCP, alprazolam, clonazepam, and heroin. Comments by users continued to underscore the common practice of multiple drug use, either simultaneously or sequentially.

Cocaine/Crack

Although cocaine was unquestionably a significantly problematic drug of abuse in Philadelphia, several indicators of use and abuse declined in 2008. Exhibit 1, treatment admissions data, shows cocaine as ranking first from 2004 through 2007, and ranking second in 2008. African Americans accounted for 66.7 percent of cocaine treatment mentions in 2008, followed by Whites (29.7 percent); Hispanics of any race (11.4 percent); and Asians and others (3.5 percent). Male cocaine admissions increased from 58 percent to 70.4 percent in 2008. The population entering treatment has been increasingly over age 40 since 2006, with 44.7 percent of all cocaine admissions being over age 40 in 2008.

While deaths with the presence of cocaine continued to rank first in 2008, the numbers of annual cases have been declining (exhibit 3). ME

data show that cocaine was present in 338 of the 1,040 decedents in 2008 (32.5 percent of all drug-positive cases). This was the lowest percentage since at least 1996, with cocaine being detected in each of those years in no less than 40 percent of the cases, with the exception of 2003 (38.8 percent). The percentages of the various causes of death with the presence of cocaine in 2008 are shown in exhibit 8.

NFLIS data revealed that cocaine was detected in the second highest number of laboratory tests ($n=11,304$) in 2008, accounting for 37.4 percent of all tests (exhibit 6).

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the presence of cocaine in 25.8 percent of the tests, which reflected the continued decline of cocaine positivity (exhibit 7). Cocaine continued to rank second in the nine-drug APPD panel.

The NDIC reported the street-level price for crack cocaine as of June 30, 2008 as \$5–\$10 per rock, and for cocaine HCl (hydrochloride) powder as \$70–\$100 per gram, unchanged from the report from 6 months earlier. According to key informants, the most common form of cocaine sold in Philadelphia was the rock, which usually cost \$5. Powder cocaine was sold in \$10 and \$20 bags.

The most commonly reported drugs used in combination with cocaine were marijuana, alcohol, and heroin, as evidenced in treatment admissions, mortality data, and focus groups.

Alcohol

Treatment admissions data (exhibit 1) revealed that alcohol ranked second from 2004 through 2007, and ranked third in 2008. African Americans accounted for 72.5 percent of alcohol treatment mentions in 2008, up from 61 percent in 2001. Whites comprised 24.6 percent of treatment admissions in 2008, down from 33 percent in 2001. Hispanics (of any race) comprised 11.3 percent of treatment admissions in 2008, up from 5 percent in 2001. Asians and all others comprised 2.9 percent of treatment admissions in 2008, down from 6 percent in 2001. Alcohol treatment

admissions by gender have been fluctuating from 2001 to 2008: 28 percent female in 2001; 32 percent female in 2003; 19 percent female in 2006; and 22 percent female in 2008. At 41.4 percent in 2008, clients over 40 continued as the largest age group entering treatment.

While deaths with the presence of alcohol-in-combination changed from ranking second from 2003 through 2007 to ranking third in 2008, the number of cases declined for the second consecutive year (exhibit 3). ME data show that alcohol-in-combination was present in 223 of the 1,040 decedents in 2008 (21.4 percent of all drug-positive cases). This was the lowest percentage since at least 1996. The percentages of the various causes of death with the presence of alcohol-in-combination in 2008 are shown in exhibit 8.

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the stable presence of alcohol at 5.5 percent, reflecting stability since 2006 (exhibit 7). Alcohol continued to rank seventh in the nine-drug APPD panel.

The most commonly reported drugs used in combination with alcohol were cocaine and marijuana, as evidenced in treatment admissions, mortality data, and focus groups.

Heroin/Morphine

According to DEA DMP data, the average street-level purity of heroin in Philadelphia declined every year from 2000 (73.0 percent) through 2004 (51.6 percent), and stood at 56.3 percent in 2007 (exhibit 9). All of these purity levels were among the highest in the United States for many years. The price per milligram pure was reportedly 71 cents.

Treatment admissions data, exhibit 1, revealed that heroin has consistently ranked fourth from 2004 through 2008. The proportion of African Americans entering treatment for heroin declined from 42 percent in 2001 to 23.9 percent in 2008, while Whites entering treatment increased from 54 to 68.9 percent. The percent of Hispanics (of any race) fluctuated from 14 percent in 2001, to 8.5 percent in 2003, to 16 percent in both 2005

and 2006; it was 15.7 percent in 2008. Asians and others comprised 4 percent in 2001; 8.8 percent in 2005; and 7.2 percent in 2008. Heroin treatment admissions by gender showed that female admissions went from a high of 35 percent in 2001, to 22 percent in 2006, to 26.5 percent in 2008. At 41.3 percent in 2008, clients age 21–30 continued as the largest age group entering treatment.

In 2008, deaths with the presence of heroin increased over 2007 (exhibit 3). ME data show that heroin was present in 246 of the 1,040 decedents in 2008 (23.7 percent of all drug-positive cases). The percentages of the various causes of death with the presence of heroin/morphine in 2008 are shown in exhibit 8.

NFLIS data revealed that heroin was detected in the third highest number of laboratory tests ($n=3,316$) in 2008, representing 11.0 percent of the total sample (exhibit 6).

The NDIC reported the mid-year 2008 prices for street-level heroin as \$65–\$150 per gram, or \$10–\$20 per “bag.”

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the presence of opiates/opioids in 14.1 percent of the tests, a slight increase, compared with 2006 through 2008 (exhibit 7). Opiates/opioids ranked fifth in the APPD data in the first 5 months of 2009.

Other Opioids

The nonmedical use of pharmaceutically produced opioid products continued to be reported by individuals entering treatment. Mentions of “Other Opiates/Synthetics” by clients admitted to treatment programs were comparatively low from 2006–2008 (exhibit 1). The percentages of the various causes of death with the presence of any opioid in 2008 are shown in exhibit 8.

Oxycodone

Oxycodone was detected in 992 decedents from 1996 through 2008, the sixth most frequently detected drug during that time period (exhibit 3). Detections of oxycodone have been rapidly

increasing since 2000. The 2008 annual total, 183, exceeds the previous high of 148 in 2006. In 2008, oxycodone was present in 17.6 percent of all drug-positive deaths.

The 2008 NFLIS data revealed that oxycodone was detected in the fifth highest number of laboratory tests ($n=860$) in 2008, accounting for 2.8 percent of the drug-positive samples (exhibit 6).

DEA ARCOS data revealed a 74.1-percent increase in the retail distribution of oxycodone from 2000 to 2006, and an additional 12.6-percent increase from 2006 to 2007.

Methadone

The reader is cautioned in interpreting data in this section. Throughout all indicators, it was uncertain whether methadone was used as directed by a physician for the management of pain, as a prescribed adjunctive measure in addictions treatment, and/or in an abusive or recreational manner.

The ME detected methadone in 113 or more cases in each year from 2004 to 2008. There were 120 deaths with the presence of methadone in 2008, and 932 in the 13-year period 1996–2008 (exhibit 3). Deaths with methadone ranked seventh in this period.

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the continued stable presence of methadone in 14.5 percent of the tests (exhibit 7). Some clients on probation or parole were enrolled in medication assisted treatment programs.

Hydrocodone

Hydrocodone detections in mortality cases have shown some increases in recent years. There were 51 positive toxicology reports in 2004; 66 in 2005; 63 in 2006; 46 in 2007; and 69 in 2008. Hydrocodone detections ranked 11th among all deaths with positive toxicology reports in the 14-year period 1994–2007; it ranked 16th in 2008.

The 2008 NFLIS data revealed that hydrocodone was detected in the eighth highest number

of laboratory tests ($n=165$) in 2008, accounting for 0.5 percent of the drug-positive samples (exhibit 6).

DEA ARCOS data revealed a 37.1 percent increase in the retail distribution of hydrocodone from 2000 to 2006 and an additional 3.6 percent increase from 2006 to 2007.

Codeine

Medications that contain codeine were also commonly abused in Philadelphia. The ME detected codeine in 120 cases or more in each year from 2003 through 2008. In the 13-year period ending December 2008, deaths with the presence of codeine ranked fourth (exhibit 3).

Propoxyphene

Propoxyphene detections in mortality cases ranked 11th for the 13-year period 1996 through 2008 ($n=502$), with 42 cases having occurred in 2008.

Benzodiazepines

Benzodiazepines, particularly alprazolam, continued to be used in combination with other drugs.

Annual treatment admissions data declined from 1,165 in 2004 to 272 in 2007, but increased to 512 in 2008 (exhibit 1). African Americans accounted for 47 percent of benzodiazepine treatment mentions in 2008, followed by Whites (31 percent); Hispanics of any race (10 percent); Asians and others (2 percent); and unknown/unrecorded (10 percent). Seventy-seven percent were male, and 60 percent were age 30 or younger. Benzodiazepines were mentioned in 3.5 percent of primary treatment admissions.

The ME detected the presence of any benzodiazepine in 27.6 percent of drug-positive decedents in 2008. The percentages of the various causes of death with the presence of any benzodiazepine in 2008 are shown in exhibit 8.

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed

the presence of benzodiazepines in 14.5 percent of the tests (exhibit 7).

Alprazolam

Alprazolam was detected in 743 decedents from 1996 through 2008 ($n=172$ in 2008), making it the ninth most frequently detected drug during that time period. Since 2006, decedents with alprazolam have exceeded those with diazepam in their system (exhibit 3).

NFLIS data for 2008 revealed that alprazolam was detected in the fourth highest number of laboratory tests ($n=884$), accounting for 2.9 percent (exhibit 6).

Diazepam

Diazepam was detected in 886 decedents from 1996 through 2008 ($n=120$ in 2008), making it the eighth most frequently detected drug during that time period (exhibit 3).

NFLIS data for 2008 revealed that diazepam was detected in the 10th highest number of laboratory tests in 2008 ($n=79$), accounting for 0.3 percent; clonazepam ranked 9th with 140 detections in 2008, for 0.5 percent of the NFLIS results (exhibit 6).

Benzodiazepine abuse continued to be reported by focus group participants as common among users of heroin, oxycodone, and marijuana. Since spring 2000, all focus groups have reported that alprazolam has overtaken diazepam as the “most popular pill” on the street.

Phencyclidine (PCP)

PCP began to gain popularity as an additive to marijuana blunts in 1994, and its use increased up to the beginning of 2004. Since then, users have frequently noted an aversion to “bad trips” and unpredictable experiences while on PCP. This drug is commonly reported as used in combination with alcohol.

Mentions of PCP use at admission to treatment declined from 563 in 2004 to 347 in

2005, remained relatively stable for 2 years, and increased to 458 in 2008 (exhibit 1). In 2008, when gender was recorded, males comprised 81 percent of treatment admissions. When race/ethnicity was recorded, African Americans accounted for 68.5 percent, followed by Hispanics of any race (29.2 percent); Whites (23.8 percent); and Asians and others (7.8 percent).

PCP is a drug of the young. Focus group participants indicated that the main usage period is from the mid-teens to the mid- to late twenties. Treatment admissions data confirm this. In 2008, 65 percent of treatment admissions were in the 21 to 30 age group.

PCP was detected in 607 decedents from 1996 through 2008, making it the 10th most frequently detected drug during that time period. Of these, 61 cases occurred in 2008 (exhibit 3). In 2008, the primary cause of death was homicide in 47.5 percent of the 61 deaths ($n=29$) recorded when PCP was detected in a decedent. Of these, 23 were African-American males with a median age of 26 years and a mean age of 27.3 years. The percentages of the various causes of death with the presence of PCP in 2008 are shown in exhibit 8.

NFLIS data revealed that PCP was detected in the sixth highest number of laboratory tests in 2008 ($n=782$), accounting for 2.6 percent of the total (exhibit 6).

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the presence of PCP in 12.2 percent of the tests, continuing a slowly increasing proportion since 2006 (exhibit 7). PCP positivity continued to rank sixth in the nine-drug APPD panel.

Antipsychotics

ME toxicology reports revealed the presence of antipsychotics. 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 that have been most frequently detected from 2004 through 2008 have been promethazine ($n=180$), quetiapine ($n=142$), and olanzapine ($n=128$). The five drugs that were most frequently detected in decedents who also tested positive for an antipsychotic drug from 2004 through 2008 were: cocaine ($n=132$); codeine ($n=125$); heroin ($n=116$); alcohol ($n=101$); and alprazolam ($n=98$).

Antidepressants

In 2008, 16.4 percent ($n=171$) of all deaths with the presence of drugs tested positive for at least one antidepressant. Of these, just over one-half died as a result of an adverse reaction to drugs ($n=68$) or an overdose ($n=18$) (exhibit 8). The antidepressants that were most frequently detected by the ME were citalopram ($n=65$), mirtazepine ($n=34$), and sertraline ($n=29$).

Methamphetamine, Amphetamines, and MDMA

Methamphetamine and amphetamines remained a relatively minor problem in Philadelphia. Use of these drugs appeared to be confined to a small portion of the population. Treatment admissions data revealed a miniscule proportion of methamphetamine mentions in 2008 (0.01 percent) and amphetamine mentions (0.3 percent) (exhibit 1).

ME data revealed that from 2004 through 2008, there were 209 detections of methamphetamine, other amphetamines, and 3,4-methylenedioxymethamphetamine (MDMA) in 111 decedents. In the 15-year period 2004 through 2008, the detection of these drugs ranked as follows: methamphetamine—43rd; amphetamine—50th; and MDMA—61st.

NFLIS data for 2008 revealed that out of 30,238 drug-positive results, MDMA ranked 14th ($n=57$), methamphetamine ranked 15th ($n=53$), 3,4-methylenedioxyamphetamine (MDA) ranked

18th ($n=18$), and amphetamine ranked 22nd ($n=10$). Together these detections accounted for less than 0.5 percent of the NFLIS results.

APPD urinalysis data of adults on probation or parole in the first 5 months of 2009 revealed the presence of amphetamines in 0.6 percent of the tests, which continues to place such drugs last in the nine-drug APPD panel (exhibit 7).

The NDIC reported the street-level prices as of June 30, 2008 as follows: methamphetamine powder, \$42–\$100 per gram, or \$125–\$175 per $\frac{1}{8}$ ounce; methamphetamine crystal (“ice”), \$100 per gram, or \$350–\$500 per $\frac{1}{8}$ ounce; MDMA, \$8–\$35 per tablet.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

As of December 31, 2008, Philadelphia recorded 19,172 cumulative AIDS cases among adults (exhibit 11). Among those cases, 6,424 involved injection drug users (IDUs) or needle-sharers.

Another 843 were in the dual exposure category of IDUs who were also men who had sex with other men (MSM).

Cases reported as of December 31, 2008, with heterosexual contact as a risk factor continued to exceed the historical proportion. Heterosexual contact was the identified exposure category in 26.4 percent of all AIDS cases.

For inquiries concerning this report, contact Samuel Cutler, City of Philadelphia, Department of Behavioral Health and Mental Retardation 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 Drugs of Abuse Mentioned at Admission to Treatment by Uninsured Persons, Philadelphia: 2004–2008

Drugs Mentioned	2004	2005	2006	2007	2008
Marijuana	3,153	3,120	3,647	3,384	3,592
Cocaine	4,818	5,151	4,701	3,859	3,439
Alcohol	4,232	3,835	3,893	3,406	3,378
Heroin	3,124	3,107	3,578	2,775	2,503
Benzodiazepines	1,165	626	307	272	512
Other Sedatives/Hypnotics	34	489	968	692	463
Phencyclidine (PCP)	563	347	368	325	458
Other Hallucinogens	101	106	261	192	169
Other Opiates/Synthetics	1,042	483	105	87	136
Other Amphetamines	41	29	79	49	46
Inhalants	6	9	10	11	8
Barbiturates	80	26	1	1	3
Methamphetamine	37	33	2	2	2
Other Tranquilizers	17	14	1	1	0
Over-the-Counter	6	3	0	5	0
Other (Not Listed)	133	160	140	84	32
Total	18,552	17,538	18,061	15,145	14,741

SOURCE: Behavioral Health Special Initiative Client Data System

Exhibit 2. Characteristics of Clients who Entered Treatment, Philadelphia: 2007 and 2008

	Percent in 2007	Percent in 2008
Gender		
Male	76.5	70.9
Female	23.5	22.5
Unknown	–	6.6
Race / Ethnicity		
African American	55.2	56.8
White	34.2	32.6
Asian/Other Race	4.7	3.7
Unknown/Unrecorded	5.9	6.9
Hispanic (any race)	12.0	12.1
Route of Administration		
Smoking	45.2	47.1
Oral	28.3	32.6
Injection / Skin Popping	8.0	8.7
Intranasal	0.4	1.6
Unknown Route	18.1	9.9
Age		
Younger than 21	4.0	4.6
21–30	36.1	37.3
31–40	28.4	27.6
41 and Older	31.5	30.5

SOURCE: Behavioral Health Special Initiative Client Data System

Exhibit 3. Number of Mortality Cases with the Presence of the 10 Most Frequently Detected Drugs by the Medical Examiner, Philadelphia: 1996–2008

ME-Identified Drugs	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Cocaine	277	304	218	238	321	300	270	326	399	423	552	389	338	4,355
Heroin/Morphine	290	336	249	236	332	316	275	208	214	215	337	228	246	3,482
Alcohol-in-Combination	182	214	157	179	197	185	153	290	219	323	386	264	223	2,972
Codeine	19	20	3	15	19	45	57	120	120	139	191	153	152	1,053
Diphenhydramine	5	4	9	25	33	53	42	116	129	113	179	170	172	1,050
Oxycodone	1	14	29	17	49	53	68	81	103	119	148	127	183	992
Methadone	26	24	10	36	36	46	55	79	132	113	139	116	120	932
Diazepam	35	58	39	67	46	56	28	66	88	77	117	89	120	886
Alprazolam	17	18	19	8	16	31	27	45	72	68	129	121	172	743
Phencyclidine (PCP)	29	46	19	35	48	45	51	58	28	42	74	71	61	607
Total Deaths with the Presence of Drugs	565	607	534	533	680	661	593	841	888	904	1,153	964	1,040	9,963
Total Drugs Mentioned	1,121	1,282	1,039	1,232	1,637	1,857	1,589	2,672	3,330	3,336	4,797	3,531	3,908	31,331
Avg. Number of Drugs Per Death	1.98	2.11	1.95	2.31	2.41	2.81	2.68	3.18	3.75	3.69	4.16	3.66	3.76	3.14

SOURCE: Philadelphia Medical Examiner’s Office

Exhibit 4. Causes of Annual Mortality Cases Among Decedents with Positive Toxicology Reports for Drugs, as Determined by the Medical Examiner (ME), by Percent, Philadelphia: 2002–2008

ME-Identified Cause	2002	2003	2004	2005	2006	2007	2008
Adverse Effect of Drugs	57.7	30.4	31.0	40.2	41.1	33.2	36.9
Overdose	2.5	6.3	10.1	6.7	6.2	7.6	6.3
Homicide	11.6	17.2	16.3	17.4	17.1	19.6	15.4
Suicide	5.6	10.5	8.3	9.2	6.2	9.0	10.0
Other Causes ¹	22.6	35.6	34.2	26.5	29.4	30.6	31.3

¹“Other Causes” includes deaths with the presence of drugs caused by accident, injury, drowning, or a health or physical malady.

SOURCE: Philadelphia Medical Examiner’s Office

Exhibit 5. Average Number of Drugs Detected in Decedents by Cause of Death, as Determined by the Medical Examiner (ME), Philadelphia: 2004–2008

ME-Identified Cause	2004	2005	2006	2007	2008
Adverse Effect of Drugs	4.68	4.15	5.28	4.25	4.68
Overdose	5.12	5.30	5.68	4.39	5.53
Homicide	2.84	2.73	2.86	2.55	2.57
Suicide	2.91	3.00	2.73	3.08	2.65
Other Causes ¹	3.18	3.46	3.30	3.28	3.22
Average	3.75	3.69	4.16	3.66	3.76

¹“Other Causes” includes deaths with the presence of drugs caused by accident, injury, drowning, or a health or physical malady.
SOURCE: Philadelphia Medical Examiner’s Office

Exhibit 6. Number and Percentage¹ of the Top 10 Drugs Detected in the National Forensic Laboratory Information System, Philadelphia: CY 2008

Drug	Count	Percent
Marijuana	11,420	37.8
Cocaine	11,304	37.4
Heroin	3,316	11.0
Alprazolam	884	2.9
Oxycodone	860	2.8
Phencyclidine (PCP)	782	2.6
Codeine	216	0.7
Hydrocodone	165	0.5
Clonazepam	140	0.5
Diazepam	79	0.3
Total Count	30,238	100

¹ Percentages may not sum to 100 due to rounding.
SOURCE: NFLIS, DEA

Exhibit 7. Percentage of Positive Urinalysis Results for Adults in Probation or Parole Status, Philadelphia: January 2006 through May 2009

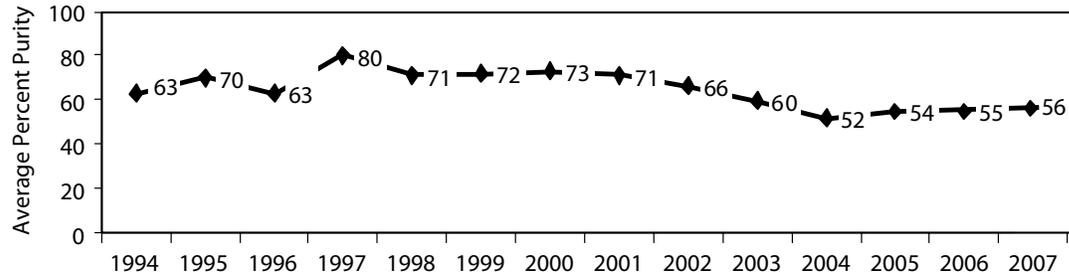
Drug/Drug Group	2006	2007	2008	1/1 to 5/31/09
Marijuana	44.0	46.8	45.8	47.3
Cocaine	36.3	34.1	29.7	25.8
Methadone	14.5	13.6	14.4	14.5
Benzodiazepines	11.1	12.0	14.9	14.5
Opiates/Opioids	11.7	11.2	13.2	14.1
Phencyclidine (PCP)	9.5	10.9	12.0	12.2
Alcohol	5.4	5.4	5.3	5.5
Barbiturates	1.6	1.5	1.6	1.5
Amphetamines	0.4	0.6	1.4	0.6
Total Tests per Time Period	41,689	47,388	60,126	20,940
Total Positive Tests	18,019	20,551	25,759	8,507
Percent Positive Tests	43.2	43.4	42.8	40.6

SOURCE: Philadelphia Adult Probation and Parole Department

Exhibit 8. Percentage of Cause of Death, by Selected Drugs Present in Decedents, Philadelphia: CY 2008

Drug/Drug Group	Adverse Effect	Overdose	Homicide	Suicide	Other Causes
Cocaine	58.9	4.1	14.8	7.7	14.5
Alcohol-in-combination	36.3	8.1	12.1	15.2	28.3
Heroin/morphine	63.0	7.7	8.1	1.6	19.5
Any other Opioid	51.6	9.6	10.5	5.1	23.2
Phencyclidine (PCP)	26.2	6.6	47.5	16.4	3.3
Any Benzodiazepine	51.6	12.5	9.4	5.2	21.3
Any Antidepressant	39.8	10.5	4.1	9.4	36.2
Any Antipsychotic	33.0	10.4	14.8	7.8	33.9
All Deaths with Positive Toxicology Reports	36.9	6.3	15.4	10.0	31.3

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 9. Average Percentage¹ of Purity of Street-Level Heroin in Philadelphia: 1994–2007

¹Percentages are rounded to the nearest whole number.

SOURCE: HDMP, DEA

Exhibit 10. Total Number of Antipsychotic Drugs Detected in Drug-Positive Decedents, Compared with Unique Number of Decedents Testing Positive for at Least One Antipsychotic Drug, and Average Number of Drugs Detected in Antipsychotic-Positive Cases, as Determined by the Medical Examiner, Philadelphia: 2004–2008

	Total Number of Antipsychotic Drugs Detected in Drug-Positive Decedents	Unique Number of Decedents Testing Positive for at Least One Antipsychotic Drug	Average Number of Drugs Detected
2004	99	96	4.43
2005	99	92	4.38
2006	105	100	4.38
2007	95	91	4.32
2008	117	115	5.35

SOURCE: Philadelphia Medical Examiner's Office

Exhibit 11. Adult AIDS Cases by Exposure Category, Philadelphia: Cumulative Totals November 1, 1981 Through December 31, 2008

Exposure Category	November 1, 1981 to December 31, 2008	
	Number	Percent
IDU ¹	6,424	33.5
MSM ² and IDU	843	4.4
MSM	6,281	32.8
Heterosexual Contact	5,069	26.4
All Others	555	2.9
Total Adult Cases	19,172	

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: 2008

James K. Cunningham, Ph.D.¹

ABSTRACT

After rising for 6 consecutive years and reaching a plateau in 2006, amphetamine-related hospital admissions in the Phoenix area declined in 2007, and again in 2008. Cocaine-related hospital admissions declined in both 2007 and 2008. In contrast to amphetamine- and cocaine-related admissions, heroin/opioid-related hospital admissions rose in 2008. This rise was pronounced among Whites, but the number of heroin/opioid-related admissions among Latinos changed little in 2008. Gender varied by type of drug: among heroin/opioid-related hospital admissions in 2008, males (50.9 percent) and females (49.1 percent) were evenly divided; among amphetamine-related admissions, males (53.5 percent) slightly outnumbered females (46.5 percent); among cocaine-related admissions, males (66.7 percent) outnumbered females (33.3 percent) by 2:1. Age varied by drug type. In 2008, the median ages for heroin/opioid-related admissions, cocaine-related admissions, and amphetamine-related admissions were 45, 41, and 36, respectively. During the 5-year period from 2004 to 2008, the median age increased by 1 year for heroin/opioid-related admissions, 2 years for cocaine-related admissions, and 4 years for amphetamine-related admissions. Reports of clandestine methamphetamine laboratory incidents in Arizona decreased from 17 during the first half of 2008 to 10 in the second half. Eleven tunnels were discovered by law enforcement in Nogales (an Arizona-Mexico border city) during July–December 2008.

¹The author is affiliated with the Department of Family and Community Medicine, College of Medicine, The University of Arizona, Tucson, Arizona.

Intelligence information suggested that multi-kilogram quantities of cocaine were being stored at stash houses or warehouses in the Nogales, Tucson, and Phoenix areas of Arizona. Violence and changes in leadership associated with Mexican drug trafficking organizations have reportedly made it more difficult to transport cocaine from Mexico to Arizona. During January–June of 2008, there were 17 armed robberies at pharmacies for oxycodone or hydrocodone; during July–October 2008, there were only 2 such robberies. 3,4-Methylenedioxymethamphetamine (MDMA) indicators were low. Emergent human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) rates related to injection drug use appeared to have declined slowly but steadily over the past several years.

INTRODUCTION

Area Description

Arizona increased in population by 26.7 percent from 2000 to 2008, from 5,130,607 to 6,500,180 (U.S. Census, Arizona Department of Economic Security). Maricopa County, which includes the State's capital, Phoenix, is Arizona's primary population center, with an estimated 3,954,598 residents in 2008, an increase of 28.7 percent since 2000. It ranks fourth in population among U.S. counties. In Maricopa County in 2008, 60.4 percent of the population were White (non-Latino), 30.0 percent were Latino, 4.5 percent were Black, 2.9 percent were Asian, and 2.0 percent were American Indian/Alaska Native. Maricopa County is located in the central part of the State and includes more than 20 cities/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.

Pima County—which is located south of Phoenix, borders Mexico, and includes Tucson—is the second largest population center in Arizona (population estimate: 1,012,018 in 2008). In this report, counties other than Maricopa and

Pima are grouped together and referred to as the Arizona rural counties.

Data Sources

This report is based on the most recent available data obtained from the following sources:

- **Treatment 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.
- **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.
- **Emergency department (ED) drug-involved visits weighted to reflect the total number of visits** were obtained from the Drug Abuse Warning Network (DAWN), a drug surveillance system administered by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA).
- **Unweighted emergency department (ED) drug visit data** were accessed on May 31, 2009 through DAWN *Live!*, a restricted-access online service administered by OAS, SAMHSA. Participation by EDs in the DAWN sample was incomplete; the completeness of data reported by participating EDs varied by month (exhibit 1). Unweighted numbers are presented. These numbers represent drug reports involved in drug-related visits for illicit drugs and the non-medical use of selected prescription drugs. Drug reports exceeded the number of ED visits because a patient could report use of multiple drugs (up to six drugs plus alcohol). Since all DAWN cases are reviewed for quality control, the data may be corrected or deleted, and, therefore, are subject to change. The DAWN

Live! data do not represent weighted estimates of ED visits and cannot be compared across CEWG areas or across data collection years. A full description of the DAWN system can be found at <http://dawninfo.samhsa.gov>.

- **Law enforcement data**, including purity and price information, were obtained from the Drug Enforcement Administration (DEA) Phoenix Field Division, Intelligence Biannual Trends Report, July–December 2008.
- **Self-reported youth drug use data** were obtained from the Maricopa, Arizona Criminal Justice Commission's 2008 Arizona Youth Survey, Maricopa.
- **Forensic drug analysis data** were obtained from the National Forensic Laboratory Information System (NFLIS), DEA.
- **Clandestine laboratory data** were obtained from the National Clandestine Laboratory Database, DEA.
- **Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) data** were obtained from the Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/STD Services, *HIV/AIDS Annual Report, February 2009*.
- **Population data** were obtained from the U.S. Census Bureau.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

In Maricopa County during 2007 and 2008, cocaine was the fifth most common primary drug associated with treatment episodes (exhibit 2).

Cocaine-related inpatient hospital admissions in Maricopa County (Phoenix area) declined in 2008 (exhibit 3), and were lower than heroin/opioid-related and amphetamine-related admissions (amphetamine admissions include

methamphetamine). Among cocaine-related hospital admissions, males (66.7 percent) outnumbered females (33.3 percent) by approximately 2:1. During the 5-year period from 2004 to 2008, the median age for cocaine-related admissions increased by 2 years to age 41 (exhibit 4).

Cocaine items reported to NFLIS decreased in 2008 compared to 2007 (exhibit 5). Cocaine was the third most common item reported by NFLIS for Maricopa County (exhibit 5), and was among the three most common drugs reported to DAWN *Live!* in 2008 (exhibit 6). Approximately 10.8 percent of students in grade 12 in Maricopa County reported using cocaine sometime during their lifetime (exhibit 7).

In 2008, the average purity of cocaine was estimated to be around 66–68 percent (exhibit 8). The price of 1/8 ounce of powder cocaine was approximately \$100–\$140; the price of a rock of crack cocaine was approximately \$20 (exhibit 9). Purity and price estimates in this report are based on relatively small numbers of seizures and should be considered with caution.

In 2008, cocaine-related inpatient hospital admissions declined in Pima County (Tucson area) and in Arizona's rural counties (exhibits 10 and 11).

DEA intelligence information suggested that multikilogram quantities of cocaine were being stored at stash houses or warehouses in the Nogales (a border city), Tucson, and Phoenix areas of Arizona. Violence and changes in leadership associated with drug trafficking organizations have reportedly made it more difficult to transport cocaine from Mexico to Arizona. Eleven tunnels were discovered by law enforcement in Nogales during July–December 2008.

Heroin

ADHS/DBHS data indicated that primary heroin treatment episodes, as a percentage of total treatment admissions, increased from 10 percent in 2007 to 14 percent in 2008, tying with marijuana as the third most common drug reported by clients admitted to treatment (exhibit 2). Heroin/

opioid-related inpatient hospital admissions in Maricopa County increased in 2008 (the percentage of such admissions that are specific to heroin only is not known) (exhibit 3). Males (50.9 percent) and females (49.1 percent) were evenly divided among heroin/opioid-related hospital admissions in 2008. The rise in heroin/opioid-related hospital admissions was pronounced among Whites, but the number of heroin/opioid-related admissions among Latinos changed little in 2008 (exhibit 12). During the 5-year period from 2004 to 2008, the median age increased by 1 year to age 45 for heroin/opioid-related admissions (exhibit 4).

The number of heroin items reported to NFLIS in 2008 was comparable to that reported in 2007 (exhibit 5). Heroin was the fourth most common drug submitted to NFLIS. Heroin was the sixth most common drug reported to DAWN *Live!* in 2008 (exhibit 6). In 2008, approximately 3.3 percent of students in grade 12 in Maricopa County reported using heroin/opiates sometime during their lifetime (exhibit 7).

The average purity of heroin was estimated to be approximately 63 percent in the fourth quarter of 2007, and approximately 60 percent in the second half of 2008 (exhibit 13). The price of an ounce of heroin was reported to range from \$1,400–\$1,600 among mid-level retailers (exhibit 9).

During 2008, heroin/opioid hospital admissions rose in Pima County (exhibit 10) and in Arizona's rural counties (exhibit 11).

Other Opiates/Narcotics

In both 2007 and 2008, approximately 3 percent of the treatment episodes in Maricopa County had opioids other than heroin/morphine identified as the primary drug of abuse (exhibit 2). In 2007 and 2008, oxycodone and hydrocodone were the fifth and sixth most common items, respectively, reported to NFLIS (exhibit 5). They were the fifth and seventh most commonly identified drugs reported to DAWN *Live!* in 2008 (exhibit 6). In 2008, approximately 24.4 percent of students in grade 12 in Maricopa County reported using

prescription pain relievers in a nonprescribed manner during their lifetime (exhibit 7).

During January–June 2008, there were 17 armed robberies at pharmacies for oxycodone or hydrocodone; during July–October 2008, there were only 2 such robberies, as reported by the DEA Phoenix Field Division. Street prices for illicit prescription drugs for 2008 are listed in exhibit 14.

Methamphetamine/Amphetamines

The percentage of treatment episodes associated with methamphetamine declined from 29 percent in 2007 to 25 percent in 2008. That said, methamphetamine treatment admissions outnumbered those associated with any of the other illicit drugs, including cocaine, marijuana, and heroin/morphine (exhibit 2).

After rising for 6 consecutive years and reaching a plateau in 2006, amphetamine-related hospital admissions (which included methamphetamine-related admissions) in the Phoenix area declined in 2007 and again in the first half of 2008 (exhibit 3). Among amphetamine-related admissions in 2008, males (53.5 percent) slightly outnumbered females (46.5 percent). During the 5-year period from 2004 to 2008, the median age for amphetamine-related admissions increased by 4 years to age 36 (exhibit 4).

Methamphetamine was the second most common drug item submitted to NFLIS (exhibit 5). It was among the three most common drugs reported to DAWN *Live!* (exhibit 6). In the second half of 2008, the average purity of quantities of methamphetamine that were less than 1 pound was estimated to be approximately 61 percent (exhibit 15). During December 2007–June 2008, the retail price of a gram of methamphetamine was estimated to be approximately \$70–\$120 (exhibit 9).

Clandestine laboratory incidents in Arizona reported to the National Clandestine Laboratory Database declined sharply from 2001 through 2008. The total number of incidents in 2008 was similar to that in 2007 (exhibit 16). Clandestine

laboratory incidents decreased from 17 during the first half of 2008 to 10 in the second half.

Marijuana

ADHS/DBHS data indicated that 14 percent of total treatment admissions in 2008 were associated with marijuana, tying with heroin as the third most common drug associated with treatment (exhibit 2). Marijuana was the fourth most common drug associated with DAWN *Live!* emergency department visits in 2008 (exhibit 6). Approximately 42.5 percent of students in grade 12 in Maricopa County reported using marijuana sometime during their lifetime (exhibit 7).

Marijuana/cannabis was the most common drug item submitted to NFLIS in 2008 (exhibit 5). The retail price of an ounce of marijuana was \$65–\$100 during the December 2007–June 2008 time period (exhibit 9).

Club Drugs

Treatment admissions associated with MDMA (3,4-methylenedioxymethamphetamine/ecstasy) and LSD (lysergic acid diethylamide) were relatively uncommon among treatment admissions in 2008 (such admissions were included in the “other” category of exhibit 2). Reports of MDMA and LSD were also relatively uncommon among ED admissions reported by DAWN *Live!* in 2008 (exhibit 6). Similarly, weighted estimates of ED visits rates for MDMA were low during 2005–2007 (exhibit 17); the number of ED visits for LSD was too low to estimate (consequently, LSD estimates are not provided in exhibit 17). Fifty-seven items containing MDMA were reported to NFLIS in 2008 (exhibit 5). There were no reports of LSD items being submitted to NFLIS in 2008.

Phencyclidine (PCP)

Indicators for PCP were low. Only 19 items containing PCP were reported to NFLIS in 2008 (note that PCP items are not shown in exhibit 5). Sixty-two DAWN *Live!* ED visits for PCP were reported

(exhibit 6). Weighted estimates of ED visits rates for PCP were low during 2004–2007 (exhibit 17).

Benzodiazepines/Barbiturates

Benzodiazepines were the most common drug category listed in the DAWN *Live!* ED visit system in 2008 (exhibit 6). Barbiturates were among the least common drugs listed in the DAWN *Live!* ED visit system in 2008 (exhibit 6).

Other Drugs

No 1-benzylpiperazine (BZP) items were reported to NFLIS in 2007, but a small number (11) of BZP items were reported in 2008 (exhibit 5). Weighted estimates of ED visit rates for inhalants were low during 2005–2007 (exhibit 17). Forty-seven items containing carisoprodol were reported to NFLIS in 2008, approximately the same number reported in 2007 (51) (exhibit 5). The DEA Phoenix Field Division noted one report of a cocktail called “purple drank,” which consists of codeine and promethazine, being available in Phoenix as well

as western Mexico. The codeine and promethazine were reportedly sold for \$10 per ounce. The codeine was obtained by prescription through medical clinics.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV/AIDS

In Arizona, 5-year emergent HIV/AIDS rates related to injection drug use appeared to have declined slowly but steadily over the past several years (exhibit 18).

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. DAWN ED Sample and Reporting Information, Phoenix: 2008

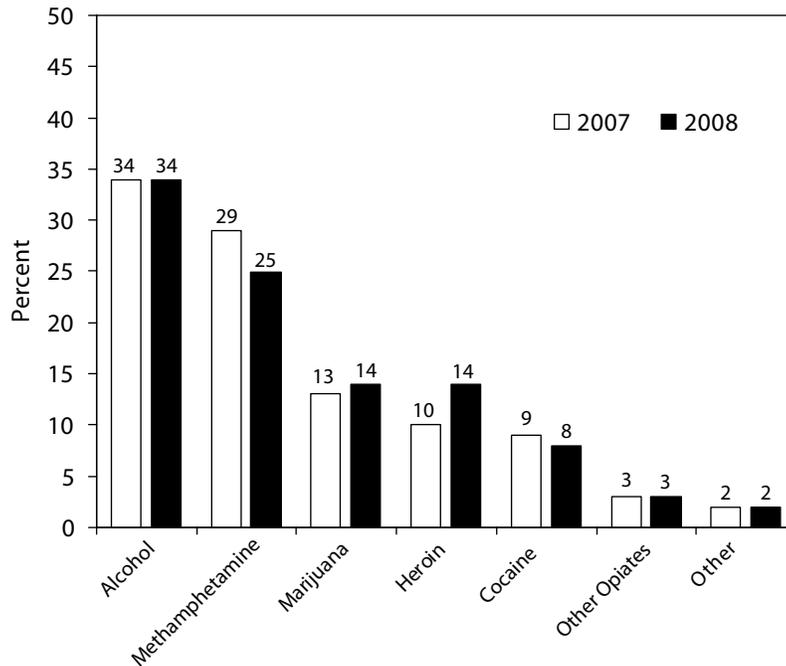
CEWG Area	Total Eligible Hospitals ¹	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample ²	No. of EDs Reporting per Month: Completeness of Data (percent)			No. of EDs Not Reporting
				90–100%	50–89%	<50%	
Phoenix	28	28	29	6–10	0–4	0–4	15–18

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

²Some hospitals have more than one ED.

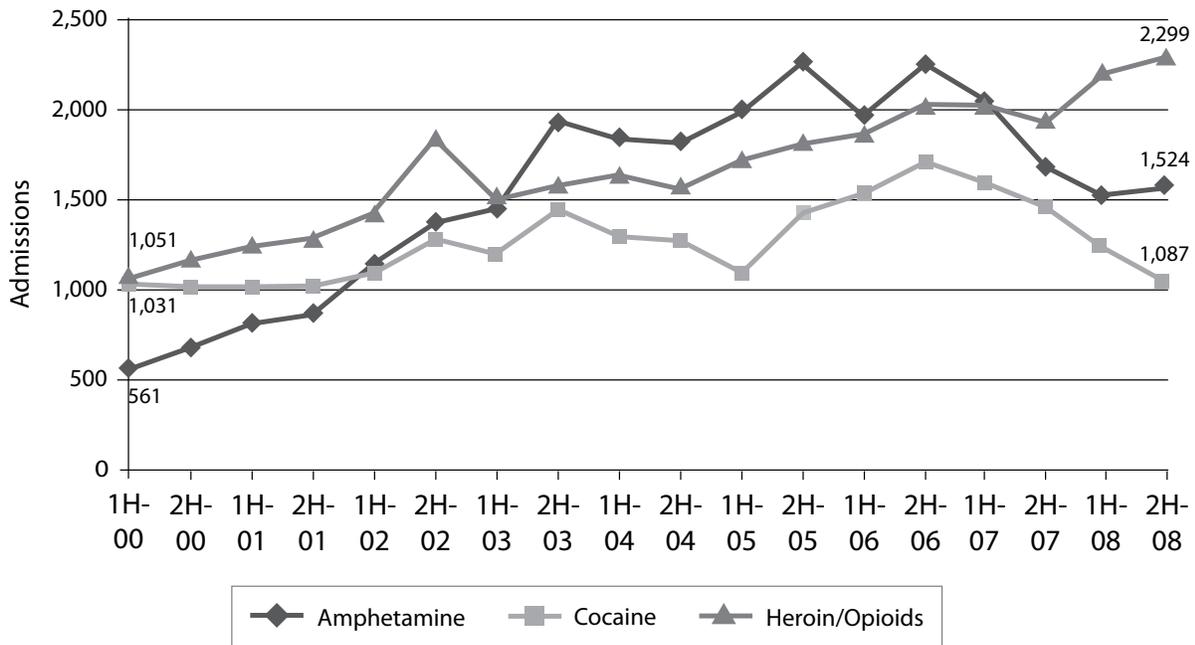
SOURCE: DAWN Live!, OAS, SAMHSA, accessed 5/31/2009

Exhibit 2. Treatment Episodes by Primary Substance Used, Maricopa County (Phoenix Area): 2007 and 2008



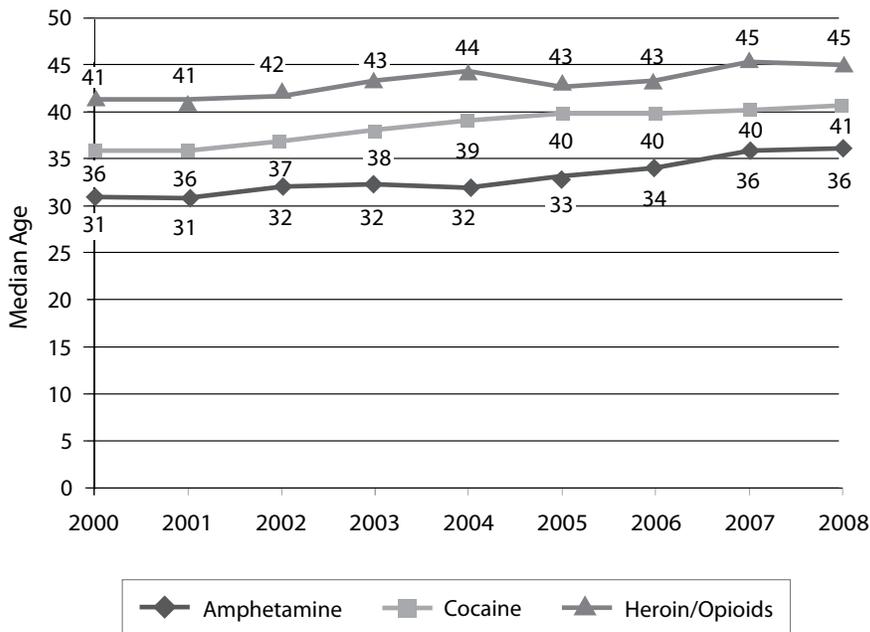
SOURCE: Arizona Department of Health Services

Exhibit 3. Amphetamine, Cocaine, and Heroin/Opioid-Related Hospital Admissions, Maricopa County (Phoenix Area): 2000–2008, in Half-Yearly Intervals



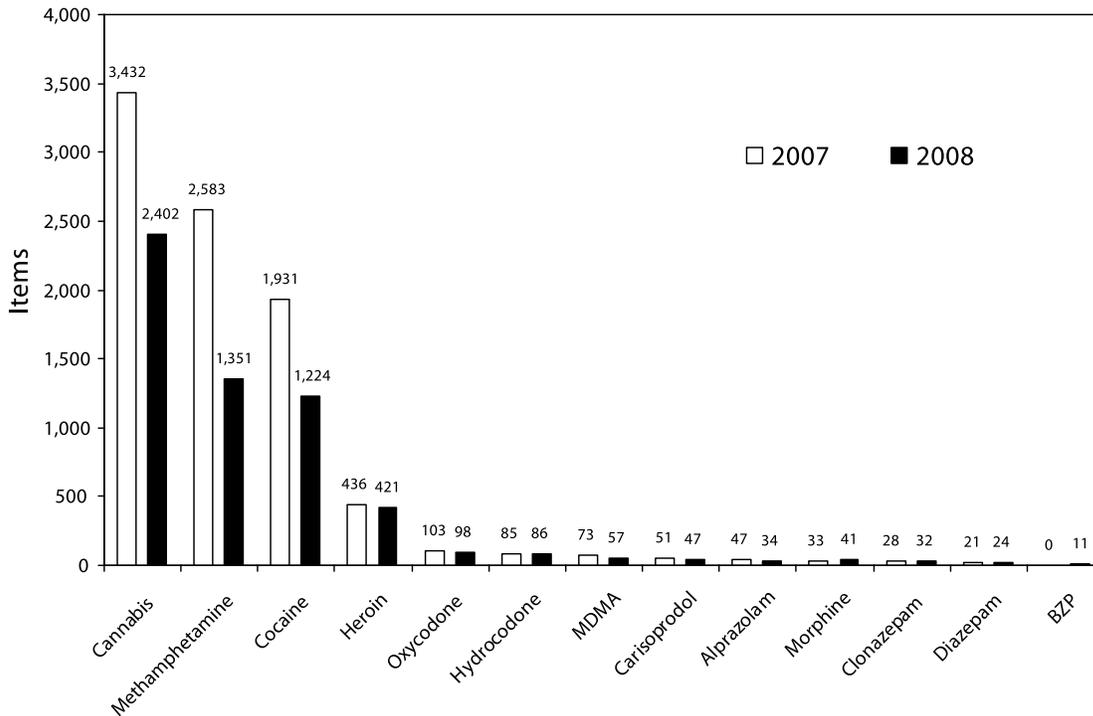
SOURCE: The University of Arizona, Department of Family and Community Medicine

Exhibit 4. Median Age, Drug-Related Hospital Admissions, Maricopa County (Phoenix): 2000–2008



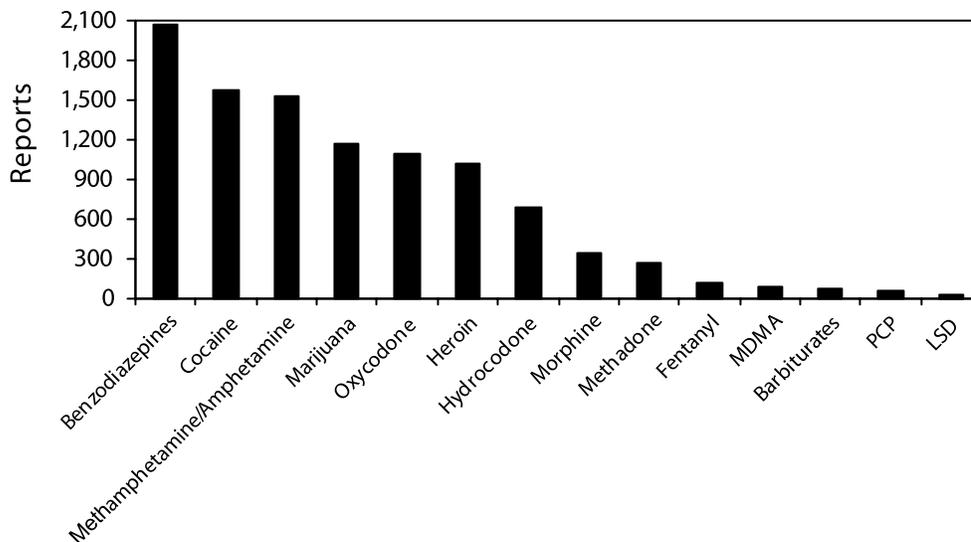
SOURCE: The University of Arizona, Department of Family and Community Medicine

Exhibit 5. Number of Drug Items Identified by Forensic Laboratories, Maricopa County (Phoenix Area): 2007 and 2008



SOURCE: NFLIS, DEA

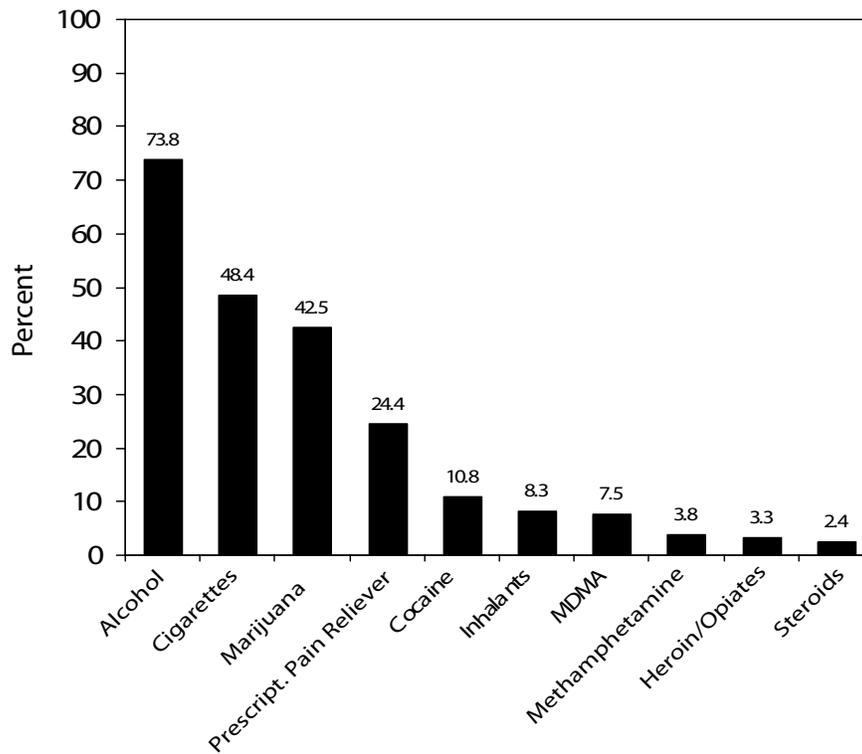
Exhibit 6. ED Reports from DAWN Live!¹ in Maricopa County (Phoenix Area): 2008



¹The data were accessed on 5/31/09 and include raw counts from selected hospitals. These numbers do not constitute estimates of the total number of ED visits in the Maricopa County area. All DAWN cases are reviewed for quality control. Based on this review, cases may be corrected or deleted. Therefore, these data are subject to change.

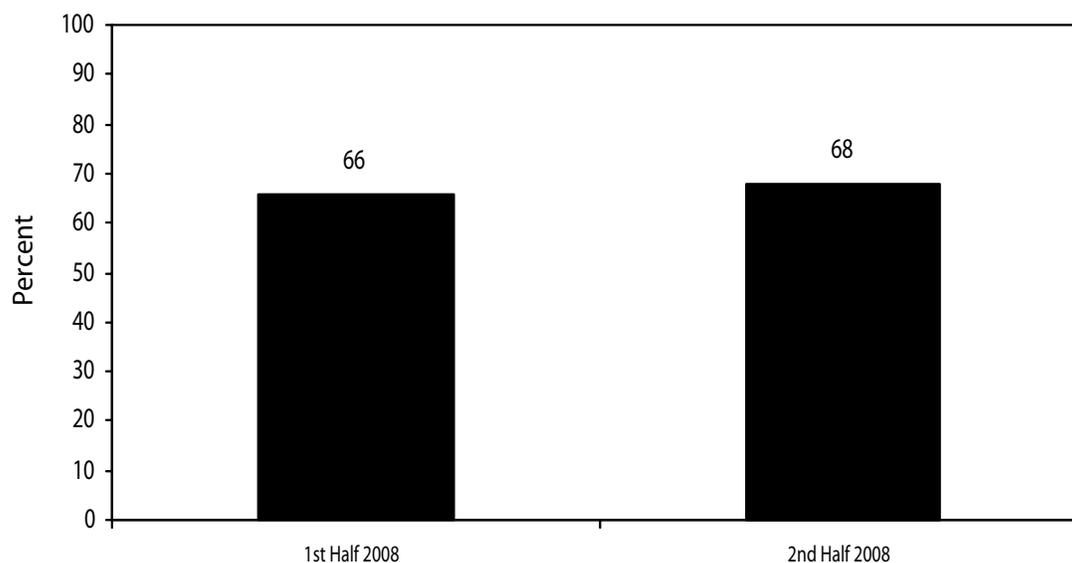
SOURCE: DAWN Live!, OAS, SAMHSA, accessed 5/31/09

Exhibit 7. Student Survey (Grade 12), Maricopa County (Phoenix Area), Percentage Reporting Lifetime Use of Substances: 2008



SOURCE: Arizona Criminal Justice Commission

Exhibit 8. Average Cocaine Purity Reported by the Phoenix Field Division, DEA: First and Second Half of 2008



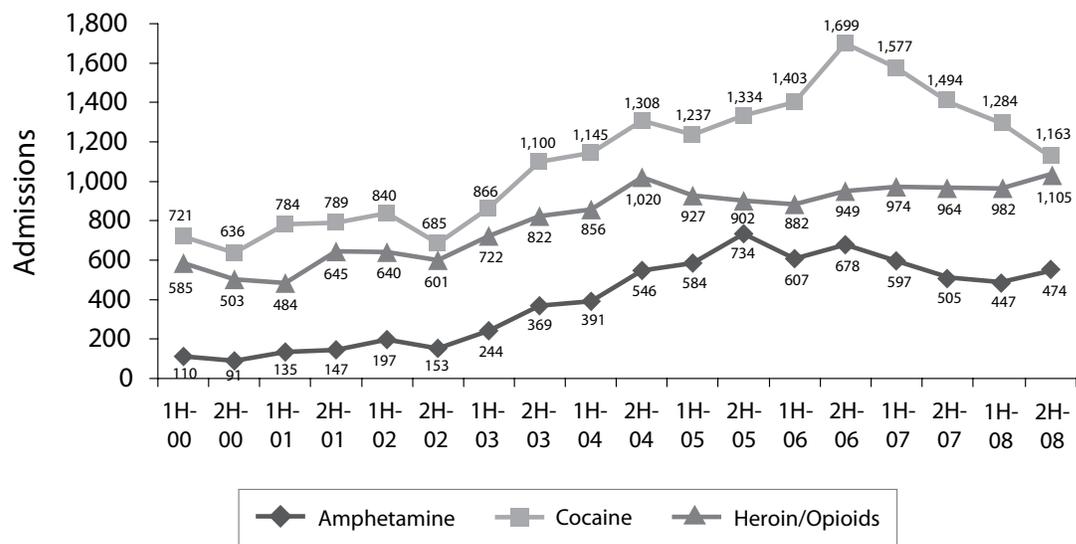
SOURCE: Phoenix Field Division, DEA

Exhibit 9. Average Drug Prices in Phoenix Area: December 2007–June 2008

Drug	Price in Dollars		
	Wholesale	Mid-level	Retail
Powder Cocaine	\$15,500–\$18,000/kg ¹	--	\$100–\$140/1/8 oz ¹
Crack Cocaine	--	\$600–\$800/oz	\$20/rock
Heroin (Mexican Black Tar)	\$28,000–\$64,000/kg	\$1,400–\$1,600/oz	--
Marijuana	\$450–\$550/lb (Mexican)	\$65–\$100/oz	\$65–\$100/oz
Methamphetamine	\$38,000–\$40,000/kg	\$1,100–\$1,700/oz	\$70–\$120/gram

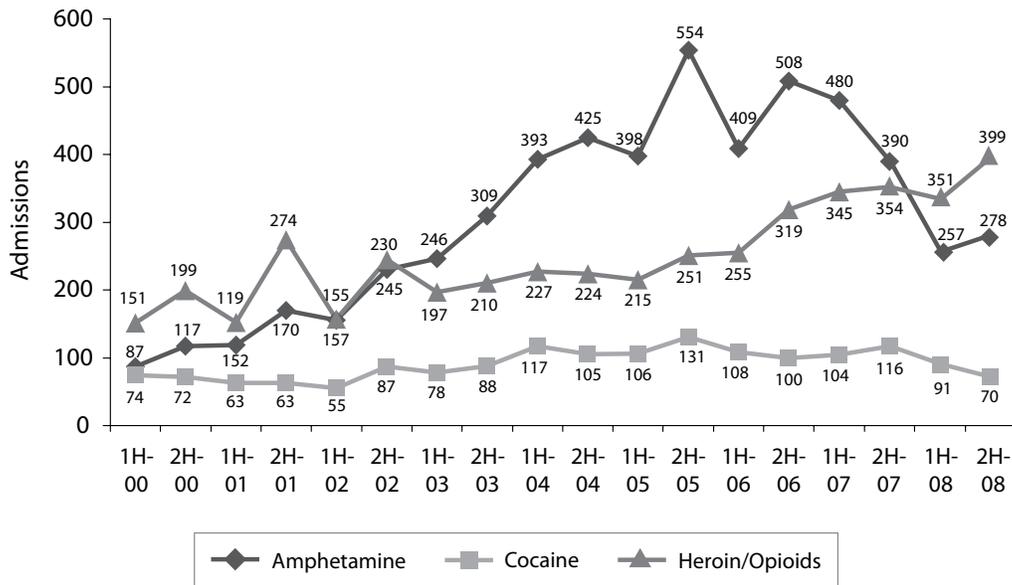
¹Kg=kilogram, oz=ounce.
SOURCE: NDIC

Exhibit 10. Amphetamine, Cocaine, and Heroin/Opioid-Related Hospital Admissions, Pima County (Tucson Area): 2000–2008



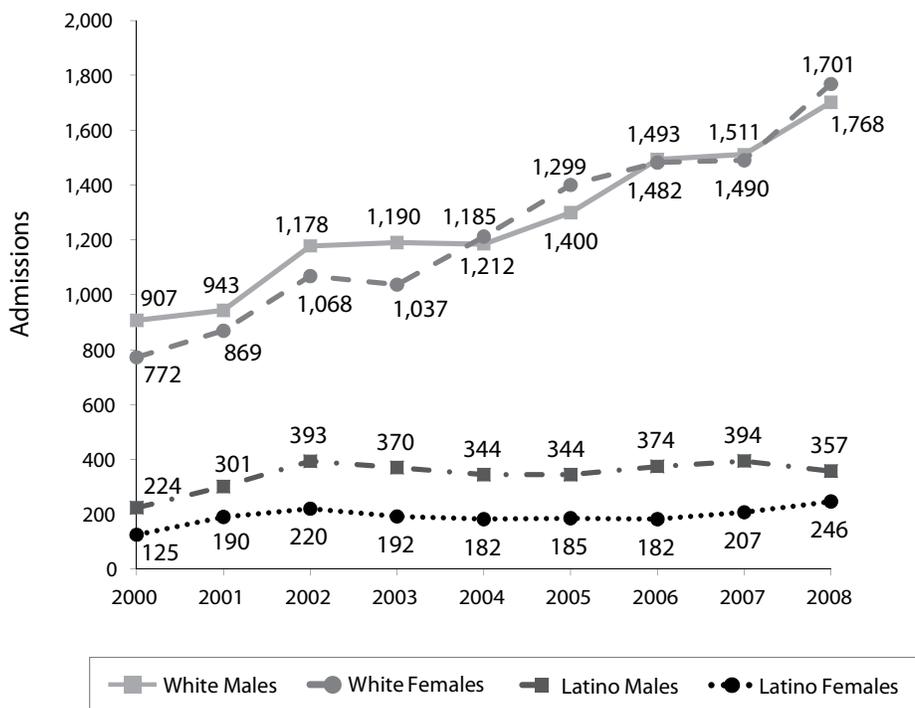
SOURCE: The University of Arizona, Department of Family and Community Medicine

Exhibit 11. Amphetamine, Cocaine, and Heroin/Opioid-Related Hospital Admissions, Arizona Rural Counties: 2000–2008, in Half-Yearly Intervals



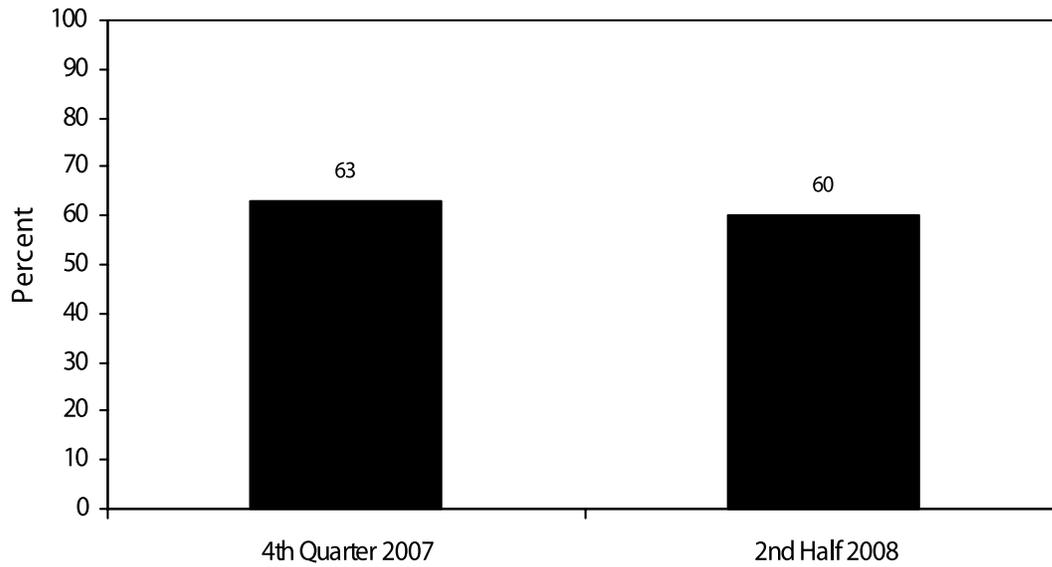
SOURCE: The University of Arizona, Department of Family and Community Medicine

Exhibit 12. Heroin/Opioid-Related Hospital Admissions, Whites and Latinos, by Gender, Maricopa County (Phoenix Area): 2000–2008



SOURCE: The University of Arizona, Department of Family and Community Medicine

Exhibit 13. Average Heroin Purity Reported by DEA Phoenix Field Division: Fourth Quarter of 2007 and Second Half of 2008



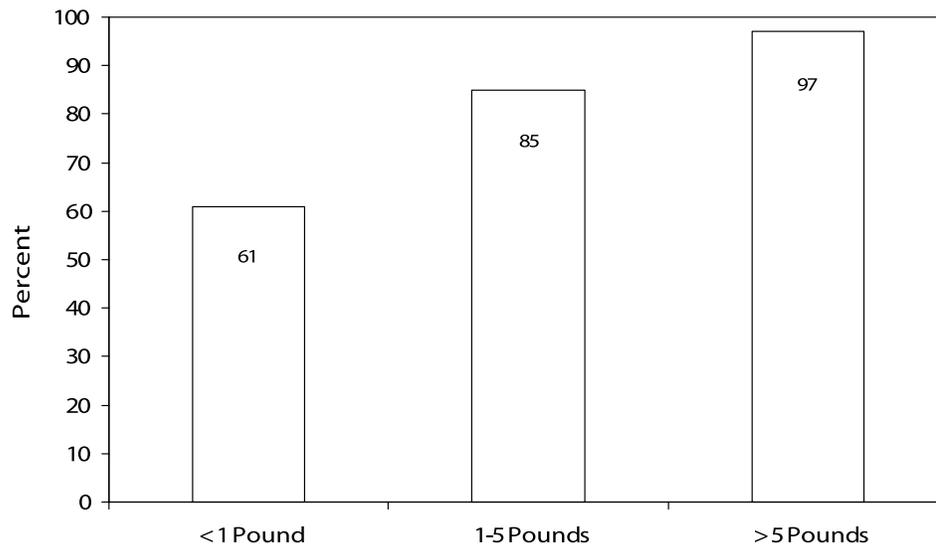
SOURCE: Phoenix Field Division, DEA

Exhibit 14. Street Prices for Illicit Prescription Drugs in Arizona: 2008

Drug	Price per Tablet
OxyContin®, 80 milligrams	\$20-\$80
OxyContin®, 40 milligrams	\$20-\$25
Percocet®	\$5
Vicodin ES®	\$5
Valium®, 10 milligrams	\$4
Lortab®, 10 milligrams	\$5-\$6
Soma®	\$2-\$5

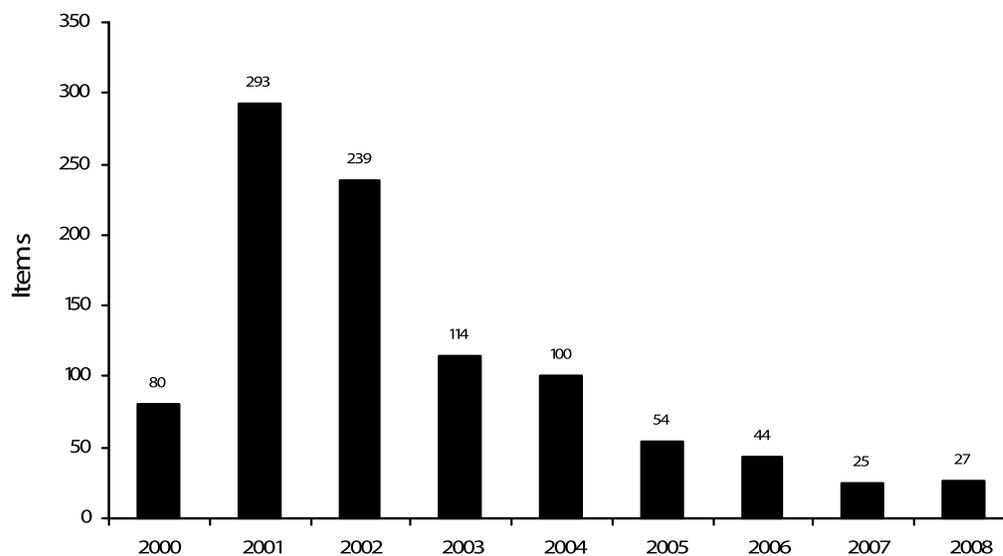
SOURCE: Phoenix Field Division, DEA

Exhibit 15. Average Methamphetamine Purity by Seizure Size, as Reported by DEA Phoenix Field Division: Second Half of 2008



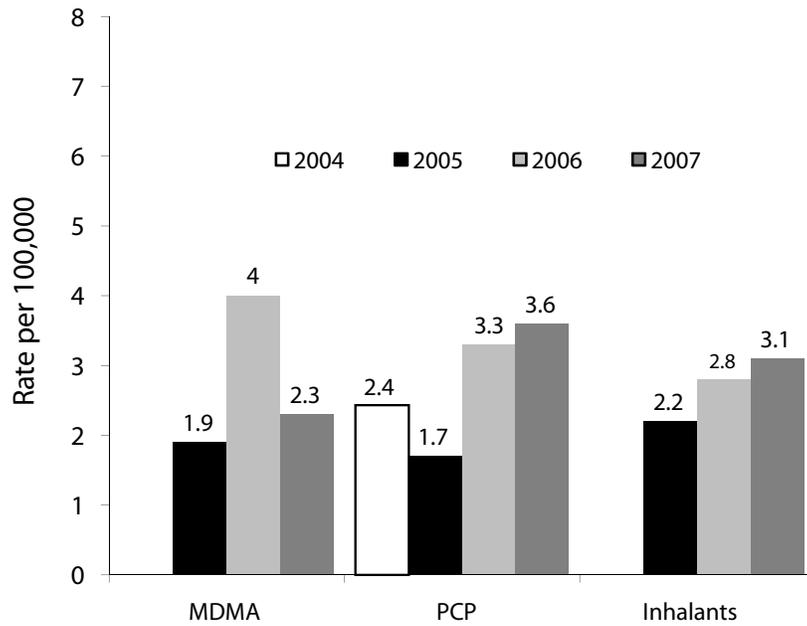
SOURCE: Phoenix Field Division, DEA

Exhibit 16. Methamphetamine Clandestine Laboratory Incidents (Including Laboratories, Dumpsites, Chemical/Glass/Equipment) in Arizona: 2000–2008



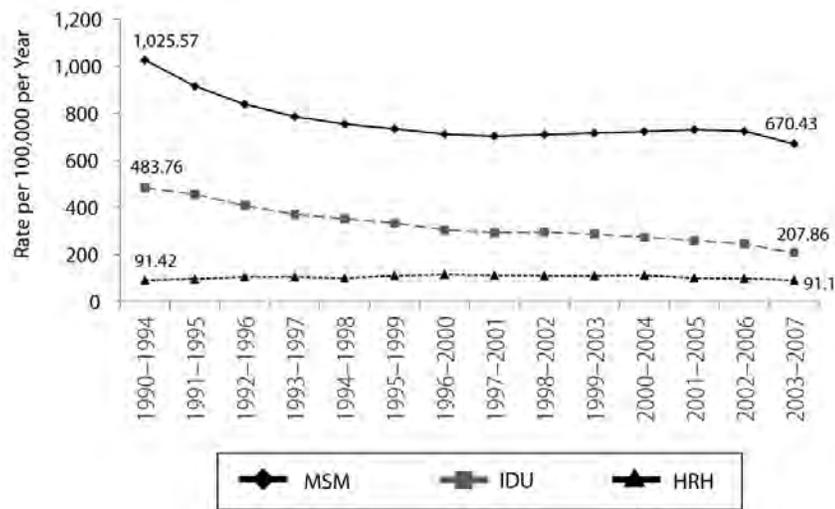
SOURCE: National Clandestine Laboratory Database, DEA

Exhibit 17. DAWN ED Visits, MDMA, PCP, and Inhalants (Rate per 100,000 Population), Phoenix Area: 2004–2007



SOURCE: DAWN weighted estimates, OAS, SAMHSA, accessed 5/18/09

Exhibit 18. 5-Year Emergent HIV/AIDS Rates per 100,000 Population in Arizona, by Reported Risk¹: 1990–2007



¹MSM=Men who have sex with men; IDU=Injection drug user; HRH=High-risk heterosexual activity.
SOURCE: Arizona Department of Health Services

Patterns and Trends in Drug Abuse in St. Louis, Missouri: 2008

Heidi Israel, Ph.D., R.N., F.N.P., L.C.S.W.¹,
and Jim Topolski, Ph.D.²

ABSTRACT

A problem of immediate concern in St. Louis in 2008 was heroin availability. It was clear that heroin activity had become more widespread. Three types of heroin were currently available in the St. Louis Metropolitan Statistical Area (MSA). St. Louis area admissions for the treatment of heroin abuse increased 51 percent from 2006 to 2008, and for the first time were just behind alcohol admissions as the primary drug of abuse. Deaths have risen dramatically. Access of increased purity and heroin that can be smoked or snorted was reported from multiple sources. Methamphetamine use stabilized in St. Louis, but clandestine laboratories appeared to be increasing again. While legislation has reduced access to pseudoephedrine-based cold medications, social networks with "cookers" have devised ways to access precursors. Access to methamphetamine from Mexico and the Southwest is considered a component of the methamphetamine problem in the city and county of St. Louis and the surrounding five Missouri counties, while "ice" was available in Kansas City. Treatment admissions in the St. Louis area for methamphetamine abuse stabilized in 2007 and 2008. Crack cocaine, formerly the major stimulant problem in the area, decreased in availability and in most indicators. Treatment admissions were down for powder cocaine and smoking crack cocaine. Death data

for St. Louis City and County showed a marked downturn. Marijuana indicators were increasing for 2008. Club drug abuse continued to be sparse, and anecdotal reports of 3,4-methylenedioxy-methamphetamine (MDMA) use were not well substantiated. In the St. Louis area, less than 3 percent of human immunodeficiency virus (HIV) cases had a primary risk factor of injection drug use (IDU), with most new cases identified among men who have sex with men (MSM) (70.3 percent), MSM and IDU (7.1 percent), and heterosexual contact (19.8 percent).

INTRODUCTION

Area Description

The St. Louis Metropolitan Statistical Area (MSA) includes approximately 2.7 million people, and is the 18th largest MSA in the country. 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 were indigent and minorities. However, recent increases to the city's population have been noted. Most crime statistics for the city decreased in 2008, except for homicides, which increased by 15 percent. Outlying counties have also experienced an increase in violent crimes, but it is too soon to relate it solely to the 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 classes and both

¹The author is affiliated with Saint Louis University School of Medicine, St. Louis, Missouri.

²The author is affiliated with the Division of Evaluation, Policy, and Ethics, Missouri Institute of Mental Health, University of Missouri, School of Medicine, St. Louis, Missouri.

small towns and farming areas. The populations 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 treatment data were provided for rural areas and for the State. Although data were limited for other parts of Missouri and most of the Illinois counties, they offered a contrast to the St. Louis drug use picture.

Policy Issues

In 2005, the State legislature took bold moves to require precursor drugs, such as pseudoephedrine, that are sold in local retail stores to be locked up or placed behind pharmacy counters. This policy has slowed local producers, but methamphetamine use continues for several reasons. First, the policy does not address the imported methamphetamine from Mexico and the social networks that produce smaller amounts of methamphetamine. There is some evidence that local "cooks" may be collaborating and pooling resources. Second, the legislation requires purchasers of products containing pseudoephedrine to sign log books documenting the transaction. Illinois recently passed similar legislation addressing access to pseudoephedrine. Attention to methamphetamine has masked ongoing problems with heroin, cocaine, prescription opiates, and marijuana.

Missouri has been in a budget crisis for years, resulting in cuts in services, particularly in health services, including drug treatment and mental health. Limited treatment continues to be available for drug abusers. Medicaid has begun to offer treatment services to women and children and is seen as a positive move toward access. The addiction model as understood through experience and research has shown that treatment services are cost-effective to both society and the individual, yet the trend is to offer these services on a

limited outpatient basis. The result is that some of these indicators do not fully reflect the degree of use or abuse of the substances tracked.

While Missouri maintains its State Epidemiology Work Group (SEWG), an additional work group has been created as part of the Strategic Prevention Framework–State Incentive Grant (SPF–SIG) sponsored by the Center for Substance Abuse Prevention. Hopefully, this work group will provide additional perspectives for future reports. In addition, there are a number of research projects being conducted in the area that may soon provide useful information about drug trends.

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) 2008. 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 2007, and the National Drug Intelligence Center (NDIC).
- **Drug-related mortality data** were provided by the St. Louis City and County Medical Examiner's (ME's) Office for CY 2008.
- **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 2008.
- **Toxicology laboratory drug testing results** for probation and parole offenders were provided by the Missouri Department of Corrections (DOC) for 2007.

- **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 2008.
- **Uniform Crime Report data** for Missouri counties and **Missouri clandestine methamphetamine laboratory incidents** were provided by the Missouri State Highway Patrol for 2007.
- **Clandestine methamphetamine incidents for Illinois for 2008** were provided by the DEA and by the Illinois State Highway Patrol.

The number of hospitals in the St. Louis area reporting to the Drug Abuse Warning Network (DAWN) *Live!* system was insufficient to produce reliable and valid emergency department estimates for the city. It is hoped that another source of hospital emergency room, admissions, or discharge data will be found in the future to fill this information gap.

DRUG ABUSE PATTERNS AND TRENDS

Regionally, some of the indicators for the major substances of abuse changed significantly in the second half of 2008. Cocaine availability, treatment admissions, and deaths decreased, while heroin availability, treatment admissions, and deaths increased. Alcohol and other categories remained more stable. Anecdotal information indicated that heroin use, purity, and availability may have increased regionally. For the first time, heroin surpassed cocaine indicators in treatment. The death data for St. Louis City and County showed increases in heroin and other opiates during 2008. Prescription narcotic analgesics were reported to be available in the more rural areas of the MSA. Indicators for both cocaine and the opiates will need continued monitoring to determine if there have been lasting changes in these markets or in the user populations.

Methamphetamine indicators were stable in the second half of 2008, but deaths have also appeared in small numbers in the African-American community. 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 lack of availability of cocaine may have presented an opportunity for increased methamphetamine use in the region. The distribution of cocaine and heroin was primarily conducted by African Americans, and methamphetamine that was imported was controlled by Hispanics. Social networks with methamphetamine “cookers” were responsible for increases in clandestine laboratories in the region.

Three types of heroin continued to be available in the area, and the heroin was pure and less expensive than what was previously available. St. Louis is a destination market, and subject to all the changes that occur in the supply chain. Heroin has become available in the suburbs and surrounding rural areas. A few fentanyl deaths remained in the ME data, and have been attributed to diversion of prescription fentanyl patches.

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.

While not reported separately, alcohol abuse and underage use of alcohol continued to be community concerns. Many traffic accidents and personal violence incidents include alcohol use in the situation. In St. Louis in 2008, 33.7 percent of

treatment admissions were for alcohol alone, and alcohol used in combination with other drugs accounted for another 10.0 percent of treatment admissions.

With the severe cuts in services in the State, treatment admissions data and Missouri Department of Corrections (DOC) urine results (important indicators of long-term use of drugs) may not accurately reflect the severity of the drug abuse problem. However, the data are indicative of the relative prevalence of abuse of substances in the region.

Crack/Cocaine

The ME data report for 2008 for the St. Louis area showed that cocaine was decreasing, with a drop in deaths from 167 in 2007 to 95 in 2008 (exhibit 1). These 2008 data are deaths where cocaine was involved and should be interpreted to indicate overall trends.

Among treatment admissions for illicit drug abuse in 2008, the number for primary cocaine abuse admissions reflected a 5-percent decrease, following a 16.6-percent decrease for crack abuse, and a decrease of 8.4 percent in admissions for abusers of powder cocaine in 2007. Cocaine was the fourth primary drug of abuse among all admissions following alcohol and alcohol in combination, marijuana, and heroin. This is a significant change for this region in a 6-month period of time. Cocaine represented 17.8 percent of admissions, while marijuana was 23.7 percent, and heroin comprised 18.8 percent of admissions respectively (exhibit 1). In 2008, males constituted 58.9 percent and females represented 41.1 percent of cocaine admissions. Admissions for African Americans (73.4 percent) were more than two and one-half times the proportion for White cocaine abusers (24.3 percent). Most clients were age 35 or older (79.2 percent). Marijuana, heroin, and alcohol were the most frequently cited secondary and tertiary drugs of abuse.

While the DEA's emphasis has shifted from cocaine to methamphetamine and heroin, law enforcement sources, the DEA, and street

informants reported poorer quality, less availability, and higher prices for cocaine. In December 2008, the National Drug Intelligence Center (NDIC) reported cocaine prices for St. Louis. Crack prices ranged from \$20–\$40 per rock (exhibit 2) on the street corner. The price was reported to be climbing, however. 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 is changing. No new information is available on the pricing in Kansas City and smaller cities outside St. Louis, but St. Louis distributes to areas around the city so that these locations were probably experiencing the same decrease in purity and availability. In the 2007 report, a rock of crack in Kansas City was \$15–\$17, and was the same in smaller cities outside St. Louis when it was available, but the gram price was higher.

NFLIS data indicated that 2,978 (17.2 percent) drug items analyzed in 2008 for the St. Louis MSA were cocaine. This placed cocaine as the second most frequently identified substance in the NFLIS program during 2008, yet lower than in past reports.

In 2007, the Missouri DOC probation and parole toxicology data indicated that the Kansas City Region had the highest percent of positive cocaine toxicology screens (34.2 percent) among its corrections population in 2007. The percent of DOC positives in St. Louis City was 33.5 percent, and in St. Louis County, 30.2 percent. Data for 2008 were not available at the time of this report.

The continued use of cocaine has potentially severe long-term consequences by contributing to the spread of STDs through multiple partners. The lower incidence of HIV in the general population as well as drug users has prevented a larger number of drug users from contracting HIV. Crack/cocaine is considered to be a primary risk for HIV as well as hepatitis C.

Most cocaine users reported smoking crack cocaine, though some used powder cocaine. Eighty-nine percent of primary cocaine abusers admitted for treatment in 2008 smoked the drug.

Only injection drug users (IDUs) who combine cocaine and heroin (“speedball”) use cocaine intravenously. Younger 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 consistently increased in all indicators (exhibit 1). The ME data report for 2008, covering St. Louis City and St. Louis County, identified a large increase in deaths involving heroin. In 2008, heroin was present in 137 deaths; in 2007 heroin was present in 65; in 2006, it accounted for 47 deaths in St. Louis. There was a statistically significant increase in related deaths in the second half of 2008 ($p < .03$). While available primarily in the St. Louis and Kansas City areas, heroin was also 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. St. Louis was one of several cities experiencing a sharp rise in heroin overdose deaths in 2008; according to a local ME, in the city and outlying county it was directly responsible for deaths in 79 teens and adults younger than 50. This trend appeared to be continuing in 2009.

While heroin treatment admissions increased dramatically as a proportion of all admissions between 1996 and 2000, they leveled off in 2001–2003. However, admissions increased 15.5 percent from 2006 to 2007, and increased another 49 percent in 2008. 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, was still a treatment option at private centers, but it is expensive. Approximately 29 percent of heroin admissions in 2008 were age 25 or younger. Of the methods of administration, inhalation accounted for 39.1 percent of the admissions, while injection use was 58.2 percent (exhibit 1). The increased availability of higher purity, and the resulting ability to either

snort or smoke the heroin, has led to a wider experimentation and use of the drug in social circles that previously would not use heroin.

In 2008, males accounted for 55.1 percent and females represented 44.9 percent of heroin admissions. Admissions for African Americans (46 percent) were less common than those for White heroin abusers (53 percent). Most admissions were younger than 35 (69.3 percent) (exhibit 1). Cocaine and marijuana were the most frequently cited secondary and tertiary drugs of abuse. Most 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 showed a peak of 24.0 percent purity in 1998; purity was down to 19.5 percent in 2007. South American (Colombian) heroin averaged approximately 17.6 percent. Southwest Asian heroin had a purity of 16.0 percent in the DMP, but was no longer available in the market. Another type of heroin that is believed to be South American and is reportedly a more potent heroin was available widely, but it had not appeared in the DMP monitoring yet. While the 2007 DMP purities were lower than in many other cities, the consistent higher purity allowed for expansion into a larger market where a more conventional method of administration can be used. Most heroin was purchased in aluminum foil or the number-5 gel capsule (one-tenth-gram packages of heroin in plastic wrap and aluminum foil) for \$10–\$20 (exhibit 2).

The city of St. Louis is an end-user market and is dependent on transportation of the heroin from points of entry into the Midwest. The wholesale price remained at \$100–\$400 per gram (exhibit 2), depending on heroin type. On street corners, heroin sold for \$180–\$225 per gram, according to a recent NDIC report. Most business was handled by cellular phone, which decreased the seller’s need to have a regular location. In St. Louis and other smaller urban areas, small distribution networks sold heroin.

NFLIS reported that 7.6 percent of the items analyzed in 2008 were heroin. The Missouri DOC probation and parole toxicology data indicated that the St. Louis area reporting offices had higher percentages of positive opiate screens by Kansas City offices (8.1 percent). Results for the eastern region in 2007 indicated that 21.4 percent of the positive screens by St. Louis probation and parole offices indicated opiate use. In St. Louis County, the percentage of positive screens identifying opiates was similar, at 19.4 percent. Positive screens by probation and parole offices in surrounding Missouri counties showed 18.5 percent positive for opiates. It is important to remember that positive screens for opiates might indicate use of any of the opiate-type drugs—heroin, illegally obtained narcotic analgesics, or legitimate use of narcotic analgesics.

Kansas City's heroin supply differed from that of St. Louis. Most heroin in Kansas City was black tar and was typically of poorer quality. White heroin did not appear to be available in the Kansas City metropolitan area.

Other Opiates/Narcotics

Other opiates represented slightly less than 2 percent of all treatment admissions in 2008. These admissions for abuse of other opiates represented a substantial increase in the number of admissions for this class of drug over previous years. The increase may reflect an upward trend in the abuse of narcotic analgesics, both licit and illicit. Methadone remained available, most likely due to prescription abuse as well as patient diversion. NFLIS data for 2008 indicated that hydrocodone (1.7 percent of samples identified) and oxycodone (1.1 percent) were the two most frequently analyzed opiates following heroin, and were the sixth and ninth most frequently identified substances in the St. Louis MSA NFLIS report.

OxyContin® (a long-lasting, time-release version of oxycodone) abuse remained a concern for treatment providers and law enforcement officials. Prescription practices were closely monitored for abuse, and isolated deaths were

reported, but no consistent reports were available on the magnitude of this potential problem. The use of hydromorphone remained common among a small population of White chronic addicts. The drug was \$50–\$80 per 4-milligram pill (exhibit 2).

Marijuana

Marijuana treatment admissions more than doubled from 1997 (1,573 admissions) to 2001 (3,210 admissions), possibly reflecting the increased utilization of the treatment system by the criminal justice system. Admissions in 2008 (2,836) accounted for 23.7 percent of all admissions in the St. Louis region (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 56.9 percent of primary marijuana treatment admissions in 2008. Increased tetrahydrocannabinol (THC) content of marijuana should not be ignored as part of the voluntary admissions. Some prevention organizations reported resurgence in marijuana popularity, and a belief by users that it is not harmful. Prevention programs have targeted this belief through education.

Because of the heroin, cocaine, and methamphetamine abuse problems in St. Louis, law enforcement officials have focused less attention on marijuana abuse. Limited resources required establishing enforcement priorities. Younger marijuana offenders who did not identify themselves as drug-dependent may represent some of the clients participating in treatment.

Marijuana was available from Mexico or domestic indoor growing operations. Marijuana from Mexico was classed as lower grade and less expensive (\$100 per ounce); all indoor-grown marijuana was a higher grade and more expensive (\$1,400 per ounce), as reported by the NDIC. Mexican marijuana was cheaper in the Kansas area, selling for \$20–\$40 per ounce. Indoor production makes it possible to produce marijuana throughout the year. 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 more than one-half of all items identified (50.3 percent) in the St. Louis MSA in 2008 were cannabis/marijuana samples. This was the most frequently identified substance for the area.

No new Missouri DOC probation and parole toxicology data were available for 2008. The 2007 results for the eastern region reported that the percentage of positive screens indicating marijuana use at probation and parole offices was relatively consistent in the offices in the city of St. Louis (60.0 percent of positive screens), in St. Louis County (55.7 percent), and in the surrounding Missouri counties (47.9 percent). Marijuana was the most frequently identified substance statewide, and showed consistently high levels of detection in the screening program.

Stimulants

Methamphetamine, 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.

Methamphetamine (“crystal” or “speed”) was found at very low levels in city indicators in 1995, but reported use has slowly increased over the last 9 years. 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 used to deal in cocaine have become involved in other drugs, such as heroin. Methamphetamine could become more widespread in the St. Louis area if cocaine availability remains low. This would lead to a shift in traditional dealing networks and access. An increase in availability and purity of Mexican methamphetamine, and a growth in Hispanic groups in the St. Louis metropolitan area, may cause this change. With the pseudoephedrine access laws, these sources may replace homegrown supplies,

but an upsurge in 2008 in clandestine laboratories may indicate either a small social network approach to access precursors, or a “workaround” with the precursors for production. Methamphetamine use was reported in the gay male and club communities in the city. However, treatment admissions dropped by 16.7 percent from 2006 to 2007, with an increase in admissions in 2008 (exhibit 1). The number of methamphetamine treatment admissions in St. Louis was 256 (2.5 percent of total admissions) in 2007, and 318 in 2008 (2.7 percent of the total admissions). Traditionally, cocaine and methamphetamine use have been split along racial lines in the State. In 2008, St. Louis ME data indicated that six of the seven deaths attributed to methamphetamine were African-American males. In rural treatment programs, methamphetamine was the drug of choice after alcohol.

In 2008, the percentage of males entering treatment was slightly higher than the percentage of females (54.7 versus 45.3 percent) (exhibit 1). Admissions for African Americans were almost nonexistent (less than 1 percent); 99.1 percent of admissions were White methamphetamine abusers. Most clients admitted were age 26–34 (34.1 percent) or 35 and older (46.5 percent), reflecting a similar population of users entering treatment for heroin, and a younger population than for cocaine abusers, but older than the most frequently reported age group entering for marijuana abuse. Marijuana and alcohol and some heroin were the most frequently cited secondary and tertiary drugs of abuse. Clients entering treatment were typically referred by the courts or self-referred.

The DEA Midwest Field Division decreased its cleanup of clandestine methamphetamine laboratories after training local enforcement groups. Data for 2007 indicated that recent legislation had an impact on the number of clandestine laboratory incidents, which fell to 1,285 statewide. In the St. Louis MSA, the numbers of clandestine laboratory incidents were 868 in 2005; 503 in 2007; and 770 in 2008. In the first part of 2009, 450 clandestine laboratories were identified, restoring the

St. Louis area to the rank of first in the country for clandestine laboratories. This influx in incidents may indicate increased social networking to produce small amounts of methamphetamine, or a workaround with precursor drugs after Senate Bill 10, the pseudoephedrine control law, came into effect July 14, 2005. The availability of Mexican methamphetamine was still an important part of the methamphetamine availability picture in the Midwest.

In the methamphetamine scene, Hispanic traffickers were the predominant distributors. Shipments from “super laboratories” in the Southwest were trucked in on the interstate highway system. This network is in contrast to the old local “mom and pop” laboratories that fueled much of the methamphetamine debate in the State over the past 10 years. In 2008, available methamphetamine was produced in Mexico and trafficked through Hispanic traffickers. 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, 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 \$1,500 per ounce in St. Louis at mid-level, and for as little as \$100 per gram in the Kansas City area (exhibit 2). Methamphetamine was represented in 3.8 percent of the NFLIS analyses in 2008, the fourth most frequently identified substance in the St. Louis MSA. Pseudoephedrine was 1.3 percent of the identified substances during this period.

Although no 2008 data was available, in 2007, the Missouri DOC probation and parole toxicology data indicated that the southwest region had the highest percentage of positive tests for amphetamines among this population. Results for the eastern region were indicative of the diversity of amphetamine use in the area, with a lower percentage of positive screens identifying amphetamine in the city of St. Louis (4.4 percent) and a higher percentage of positive screens (16.6

percent) identifying the drug in the five Missouri counties surrounding St. Louis City and County. Because methamphetamine is so inexpensive and appeals to a wide audience, it is likely that its use will continue.

Depressants

The remaining few private treatment programs in the State often provided treatment for benzodiazepine, antidepressant, and 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.

Hallucinogens

Over the years, lysergic acid diethylamide (LSD) has sporadically reappeared in local high schools and rural areas. Blotters sold for \$20 per 50-microgram dose (exhibit 2).

Phencyclidine (PCP) 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. In the 2007 data, the Missouri DOC probation and parole toxicology data indicated that the Kansas City area (15.9 percent of positive screens) had the highest percentage of positive tests for PCP among this population, followed by the city of St. Louis offices at 3.9 percent of positive drug screens. 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

3,4-Methylenedioxymethamphetamine (MDMA) accounted for 3.0 percent of items identified in the 2008 NFLIS data for St. Louis. The 521 items analyzed ranked fifth among all substances

analyzed in 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. NDIC reported retail prices of \$10–\$12 per tablet, up slightly from the previous report of \$10 per tablet. The DEA reported that local distributors received this substance from suppliers in California, Florida, New York, Texas, and Washington.

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. In 2008, as in preceding years, the predominant number of new HIV cases occurred among men who have sex with men (MSM) (70.3 percent), followed by cases resulting from heterosexual contact (19.8 percent) (exhibit 3). 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 (17.9 percent) and African-American males (42 percent) accounted for more than one-half of new cases. As a result, increased specialized minority prevention efforts were initiated.

Of the total cases of HIV/AIDS (7,736) through 2008, the same primary exposure categories are reflected—MSM, 60 percent; and heterosexual contact, 16.6 percent. Injection drug use was noted in 4 percent of HIV/AIDS cases (exhibit 3).

STDs and Hepatitis C

A resurgence of syphilis among MSMs has led to increased surveillance and targeted prevention

programs for this population. In 2008, 228 new cases of primary and secondary syphilis cases were identified in the St. Louis region. In the Kansas City region, there were 122 cases. Increased efforts in more tertiary prevention and active education campaigns in the highest risk populations have been used to try and change these rates. Rates of gonorrhea and chlamydia remained stable and high in the urban STD clinics. St. Louis had more than one-half of the State's gonorrhea cases (5,069 of 9,876) during 2007, and almost one-half of the State's chlamydia cases (10,276 out of 23,208). In 2008, 8,681 new chlamydia cases and 3,369 gonorrhea cases were reported. 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 2008 in the Kansas City area, 5,042 cases of chlamydia and 2,097 cases of gonorrhea were reported. These two urban areas represented 19,539/30,424 cases reported for the State. In the St. Louis region, there were 171 cases of hepatitis B, and 1,415 cases of hepatitis C reported in 2008. 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 2007.

REFERENCE

Brinkman, K. "Strategic Intelligence," St. Louis Office of the Drug Enforcement Administration, personal communication.

For inquiries concerning this report, contact Heidi Israel, Ph.D., Saint Louis University School of Medicine, 3625 Vista FDT 7N, St. Louis, MO 63110, Phone: 314-577-8851, Fax: 314-268-5121, E-mail: Israelha@slu.edu, or Jim Topolski, Ph.D., Missouri Institute of Mental Health, University of Missouri School of Medicine, 5400 Arsenal Street, St. Louis, MO 63139, Phone: 314-877-6432, Email: Jim.Topolski@mimh.edu

Exhibit 1. Indicators From Mortality and Treatment Admissions Data for Cocaine, Heroin, Marijuana, and Methamphetamine, St. Louis: 1996–2008

Indicator	Cocaine	Heroin	Marijuana	Methamphetamine
Number of Deaths by Year				
1996	93	51	NA ¹	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 ²	42	47	NA	–
2007 ²	167	65	NA	4
2008 ²	95	137	NA	7
Treatment Admissions Data				
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 (%) (2008)				
Male	58.9	55.1	77.3	54.7
Female	41.1	44.9	22.7	45.3
Age (%) (2008)				
12–17	0.1	1.0	24.4	1.8
18–25	5.8	27.7	32.5	17.6
26–34	14.9	40.6	26.4	34.1
35 and older	79.2	30.1	16.7	46.5
Race/Ethnicity (%) (2008)				
White	24.3	53.0	42.0	99.1
African American	73.4	46.0	55.8	0.9
Hispanic	2.3	<1	1.1	0
Route of Administration (%) (2008)				
Smoking	89.3	1.1	95.6	45.6
Intranasal	6.4	39.1	0.3	14.2
Injecting	1.2	58.2	0.1	36.1
Oral/Other	3.1	1.2	4.0	4.1

¹NA=Not applicable.

²St. Louis City/County Medical Examiner’s Office Data manual reports.

SOURCES: St. Louis City/County Medical Examiner’s Office; TEDS database

Exhibit 2. Other Combined Indicators for Cocaine, Heroin, Marijuana, and Methamphetamine, St. Louis: 2002–2008

Indicator	Cocaine	Heroin	Marijuana	Methamphetamine and Other Drugs
Multisubstance Combinations	Older users combine with heroin, alcohol	Less available cocaine, mix with alcohol	Alcohol	Marijuana commonly used in combination, alcohol use common
Market Data (2007–2008)	Powder \$100–\$150/g, 70% pure; crack \$20–\$40/rock, 50–90% pure; 8-ball \$450	\$20/cap or foil; \$10–\$15 per number-5 gel capsule; depending if MBT ¹ , SA ¹ ; \$100–\$400/g, 16–22% 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%) and local (80% pure); hydromorphone \$80/4-mg pill; LSD blotters \$20–\$50 microgram, OxyContin® \$20–\$40
Qualitative Data	Limited available, 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 ²	MBT, SA ¹ —young users able to smoke/snort	N/R	Methamphetamine laboratory seizures increase 2008—mom/pop laboratories; producers in super laboratories—controlled by Hispanic groups

¹MBT=Mexican Black Tar; SA=South American.

²N/R=Not reported.

Note: g=gram; oz=ounce; mg=milligram.

SOURCES: DEA; Client Ethnographic Information; St. Louis City/County Medical Examiner's Office

Exhibit 3. Persons with HIV Disease (Those with HIV and AIDS and New HIV Cases), by Exposure Category, Gender, Race/Ethnicity, and Age, St. Louis Metropolitan Area: Year-to-Date and Cumulative Totals Reported Through 2008, and New HIV Cases for 2007 and 2008

Category	HIV+AIDS:		New HIV Cases:			
	Cumulative Through 2008		2007		2008	
	Number	Percent	Number	Percent	Number	Percent
Exposure Category						
MSM ¹	4,642	60.0	156	79.2	149	70.3
IDU ²	309	4.0	2	1.0	6	2.8
IDU/MSM	271	3.5	8	4.1	15	7.1
Hemophilia	58	0.7	0	0.0	0	0.0
Heterosexual	1,276	16.6	31	15.7	42	19.8
Blood transfusion	34	0.4	0	0.0	0	0.0
Perinatal	41	0.5	0	0.0	0	0.0
Unknown/No known	1,105	14.3	0	0.0	0	0.0
Total	7,736		198		212	
Gender and Race/Ethnicity						
Male	6,382					
White	3,100	48.6	46	28.2	69	41.3
African American	3,043	47.7	97	59.5	89	53.3
Hispanic	149	2.3	2	1.2	7	4.2
Other	30	0.5	-	-	1	0.6
Unknown	60	0.9	18	11.0	1	0.6
Female	1,354					
White	308	22.7	8	22.9	6	13.3
African American	986	72.8	27	77.1	38	84.4
Hispanic	7	1.5	-	-	1	2.2
Other	14	3.0	-	-	-	-
Age						
12 and younger	36	0.5	1	0.5	0	0.0
13–18	55	0.7	11	5.6	7	3.3
19–24	387	5.0	52	26.3	51	24.1
25–44	3,691	47.7	100	50.5	108	50.9
45–64	3,269	42.3	30	15.2	46	21.7
65 and older	298	3.8	4	2.0	0	-
Unknown	-	-	-	-	-	-
Total	7,736	-	198	-	212	-

¹MSM=men who have sex with men.

²IDU= injection drug user.

SOURCE: Missouri Department of Health

Exhibit 4. Number of New HIV and Hepatitis C Cases, St. Louis: 2002–2008

New Cases	HIV	Hepatitis C
2002	178	227
2003	197	488
2004	122	540
2005	171	512
2006	227	305
2007	198	1,217 ¹
2008	212	-----

¹Metropolitan Statistical Area.

SOURCES: St. Louis City Health Department; Missouri Department of Health

Drug Use and Abuse in San Diego County, California: 2008

Robin A. Pollini, Ph.D., M.P.H.¹

ABSTRACT

Methamphetamine continues to be a drug of concern in San Diego County, but most indicators of use and abuse have been declining since 2005. In 2008, the number of treatment admissions attributed to primary methamphetamine abuse reached its lowest level (n=4,618) since prior to 2001, accounting for 31 percent of all admissions (including alcohol). After reaching all-time highs in 2005, the prevalence of methamphetamine in urine sampled from San Diego County arrestees decreased in 2008 among female adults (from 51 to 31 percent), male adults (from 44 to 20 percent), and juveniles (from 21 to 10 percent). Overdose deaths involving methamphetamine also decreased substantially between 2005 and 2008, from 113 deaths (rate 3.70 per 100,000) to 83 deaths (rate 2.64 per 100,000). While changes in methamphetamine use and abuse have been, at least in part, attributed to increases in price in recent years, price data collected during 2009 shows a per-pound price of \$8,000–\$15,000, which is lower than the \$10,000–\$20,000 per-pound price documented during 2008. This suggests that the methamphetamine market in San Diego County may be changing and that vigilance in monitoring market and abuse indicators is warranted. Indicators for other drugs of abuse are less consistent over time. Cocaine indicators were stable between 2007 and 2008 except among arrestees; prevalence of cocaine-positive urine tests among male adults, female adults, and juveniles was 8, 12, and 2 percent, respectively,

compared with 11, 16, and 3 percent, respectively, in 2007. Heroin indicators were also fairly stable, but substantial decreases in price per pound in 2008 could contribute to increased use and abuse in subsequent periods. While indicators for illicit use of prescription opiates remained low compared with other drugs of interest, the overall number of treatment admissions in this category has been increasing since 2006. In 2008, this increase was attributed solely to OxyContin®, for which there were 380 primary treatment admissions, compared with only 214 for all other prescription opiates combined. The composition of oxycodone treatment admissions also appeared to be changing, with a growing number of clients being female, age 25 or younger, and using the drug non-orally (i.e., crushing the pill and smoking it). Indicators for marijuana were mixed; treatment admissions increased from 2,278 in 2007 to 2,839 in 2008, but prevalence among arrestees was down among both male and female adult arrestees.

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, 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 estimated at 3.1 million in 2008, up from 2.8 million in 2000 (exhibit 1). The county is home to a growing Hispanic (predominantly Mexican) population. Thirty percent are Hispanic, and 50 percent are non-Hispanic White.

¹The author is an Assistant Professor, Division of Global Public Health, Institute of the Americas.

Smaller population groups are Asian and Pacific Islanders (10 percent), non-Hispanic African Americans (5 percent), and other races/ethnicities (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 2008 data for both adult ($N=767$) and juvenile ($N=159$) arrestees.
- **Drug price data** came from the San Diego Law Enforcement Coordination Center's "2009 Street Drug Price List," which reports on street-level drug buys conducted in San Diego County in 2008.
- **Forensic laboratory data** came from the National Forensic Laboratory Information System (NFLIS), Drug Enforcement Administration (DEA), for calendar year (CY) 2008. There were 19,821 drug items analyzed by local forensic laboratories between January and December, 2008.
- **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 2008. Note that CalOMS was implemented in early 2006 (replacing the earlier CADDs system); data reported for periods prior to July 2006 may not be comparable to more recent periods.

- **Emergency department (ED) data** for CY 2008 were provided by the Drug Abuse Warning Network (DAWN) *Live!*, a restricted access on-line query system administered by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA). The completeness of data reported by participating EDs varies by month (exhibit 2). The 2008 data for San Diego represent reports of major substances of abuse ($N=4,169$). These data were accessed on May 7, 2009, and are subject to change due to corrections and/or deletions arising from quality control reviews. Data represent drug reports in drug-related ED visits and may exceed the number of ED visits due to patients reporting multiple drugs. A full description of the DAWN data system can be found at <http://dawninfo.samhsa.gov>.
- **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 2008 HIV/AIDS Epidemiology Report.

DRUG ABUSE PATTERNS AND TRENDS

Methamphetamine

After peaking in 2005–2006, virtually all indicators suggest that methamphetamine use and abuse has decreased substantially in San Diego County. The overall number of primary methamphetamine treatment admissions declined from 5,547

in 2005 to 4,618 in 2008 (exhibit 3). Although primary methamphetamine abuse still accounted for the highest overall number treatment admissions, these admissions accounted for 30.7 percent of all primary treatment admissions in 2008, compared with 39.7 percent in 2005 (exhibit 3). A majority of these treatment admissions were male (55.3 percent), and almost one-half (48.5 percent) were non-Hispanic White, with an overall racial and ethnic distribution similar to that of the San Diego population. The most common secondary drugs of abuse among primary methamphetamine users were marijuana (28.5 percent) and alcohol (25.6 percent), with 36.0 percent citing no secondary drug (exhibits 4a–4d).

In a comparison of 2008 treatment admissions data with 2005 (data not shown), there were also notable changes in the demographics of primary methamphetamine admissions. In 2008, admissions were more likely than in 2005 to be female (44.7 versus 40.2 percent), age 35 or older (49.3 versus 42.1), and cite smoking as the primary route of administration (74.4 versus 70.8 percent). There was a concurrent decrease in the proportion of clients age 18–25 being admitted for treatment (18.4 versus 23.9 percent) and the proportion of admissions citing inhalation as their primary route of administration (10.2 versus 13.7 percent). There were no notable changes in the race and ethnicity of treatment admissions during the period 2005–2008.

The prevalence of methamphetamine-positive urine tests among arrestees in San Diego County also reached an all-time high in 2005, but has decreased substantially over the past 3 years (exhibit 5). Prevalence among male arrestees was 20 percent in 2008, compared with 44 percent in 2005, and prevalence among females was 31 and 51 percent in 2008 and 2005, respectively; these figures represent the lowest prevalence of methamphetamine among adult arrestees since 2000. Ten percent of juvenile arrestees tested positive for methamphetamine in 2008, a substantial reduction from 2005 (21 percent), but slightly higher than the 8 percent who tested positive in 2007.

Methamphetamine ranked third after alcohol and marijuana in ED reports submitted to the DAWN system in 2008 (exhibit 6). There were 586 reports involving methamphetamine (14.1 percent) among 4,169 reports for major substances of abuse.

Price data collected from law enforcement sources during the period 2006 to 2009 (exhibit 7) show methamphetamine prices remaining stable at lower quantities (one-quarter gram and gram) and increasing only slightly for ounce quantities (from \$600–\$1,000 to \$500–\$1,500). There were more significant price increases in pound quantities during the 3-year 2006–2008 period, rising from \$6,000–\$10,000 in 2005 to \$10,000–\$20,000 in 2008. However, price per pound decreased in 2009, for the first time in 5 years, to \$8,000–\$15,000, while lower quantity prices remained unchanged. This may be an early indicator of changes in methamphetamine market dynamics that could potentially slow reductions in methamphetamine use and abuse in coming years.

In 2008, there were 83 overdose deaths (rate 2.64 per 100,000) in San Diego County involving amphetamines (including methamphetamine), which was the lowest number of amphetamine-involved overdose deaths since 2001, and a 27-percent decrease from the 113 deaths (rate 3.70 per 100,000) in 2005 (exhibit 8).

Of the 19,821 items tested in forensic laboratories in 2008, 3,955 (20.0 percent) contained methamphetamine (exhibit 9), ranking methamphetamine second only to cannabis/marijuana (10,226 items) in this indicator category.

Cocaine/Crack

Cocaine indicators remained relatively stable in San Diego County, with one exception: only 8 percent of male adult arrestees and 12 percent of female arrestees tested positive for cocaine in 2008 (exhibit 5). This is the lowest prevalence for both males and females since prior to 2000. Similarly, 2 percent of juvenile arrestees tested positive for cocaine in 2008, the lowest level since juvenile testing for the drug began in 2004.

There were 995 primary treatment admissions for cocaine/crack in 2008 (exhibit 4), accounting for 6.6 percent of all treatment admissions, and virtually identical to the 999 admissions reported in 2007 (exhibit 3). Three-quarters (72.9 percent) of cocaine admissions in 2008 were age 35 or older younger; two-thirds (64.2 percent) were male; and more than one-half (56.2 percent) were Black non-Hispanic. A majority cited at least one secondary substance of abuse, most commonly alcohol (35.0 percent) or marijuana (20.4 percent), while 28.6 percent cited no secondary substance of abuse (exhibits 4a–4d).

Cocaine ranked fifth (after alcohol, methamphetamine, marijuana, and heroin) in ED reports submitted to the DAWN system in 2008 (exhibit 6). There were 476 reports involving cocaine (11.4 percent) among 4,169 reports for major substances of abuse.

With regard to law enforcement indicators, cocaine prices have remained stable since 2006 (exhibit 7). The most recent street price for one gram was \$60–\$150, and pound quantities sold for \$8,000–\$10,000. Similarly, of the drug items analyzed by forensic laboratories in 2008, 12.6 percent were cocaine items (exhibit 9), compared with 13.8 percent in 2007. Cocaine consistently ranks third in the number of NFLIS items, after cannabis/marijuana and methamphetamine.

Heroin

There were 2,777 primary treatment admissions (18.5 percent) for heroin in 2008, a slight increase from the 2,515 admissions (17.2 percent) in 2007 (exhibit 3). Clients admitted to treatment in 2008 were predominantly male (70.1 percent), age 35 or older (52.4 percent), and White non-Hispanic (53.8 percent). Most (78.1 percent) reported injection as their primary route of administration. Almost one-half (48.5 percent) of clients admitted for primary heroin treatment reported no other drug of abuse. The most common secondary drugs reported were methamphetamine (15.8 percent), cocaine/crack (10.7 percent),

marijuana (8.2 percent), and alcohol (7.3 percent) (exhibits 4a–4d).

Few arrestees tested positive for heroin, and the proportion of positives has remained relatively stable over time (exhibit 5). In 2008, 6 percent of male arrestees, 7 percent of female arrestees, and 1 percent of juveniles tested positive for heroin. Similarly, the number of overdose deaths involving heroin/morphine remained stable, dropping just slightly from 109 in 2007 to 105 in 2008 (exhibit 8).

Heroin ranked fourth in ED reports submitted to the DAWN system in 2008, surpassing cocaine, which held fourth place in 2007 (exhibit 6). There were 505 reports involving heroin (12.1 percent) among 4,169 reports for major substances of abuse.

Of note are recent changes in the street price of Mexican black tar heroin, particularly with regard to pound and kilo quantities (exhibit 7). There appears to have been a substantial drop in the price per pound between 2007 and 2008, from \$10,000–\$17,000 to \$8,000–\$10,000. Kilo quantities are also down substantially over the 5-year period 2004–2008, dropping from \$30,000–\$40,000 to \$19,000–\$21,000 in 2008. Of the drug items analyzed by forensic laboratories in 2008, only 3.4 percent were heroin items (exhibit 9), ranking fourth after cannabis/marijuana, methamphetamine, and cocaine.

Other Opiates/Narcotics

Exhibit 3 shows treatment admissions for other opiates, an aggregate category for prescription opiates, including oxycodone, hydrocodone, and similar drugs. CalOMS allows these drugs to be further split into two categories: oxycodone and “other” opiates or synthetics. In 2008, there were 380 primary admissions for oxycodone and 214 for other opiates, and these two admissions categories differed substantially with regard to demographics. First, 31.1 percent of oxycodone admissions were female, compared with 56.1 percent of other opiates admissions. Second, oxycodone admissions were younger, with the distribution

among age groups younger than 18, age 18–25, age 26–34, and 35 or older being 1.3, 47.6, 28.4, and 22.6 percent, respectively, compared with 1.4, 11.7, 23.8, and 63.1 percent, respectively, for the other opiates. Third, while 89.3 percent of other opiate admissions cited oral administration as their primary route, only slightly more than one-half (53.7) did so for OxyContin®, while 27.1 percent inhaled the drug; 11.6 percent smoked it; and 5.3 percent injected it.

It should be noted that the year 2008 represented a divergence in trends for the OxyContin® and the other prescription opiates categories (exhibit 10). While both categories increased in the overall number of admissions between 2006 and 2007, 2008 saw an increase in the number of primary admissions for OxyContin® and a contrasting decrease in primary admission for other prescription opiates. Further, in certain demographic categories, oxycodone admissions have changed significantly over the past 3 years (data not shown). Females made up only 19.4 percent of admissions in 2006, compared with 31.1 percent in 2008. In terms of age, 42.1 percent were age 25 or younger, compared with 48.9 percent in 2008. Primary administration by the oral route fell from 64.3 percent in 2006 to 53.7 percent in 2008, while smoking of OxyContin® rose during the same period, from 1.6 percent to 11.6 percent. This suggests that OxyContin® users admitted to treatment are increasingly female, young, and administering the drug in an unintended manner of administration.

In addition, two trends were noted with regard to the other (non-OxyContin®) prescription opiates during the 2006–2008 period. Forty-eight (48.3) percent of admissions in 2006 were female, compared with 56.1 percent in 2008, and 57.2 percent were age 35 or older, compared with 63.1 percent in 2008. This suggests that a higher percentage of these admissions to treatment were female, but, in contrast to OxyContin® admissions, they were older.

There were 857 ED reports citing nonheroin opioids (data not shown). These included:

235 hydrocodone reports; 186 for oxycodone; 97 for methadone; 31 for fentanyl; and 11 for buprenorphine.

Of the drug items analyzed by forensic laboratories in 2008 (exhibit 9), 364 (1.6 percent) were hydrocodone, ranking fifth behind cannabis/marijuana, methamphetamine, cocaine, and heroin. There were also 202 oxycodone items, 53 methadone items, 52 codeine items, and 50 morphine items.

Marijuana

There were 2,839 primary treatment admissions (18.9 percent) for marijuana in 2008, up from 2,278 (15.6 percent) in 2007 (exhibit 3). A majority (73.5 percent) of the 2008 admissions were male and younger than 18 (53.6 percent). The racial and ethnic distribution of primary marijuana admissions was mixed, with Hispanics accounting for 44.7 percent; White non-Hispanics for 30.4 percent; and Black non-Hispanics for 14.7 percent. Alcohol was the leading secondary substance of abuse among primary marijuana users (42.7 percent), followed by: no secondary substance (30.5 percent); methamphetamine (15.7 percent); and cocaine (4.8 percent).

Among male arrestees (exhibit 5), the proportion testing positive for marijuana was 36 percent, down from a 5-year high of 40 percent in 2006, and slightly down among female arrestees (26 percent). Prevalence among juveniles was 44 percent, up slightly from an 8-year low of 40 percent in 2007.

Marijuana ranked second in ED reports submitted to the DAWN system in 2008 (exhibit 6). There were 679 reports involving marijuana (16.3 percent).

The price of marijuana (Mexican) per pound continued to rise in 2009, reaching \$400–\$600 after hitting \$300–\$400 and \$250–\$300 in 2008 and 2007, respectively. Price per ounce in 2009 (\$60–\$100) appeared to be down slightly from 2008 (\$80–\$150), and price per one-quarter ounce was stable at \$40–\$100. Of the drug items

analyzed by forensic laboratories in 2009, more than one-half (51.6 percent) were cannabis/marijuana items (exhibit 9). This made cannabis/marijuana the leading item analyzed by San Diego County laboratories, with twice as many items as the second leading drug, methamphetamine.

MDMA, Ecstasy

There were few primary treatment admissions for ecstasy in 2008 ($n=36$) (data not shown). These admissions were evenly split between males ($n=18$) and females ($n=18$), and were mostly among clients younger than 18 ($n=21$). An additional 115 clients cited ecstasy as their secondary drug of abuse, most commonly secondary to marijuana ($n=60$) or methamphetamine ($n=31$). There were 67 ED reports involving 3,4-methylenedioxymethamphetamine (MDMA) in 2008 (exhibit 6). Of the drug items analyzed by forensic laboratories in 2008, 313 (1.6 percent) were MDMA.

Alcohol

There were 3,031 primary treatment admissions (20.2 percent) for alcohol in 2008 (exhibit 3). This represents a slight increase over the number of admissions in 2007 (2,889 admissions or 19.8 percent). Overall, alcohol admissions in 2008 were predominantly male (67.9 percent), White non-Hispanic (56.6 percent), and age 35 or older (61.7 percent). Forty-one percent of admissions cited no secondary drug of abuse. Although methamphetamine was the most commonly cited secondary drug in 2007, it was supplanted by marijuana in 2008 (24.4 percent), followed by methamphetamine (20.0 percent), and cocaine/crack (8.7 percent). Few reported secondary abuse of heroin (2.8 percent) or other opiates (1.5 percent).

There were 1,581 ED reports for patients younger than 21 years in 2007 (exhibit 6); 430 of these reports were for alcohol only.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS

There were 13,820 cumulative AIDS cases in San Diego County through December 31, 2008, including 6,676 currently living with AIDS. Thirty-five percent of AIDS cases among females between 1981 and 2008 were attributed to injection drug use, and 21 percent to sex with an injection drug user (IDU). Focusing on the more recent period, 2004–2008, the proportion of cases among females attributed to injection drug use is lower, with 20 percent attributed directly to injection, and 17 percent to sex with an IDU. There is also evidence of substantial shifts in the demographic makeup of injection-related cases over time. While the proportion of AIDS cases attributed to injection drug use among White females remained constant at 38 percent in both 1989–1993 and 2004–2008, the proportion of cases attributed to injection among Black females decreased from 56 percent to 10 percent during the same time periods. Similarly, the proportion of cases among Hispanic females attributed to injection drug use decreased from 22 percent to 16 percent. 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 1981–2008. Roughly the same proportions (8 and 10 percent) were reported for the more recent period 2004–2008. Black males shoulder a disproportionate burden of AIDS in San Diego County, with 19 and 13 percent of AIDS cases among Black males in 1989–1993 and 2004–2008, respectively, attributed to injection drug use, compared with only 3 and 7 percent among Whites, and 11 and 7 percent among Hispanics. The same is true of cases

attributed to MSM/IDU. Thirteen and 10 percent of cases among Black males were attributed to MSM/IDU in 1989–1993 and 2004–2008, respectively, compared with 9 and 13 percent among Whites, and 10 and 7 percent among Hispanics.

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, 2008 there were 3,847 cumulative HIV cases in San Diego County, of whom 3,452 (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 8 percent to sex with an IDU.

Among male cases, injection drug use accounted for 9.1 percent of cases among Blacks, compared with 3.4 and 4.3 percent of cases among Whites and Hispanics, respectively. Black males also had the highest proportion of cases attributed to MSM/IDU (9.9 percent), compared with 8.2 percent among White males, and 5.5 percent among Hispanic males. Among females, the largest proportion of cases attributed to injection drug use was among Whites (32.1 percent), followed by Blacks (25.2 percent), and Hispanics (15.7 percent).

For inquiries regarding this report, contact Robin Pollini, Ph.D. M.P.H., School of Medicine, University of California San Diego, MC 0507, 9500 Gilman Drive, La Jolla, CA 92093, Phone: 858-534-0710, Fax: 858-534-4642. E-mail: rpollini@ucsd.edu.

Exhibit 1. Percentage of the Population by Selected Demographic Characteristics, San Diego County: 2008

Race/Ethnicity	2008 (N=3,146,274)
White	50.2
Black or African American	5.3
Asian/Pacific Islander	10.4
American Indian	0.5
Other race	3.6
Hispanic/Latino	29.9
Median age	34.8
Median household income (current \$)	\$68,470

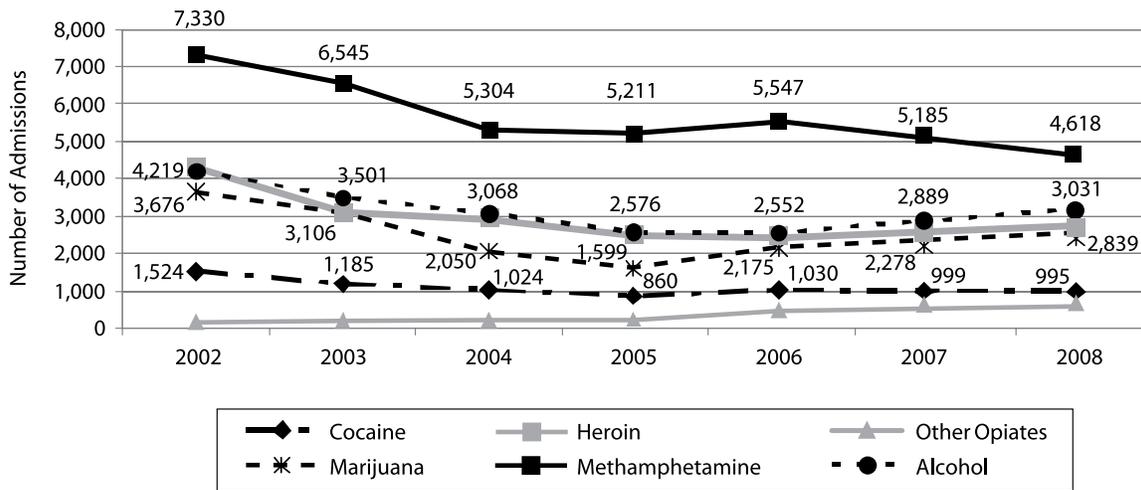
SOURCE: San Diego Association of Governments Population and Housing Estimates

Exhibit 2. DAWN ED Sample and Reporting Information: 2008

Total Eligible Hospitals	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample	No. of EDs Reporting per Month: Completeness of Data (percent)			No. of EDs Not Reporting
			90–100 percent	50–89 percent	<50 percent	
17	17	17	3–6	1–3	0–1	10–12

SOURCE: DAWN *Live!*, OAS, SAMHSA, accessed May 7, 2009

Exhibit 3. Number of Primary Treatment Admissions for Cocaine and Selected Other Drugs, San Diego County: 2002–2008



SOURCE: San Diego Department of Alcohol and Drug Programs, California Outcomes Monitoring System (CalOMS)

Exhibit 4a. Number and Percentage of Clients Admitted to Treatment for Selected Primary Drug Problems by Gender and Age Group, San Diego County: CY 2008

	Primary Drug							Total (%)
	Alcohol (%)	Cocaine/crack (%)	Heroin (%)	Other Opiates (%)	Marijuana (%)	Meth-amphetamine (%)	All other (%)	
Total admissions	3,031 (20.2)	995 (6.6)	2,777 (18.5)	594 (3.9)	2,839 (18.9)	4,618 (30.7)	187 (1.2)	15,041 (100.0)
Sex								
Male	2,059 (67.9)	639 (64.2)	1,948 (70.1)	356 (59.9)	2,087 (73.5)	2,554 (55.3)	102 (54.5)	9,745 (64.8)
Female	972 (32.1)	356 (35.8)	829 (29.9)	238 (40.1)	752 (26.5)	2,064 (44.7)	85 (45.5)	5,296 (35.2)
Age								
≤17	214 (7.1)	39 (3.9)	*1 (*)	* (*)	1,522 (53.6)	85 (1.8)	40 (21.4)	1,921 (12.8)
18–25	363 (12.0)	86 (8.6)	541 (19.5)	206 (34.7)	593 (20.9)	850 (18.4)	32 (17.1)	2,671 (17.8)
26–34	585 (19.3)	145 (14.6)	769 (27.7)	159 (26.8)	403 (14.2)	1,407 (30.5)	50 (26.7)	3,518 (23.4)
≥35	1,869 (61.7)	725 (72.9)	1,454 (52.4)	221 (37.2)	321 (11.3)	2,276 (49.3)	65 (34.8)	6,931 (46.1)

1 Indicates cell size of fewer than 15 admissions.

SOURCE: California Outcomes Measurement System (CalOMS)

Exhibit 4b. Number and Percentage of Clients Admitted to Treatment for Selected Primary Drug Problems by Race/Ethnicity, San Diego County: CY 2008

	Primary Drug							Total (%)
	Alcohol (%)	Cocaine/crack (%)	Heroin (%)	Other Opiates (%)	Marijuana (%)	Meth-amphetamine (%)	All other (%)	
Total admissions	3,031 (20.2)	995 (6.6)	2,777 (18.5)	594 (3.9)	2,839 (18.9)	4,618 (30.7)	187 (1.2)	15,041 (100.0)
White (non-Hispanic)	1,715 (56.6)	239 (24.0)	1,493 (53.8)	482 (81.1)	864 (30.4)	2,240 (48.5)	74 (39.6)	7,107 (47.3)
Black (non-Hispanic)	293 (9.7)	559 (56.2)	149 (5.4)	19 (3.2)	416 (14.7)	305 (6.6)	44 (23.5)	1,785 (11.9)
American Indian	115 (3.8)	* ¹ (*)	28 (1.0)	* (*)	50 (1.8)	97 (2.1)	* (*)	305 (2.0)
Asian/Pacific Islander	42 (1.4)	19 (1.9)	42 (1.5)	* (*)	54 (1.9)	211 (4.6)	* (*)	381 (2.5)
Hispanic	739 (24.4)	133 (13.4)	972 (35.0)	52 (8.8)	1,268 (44.7)	1,551 (33.6)	53 (28.3)	4,768 (31.7)
Other	127 (4.2)	40 (4.0)	93 (3.3)	28 (4.7)	187 (6.6)	214 (4.6)	* (*)	695 (4.6)

¹*Indicates cell size of fewer than 15 admissions.

SOURCE: California Outcomes Measurement System (CalOMS)

Exhibit 4c. Number and Percentage of Clients Admitted to Treatment for Selected Primary Drug Problems by Route of Administration, San Diego County: CY 2008

	Primary Drug							Total (%)
	Alcohol (%)	Cocaine/crack (%)	Heroin (%)	Other Opiates (%)	Marijuana (%)	Meth-amphetamine (%)	All other (%)	
Total admissions	3,031 (20.2)	995 (6.6)	2,777 (18.5)	594 (3.9)	2,839 (18.9)	4,618 (30.7)	187 (1.2)	15,041 (100.0)
Oral	3,031 (100.0)	*1 (*)	16 (0.6)	395 (66.5)	28 (1.0)	60 (1.3)	92 (49.2)	3,629 (24.1)
Smoking	0 (0.0)	799 (80.3)	461 (16.6)	51 (8.6)	2,797 (98.5)	3,437 (74.4)	48 (25.7)	7,593 (50.5)
Inhalation	0 (0.0)	167 (16.8)	126 (4.5)	106 (17.8)	11 (0.4)	471 (10.2)	13 (7.0)	894 (5.9)
Injection	0 (0.0)	19 (1.9)	2,169 (78.1)	30 (5.1)	0 (0.0)	645 (14.0)	31 (16.6)	2,894 (19.2)
Unknown/other	0 (0.0)	* (*)	* (*)	12 (2.0)	* (*)	* (*)	* (*)	31 (0.2)

¹* Indicates cell size of fewer than 15 admissions.

SOURCE: California Outcomes Measurement System (CalOMS)

Exhibit 4d. Number and Percentage of Clients Admitted to Treatment for Selected Primary Drug Problems by Secondary Drug Use, San Diego County: 2008

	Primary Drug							Total (%)
	Alcohol (%)	Cocaine/crack (%)	Heroin (%)	Other Opiates (%)	Marijuana (%)	Methamphetamine (%)	All other (%)	
Total admissions	3,031 (20.2)	995 (6.6)	2,777 (18.5)	594 (3.9)	2,839 (18.9)	4,618 (30.7)	187 (1.2)	15,041 (100.0)
None	1,238 (40.8)	285 (28.6)	1,347 (48.5)	298 (50.2)	865 (30.5)	1,663 (36.0)	65 (34.8)	5,761 (38.3)
Alcohol	--	348 (35.0)	203 (7.3)	41 (6.9)	1,211 (42.7)	1,184 (25.6)	15 (8.0)	3002 (20.0)
Cocaine/Crack	264 (8.7)	--	297 (10.7)	19 (3.2)	137 (4.8)	187 (4.0)	* (*)	914 (6.1)
Heroin	84 (2.8)	38 (3.8)	--	61 (10.3)	35 (1.2)	162 (3.5)	* (*)	382 (2.5)
Other Opiates	45 (1.5)	* (*)	183 (6.6)	41 (6.9)	22 (0.8)	30 (0.6)	26 (13.9)	354 (2.4)
Marijuana	740 (24.4)	203 (20.4)	227 (8.2)	51 (8.6)	--	1,314 (28.5)	49 (26.2)	2,584 (17.2)
Methamphetamines	607 (20.0)	95 (9.5)	438 (15.8)	31 (5.2)	446 (15.7)	--	* (*)	1,626 (10.8)
All other	(1.7)	(1.9)	(3.0)	52 (8.6)	123 (4.3)	78 (1.7)	* (*)	418 (2.8)

SOURCE: California Outcomes Measurement System (CalOMS)

Exhibit 5. Percent Positive Tests for Selected Illicit Drugs Among Adult and Juvenile Arrestees by Gender, San Diego County: 2002–2008

	2002	2003	2004	2005	2006	2007	2008
Methamphetamine							
Male adults	34	38	42	44	36	24	20
Female adults	37	47	43	51	47	44	31
Juveniles	12	15	13	21	10	8	10
Cocaine							
Male adults	12	10	11	11	13	11	8
Female adults	21	15	23	15	21	16	12
Juveniles	–	–	6	6	5	3	2
Heroin/Opiates							
Male adults	5	6	5	5	5	6	6
Female adults	6	9	7	9	8	8	7
Juveniles	–	–	1	2	1	1	1
Marijuana							
Male adults	37	39	38	34	40	37	36
Female adults	33	29	28	31	31	29	26
Juveniles	46	49	42	44	43	40	44

SOURCE: San Diego Association of Governments, Substance Abuse Monitoring Program

Exhibit 6. Number and Percentage¹ of ED Reports for Selected Substances of Abuse (Unweighted²), San Diego: CY 2008

Drug	Number	Percent
Alcohol	1,581	37.9
Cocaine	476	11.4
Heroin	505	12.1
Marijuana	679	16.3
Methamphetamine	586	14.1
Amphetamines	174	4.2
MDMA	67	1.6
Phencyclidine (PCP)	20	0.5
Gamma Hydroxybutyrate (GHB)	22	0.5

¹Represents the percentage of all major substances of abuse (N=4,169), including alcohol-only cases for patients younger than 21.

²The unweighted data are from all eligible San Diego hospital EDs that reported data for any month in 2008.

SOURCE: DAWN Live!, OAS, SAMHSA, accessed May 7, 2009

Exhibit 7. Retail Prices for Selected Drugs, San Diego County: 2006–2009¹

Drug	2006	2007	2008	2009
Cocaine				
One-quarter gram	\$30–\$100	\$50–\$100	\$50–\$100	\$50–\$100
Gram	\$60–\$160	\$60–\$150	\$60–\$150	\$60–\$150
Ounce	\$500–\$800	\$600–\$1,000	\$600–\$1,000	\$700–\$1,000
Pound	\$6,500–\$10,000	\$6,000–\$10,000	\$8,000–\$10,000	\$8,000–\$10,000
Heroin (black tar)				
One-quarter gram	\$20	\$25–\$40	\$15–\$50	\$15–\$50
Gram	\$50–\$100	\$80	\$80–\$100	\$60–\$80
Ounce	\$500–\$1,200	\$600	\$600–\$1,200	\$600–\$1,200
Pound	\$17,000	\$17,000	\$10,000–\$17,000	\$8,000–\$10,000
Marijuana				
One-quarter ounce	\$30–\$50	\$30–\$50	\$40–\$100	\$40–\$100
Ounce	\$80–\$100	\$80–\$100	\$80–\$150	\$60–\$100
Pound	\$250–\$300	\$250–\$300	\$300–\$400	\$400–\$600
Methamphetamine				
One-quarter gram	\$20–\$25	\$20–\$25	\$20–\$25	\$20–\$50
Gram	\$50–\$100	\$50–\$100	\$75–\$100	\$75–\$100
Ounce	\$600–\$1,000	\$750–\$1,000	\$500–\$1,500	\$500–\$1,500
Pound	\$6,000–\$10,000	\$9,000–\$12,500	\$10,000–\$20,000	\$8,000–\$15,000

¹All data reported are collected during the prior year (e.g., data reported in 2009 are collected in 2008).

SOURCE: San Diego Law Enforcement Coordination Center

Exhibit 8. Deaths Due to Drug Overdose Involving Amphetamine and/or Heroin/Morphine, San Diego County: 2001–2008

Year	Amphetamine-Involved Drug Deaths		Heroin/Morphine-Involved Drug Deaths	
	Number	Rate ¹	Number	Rate ¹
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	88	2.87	84	2.74
2007	98	3.16	109	3.52
2008	83	2.64	105	3.34

¹Rates per 100,000.

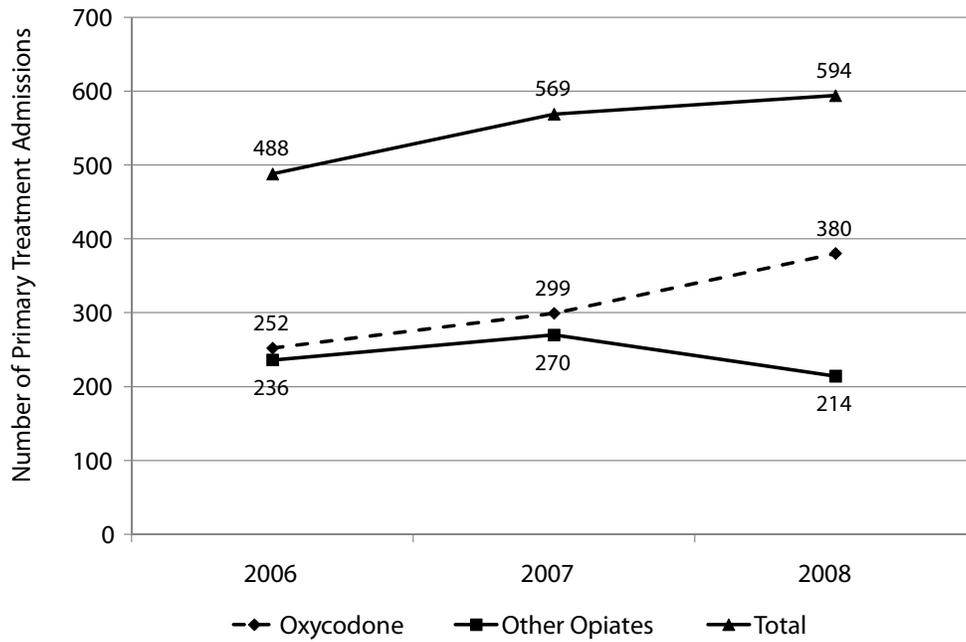
SOURCE: County of San Diego Health and Human Services Agency, Emergency Medical Services Medical Examiner Database, 2001–2008

Exhibit 9. Number and Percentage of Selected Drug Items Analyzed by Forensic Laboratories, San Diego County: CY 2008

Drug	Number	Percent
Cocaine	2,498	12.6
Heroin	676	3.4
Cannabis	10,226	51.6
Methamphetamines	3,955	20.0
All other drugs	2,466	12.4
Total	19,821	100.0

SOURCE: NFLIS, DEA

Exhibit 10. Number of Primary Treatment Admissions for Oxycodone (Oxycontin®) and Other Prescription Opiates/Opioids, San Diego County: 2006–2008



SOURCE: San Diego Department of Alcohol and Drug Programs, California Outcomes Measurement System (CalOMS)

Patterns and Trends of Drug Abuse in the San Francisco Bay Area: 2008

John A. Newmeyer, Ph.D.¹

ABSTRACT

Cocaine, by a small margin, led all other illicit drugs among problem indicators in 2008, such as treatment admissions, emergency department (ED) visits, and deaths. Recent trends in these indicators point to a generally unchanged level of abuse. The problem user population was as old as ever, with approximately two in five older than 45, based on ED visit data. Heroin usage appeared to have leveled off after significant declines from 2000 through 2004, and slower declines from 2005 to 2007. As with cocaine, about two in five problem users were older than 45, based on ED data. There were approximately 11,100 heterosexual heroin injectors in San Francisco County in 2006, about one-fifth fewer than in 2001. Following steep rises until a peak around 2004 or 2005, methamphetamine use indicators declined steadily. Surveys of gay men found an especially sharp decline. The average age of problem users was increasing, with well over one-half older than 35. The drug was costlier in 2008 than it was in 2007. ED reports for 2004–2007 indicated little change in marijuana's proportion of all reports. However, there were preliminary indications of an increase in 2008. Problem-related use of club drugs and hallucinogens remained rare. The incidence of new AIDS cases among injection drug users (IDUs) continued to decelerate.

INTRODUCTION

Area Description

The San Francisco Bay Area consists of the following counties: San Francisco, San Mateo, Alameda, Contra Costa, and Marin. The population was estimated at 4,416,000 in 2008. The population is among the most multicultural of any urban region of the United States, with a particularly large, varied, and long-established Asian-American representation (22 percent of the total). The Hispanic population (20 percent of the total) represents a wide cross-section of persons of Latin-American origin. Blacks account for just over 9 percent of bay area residents. San Francisco County has long been a mecca for gays: gay men constitute more than 15 percent of the adult male population.

The bay area experienced its initial growth during the California gold rush. In the succeeding century and a half, it expanded greatly as a center for shipping, manufacturing, finance, and tourism. In recent years, Pacific Basin trade and high technology, such as software and biotechnology development, have led to further expansion and to a highly diversified economy. The bay area is similar to Boston and Seattle in its strong presence of “knowledge-based” companies.

There have been two serious economic shocks to the bay area during the past decade. The “dot-com bust” helped to cause unemployment to rise from 2 to 6 percent between 2001 and 2003. From 2003 onward, the economy gradually recovered, but in the spring of 2008 the bay area began to suffer a severe recession; by March 2009 unemployment was 8.5 percent in the west bay area (San Francisco/San Mateo/Redwood City Metropolitan Statistical Area [MSA]) and fully 10.2 percent in the east bay area (Oakland/Fremont/Hayward MSA).

¹The author is affiliated with Haight-Ashbury Free Clinics, Inc., in San Francisco, California.

Data Sources

The sources of data for the drug abuse indicators within this report are described below:

- **Treatment admissions data** were available for all five bay area counties for fiscal years (FYs) 2007 and 2008. These data were compiled by the California Department of Alcohol and Drug Programs (DADP). In addition, admissions data for San Francisco County were provided by the San Francisco Department of Public Health for FYs 2006 and 2007, and the greater part of FY 2008.
- **Emergency department (ED) data** were provided by the Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration (SAMHSA). Data for 2008 are for the five counties of the San Francisco Bay area. Thirty-four eligible hospitals in the area are in the DAWN sample, with 35 emergency departments. In 2008, between 11 and 14 EDs reported data each month, with most reporting data that were basically complete (90 percent or greater; see exhibit 1). Unweighted DAWN *Live!* data for calendar year 2008 were accessed in May 2009 to examine the sociodemographic characteristics of this preliminary and partial 2008 caseload. DAWN *Live!* cannot be compared with weighted DAWN data. Only weighted ED data for calendar years 2004 through 2007 released by SAMHSA can be used for trend analysis (exhibit 2). The data represent drug reports involved in drug-related visits for illicit drugs (derived from the category of “major substances of abuse, excluding alcohol”) and the nonmedical use of selected prescription drugs (derived from the category of “other substances”). Drug reports exceed the number of ED visits because a patient may report use of multiple drugs (up to six drugs plus alcohol). A full description of the DAWN system can be found at the DAWN Web site <http://dawninfo.samhsa.gov>.
- **Medical examiner (ME) data on drug mentions** in decedents were provided by the San

Francisco County Medical Examiner for that county for FYs 2000 through 2006.

- **Price and purity data** came from the Drug Enforcement Administration (DEA), Domestic Monitor Program (DMP), and referenced heroin “buys,” mostly made in San Francisco County. Data for 2007 were compared with data from 1996 through 2006. Data on trafficking in heroin and other drugs were available in the report, *National Illicit Drug Prices*, of the National Drug Intelligence Center (NDIC) and pertained to wholesale, mid-level, and retail prices prevailing in San Francisco in June 2008.
- **Population sizes and human immunodeficiency virus (HIV) prevalence and incidence rates** were estimated by the “Consensus Group,” a large body of local experts. These estimates were for San Francisco County for 2006.
- **Acquired immunodeficiency syndrome (AIDS) surveillance data** were provided by the San Francisco Department of Public Health (SFDPH) and covered the period through March 31, 2009.
- **Reported drug use by students data** were provided by the Youth Risk Behavior Survey (YRBS) for the year 2007.
- **Surveys of gay and bisexual men** in San Francisco were conducted in 2003 and 2005 by the Stop AIDS Project.

DRUG ABUSE PATTERNS AND TRENDS

Cocaine/Crack

Cocaine, by a small margin, led all other illicit drugs among problem indicators, such as treatment admissions, ED visits, and deaths. Recent trends in these indicators point to a generally unchanged level of abuse. The problem user population is as old as ever, with about two in five older than 45, based on ED visit data.

In the five-county bay area, the number of admissions for cocaine increased slightly between

FY 2007 and FY 2008 (exhibit 3). However, the proportion of cocaine among all admissions declined between those 2 years. Over that same period, a decline in proportion of cocaine among all drug admissions was noted in San Francisco County (exhibit 4).

Weighted DAWN reports for the period from 2004 to 2007 reflect a nearly unchanged proportion for cocaine, except for a dip in 2005 (exhibit 2). In 2007, as compared with 2004, the proportion of males among the DAWN reports remained at 66 percent; the proportion older than 45 increased from 35 to 38 percent (although this increase is not statistically significant).

Cocaine-related deaths in San Francisco County declined from 95 in FY 2000, to 65 in FY 2004, and then rose to 71 in FY 2005, and 101 in FY 2006. In FY 2006, these decedents were 70 percent male; 49 percent White; and 37 percent Black; the mean age was 46.

Lifetime cocaine use reported by San Francisco students in 2007 was only 4.6 percent, compared with 7.2 percent reported by all U.S. students.

Local prices for powder cocaine in June 2008 were \$19,000–\$22,000 per kilogram, and \$700 per ounce. Crack prices were \$100 per gram, and \$20 per “rock.” Wholesale (kilogram and ounce) prices were significantly higher than in December 2007.

Heroin

Heroin usage appeared to have leveled off after significant declines from 2000 through 2004, and slower declines from 2005 to 2007. As with cocaine, about two in five problem users were older than 45, based on ED visit data. There were about 11,100 heterosexual heroin injectors in San Francisco County in 2006, about one-fifth fewer than in 2001.

The number of treatment admissions for primary heroin problems in the five-county bay area was slightly up between FY 2007 and FY 2008 (exhibit 3). However, the proportion of heroin among all admissions declined slightly in that

period, extending a steeper decline that had prevailed since at least calendar year 2000. San Francisco County showed the same leveling-off trend (exhibit 4).

Weighted DAWN data for 2004 through 2007 showed a steady decline for heroin’s share of total drug reports (exhibit 2). Preliminary unweighted DAWN data for 2008 suggest a slight reversal of this decline.

In the DAWN reports for 2007, as compared with those for 2004, the proportion of males held steady at 68 percent. The proportion older than 45 also was steady, changing only from 39 percent to 41 percent between the 2 years.

Between FY 2000 and FY 2005 in San Francisco County, heroin-related deaths declined by 65 percent (122 to 42), but then rose to 56 in FY 2006. In FY 2006, decedents were 77 percent male; 68 percent White; and 25 percent Black; the mean age was just under 47.

Because many heroin users support their habits through property crimes, reported burglaries may be a good indicator of use. The number of such reports in San Francisco fell by 49 percent between 1993 and 1999 (11,164 to 5,704). After that low point, the count rose to 6,706 in 2001, fell to 5,507 in 2003, and rose gradually to 6,909 in 2006, the highest in nearly a decade. These changes may reflect the price of heroin more than the prevalence of users; it is noteworthy that reported burglaries and the local price of heroin were both barely one-quarter of what they were 20 years ago.

The DMP tested heroin bought on the street in the San Francisco area during 2007. The 28 samples from that year, all Mexican brown, averaged 8 percent pure and \$1.28 per pure milligram (exhibit 5). This represents lower purity and higher price than any of the prior 5 years. Prices of Mexican black tar heroin were \$350 per ounce and \$35 per gram in June 2008. These prices represent significant decreases; in 2002, prices were \$450–\$850 per ounce and \$60 per gram.

Other Opiates/Narcotics

Unweighted DAWN data for 2008 showed hydrocodone reports to be occurring at approximately 7 percent of the rate of cocaine reports. Oxycodone reports were occurring at approximately 4 percent of cocaine's rate. Hydrocodone reports were notably more frequent in the east bay counties (Alameda and Contra Costa) than in the west bay counties (San Francisco, Marin, and San Mateo). The reverse was true for oxycodone reports. Methadone remained a concern, in that unweighted ED reports to DAWN were at 7 percent of those for cocaine in 2008. Fentanyl reports remained rare.

Methamphetamine/Amphetamines

Following steep rises until a peak around 2004 or 2005, methamphetamine use indicators declined steadily. Surveys of gay men found an especially sharp decline. The average age of problem users was increasing, with well over one-half older than 35. The drug was costlier in 2008 than it was in 2007.

The number of treatment admissions for primary amphetamine problems in the five-county bay area increased by one-half between FYs 2000 and 2004, fell by 15 percent between FY 2004 and FY 2007, then remained level to FY 2008 (exhibit 3). In San Francisco County, a slight but steady decline in the proportion of amphetamine among all treatment episodes was noted between FY 2006 and FY 2008 (exhibit 4).

Weighted 2004–2007 DAWN data for methamphetamine showed this drug reaching a peak proportion among all drug reports in 2005, followed by a steep decline (exhibit 2). Preliminary unweighted data for 2008 indicated a continuation of this decline. The drug was more prominent in the west bay area counties (San Francisco, Marin, and San Mateo) than in the east bay area counties (Alameda and Contra Costa).

In San Francisco County, amphetamine-related deaths rose from 15 to 48 between FY 2000 and FY 2005, and held steady at 47 in FY 2006. In

FY 2006, decedents were 72 percent male and 66 percent White; the mean age was 42.

In San Francisco in June 2008, pounds of “ice” methamphetamine sold in the \$18,000–\$20,000 range, ounces for \$1,700, and grams for \$100. These prices were significantly higher than those noted in 2007.

Just 3.6 percent of San Francisco students in 2007 reported lifetime use of “speed,” a proportion slightly less than for U.S. students as a whole (4.4 percent).

Marijuana

Weighted DAWN reports for 2004–2007 indicated little change in marijuana's proportion of all reports (exhibit 2). Preliminary unweighted DAWN data for 2008 suggested a slight increase. The drug was relatively more prominent in the east bay area counties than in the west bay area counties.

Drug treatment episodes for primary marijuana use in the five-county bay area increased slightly between FY 2007 and FY 2008, both in total numbers and as a proportion of all drug admissions (exhibit 3). In San Francisco County, marijuana admissions had steadily declined between FY 2003 and FY 2007, but turned upward in FY 2008 (exhibit 4).

According to the NDIC, pound prices for sinsemilla marijuana were \$2,700 to \$3,500, and ounce prices were \$300 to \$600 in June 2008. Domestic ounces were \$80 to \$100 in June 2008. A large and increasing quantity of marijuana is sold legally from medical marijuana outlets to certified purchasers. These outlets offer a great variety of products—smokable and edible, mild or strong, local or imported—with the retail price evidently closely correlated with THC (tetrahydrocannabinol) content.

A National Survey on Drug Use and Health (NSDUH) study found that among the 15 largest MSAs in the Nation, the San Francisco/Oakland MSA had the highest recent use of illicit drugs (12.7 percent) among adults during 2002–2005. That study also found that the San Francisco/

Oakland MSA had the *lowest* recent use of tobacco (17.9 percent) among the 15 MSAs. The likeliest explanation is that the bay area has more older adults using illicit drugs, especially marijuana, than most U.S. cities; fully 84 percent of FY 2005 treatment admissions in San Francisco County were 26 or older. A somewhat earlier (2002–2004) compendium of NSDUH data found that recent use of any illicit drug in the five bay area counties was significantly higher (10.9 percent) than for California as a whole (9.1 percent) or the Nation as a whole (8.1 percent). Data for any illicit drug use *but* marijuana, however, showed the bay area (3.9 percent) hardly differed from California (3.8 percent) or the Nation (3.6 percent). Thus, marijuana use evidently “drives” much or all of the bay area’s excess of illicit drug use patterns as compared with the rest of the State or the Nation. By contrast, the YRBS found just 22.8 percent of San Francisco high school students in 2007 reporting lifetime marijuana use, compared with 38.1 percent nationally.

The NSDUH study also found that reported illicit drug use among nonmetropolitan areas of northern California was even greater than that in the bay area; this suggests that an out-migration of substance use patterns may have occurred. Marijuana use was “driving” most, but not all, of this excess.

Club Drugs

The NDIC reported that in June 2008, 3,4-methylenedioxymethamphetamine (MDMA) sold for \$3 per tab. Weighted DAWN reports showed a steady percentage of total drug mentions from 2004 through 2006, followed by a drop in 2007 (exhibit 2). Preliminary unweighted DAWN data for 2008 suggested a return to the 2004–2006 level: 232 reports, or just over 5 percent as many as cocaine reports. Gamma hydroxybutyrate (GHB) unweighted reports to DAWN numbered only 68 in 2008.

Phencyclidine (PCP) and Lysergic Acid Diethylamide (LSD)

Weighted DAWN data for 2004–2007 reflected a steady low frequency of PCP reports (exhibit 2). Unweighted reports for PCP in 2008 numbered only 76; LSD was even more rare, with just 67 reports.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

AIDS

San Francisco County had a cumulative total of 28,113 AIDS cases of residents through March 2009. Of these cases, 2,088 (7.4 percent) were heterosexual injection drug users (IDUs). Another 3,997 AIDS cases (14.1 percent) were men who had sex with other men (MSM) and also injected drugs (MSM/IDUs). There were just 56 reported cases among lesbian IDUs, barely one-hundredth the number among MSM/IDUs. A total of 394 AIDS cases have been reported for transgender San Franciscans.

Since March 2008, cumulative AIDS cases have increased by 1.9 percent; heterosexual IDU cases by 1.8 percent; MSM/IDU cases by 2.7 percent; transgender cases by 4.8 percent; and MSM (non-IDU) cases by 1.5 percent. For MSM/IDUs and for transgenders, AIDS incidence is higher than for the other populations, and by a greater margin than in 2007.

Among San Franciscans diagnosed in 2006 through 2009, heterosexual IDUs accounted for 10 percent, as compared with 10 percent among those diagnosed in 1994–1996; 14 percent of those diagnosed in 1997–1999; 14 percent of those diagnosed in 2000–2002; and 13 percent of those diagnosed in 2003–2005. The overall case numbers in 2003–2008 were far lower than those of the late 1980s and early 1990s. The AIDS epidemic, therefore, appears to be easing among heterosexual IDUs, whose proportion among the

cumulative caseload will probably not increase significantly from the current level of 7.4 percent.

The demography of the cumulative heterosexual IDU caseload with AIDS has changed very little in the past 17 years. This caseload was 67 percent male; 50 percent Black; 35 percent White; 11 percent Hispanic; and 2 percent Asian/Pacific Islander. By contrast, the gay/bisexual IDU caseload was 70.6 percent White; 16.2 percent Black; 10.3 percent Hispanic; and 1.7 percent Asian/Pacific Islander. The heterosexual IDU

demography is like that of heroin users except for an overrepresentation of Blacks, while the gay male IDU demography is similar to that for male speed users.

For inquiries concerning this report, contact John A. Newmeyer, Ph.D., Epidemiologist, Haight-Ashbury Free Clinics, Inc., 2004 Gough Street, San Francisco, CA 94109, Phone: 415-710-3632, Fax: 415-776-8823, E-mail: jnewmeyer@aol.com.

Exhibit 1. DAWN ED Sample and Reporting Information, San Francisco/Oakland Metropolitan Area: CY 2008¹

Total Eligible Hospitals	No. of Hospitals in DAWN Sample	Total EDs in DAWN Sample	No. of EDs Reporting per Month: Completeness of Data (%)			No. of EDs Not Reporting
			90–100%	50–89%	< 50%	
35	15	14–15	10–14	0–2	0	21–24

¹Represents short-term, general, non-Federal hospitals with 24-hour emergency departments based on the American Hospital Association Annual Survey. Some hospitals have more than one ED.
SOURCE: DAWN Live!, OAS, SAMHSA, accessed May 7, 2009

Exhibit 2. Weighted DAWN Episodes, Drug Mentions as Percentage of Total Drug Mentions: 2004–2007

Drug	2004	2005	2006	2007
Cocaine	34.4%	29.8%	35.2%	34.8%
Heroin	18.9%	13.5%	12.1%	11.4%
Methamphetamine	16.7%	18.7%	14.8%	10.3%
Marijuana	9.1%	9.4%	9.5%	8.9%
MDMA	1.6%	1.7%	1.7%	1.1%
PCP	0.7%	0.5%	0.7%	0.9%

SOURCE: DAWN, OAS, SAMHSA, updated 11/2008

Exhibit 3. Number of Admissions to Drug Treatment Programs, by Primary Drug of Abuse (Excluding Alcohol Admissions), in the Five-County San Francisco Bay Area: FYs 2007 and 2008

Drug	FY 2007	FY 2008	FY 2007 %	FY 2008 %
Cocaine	6,059	6,380	22.2	20.8
Heroin	5,481	5,974	20.1	19.5
Methamphetamine	5,727	5,864	21.0	19.1
Marijuana	2,709	3,106	9.9	10.1
All Drugs	27,318	30,609	—	—

SOURCE: California Department of Alcohol and Drug Programs

Exhibit 4. Number of Admissions¹ to Drug Treatment Programs, by Primary Drug of Abuse (Excluding Alcohol Admissions), in San Francisco County: FYs 2006–2008

Drug	FY 2006	FY 2007	FY 2008	FY 2006 %	FY 2007 %	FY 2008 %
Cocaine	4,822	4,649	2,546	32.6	33.9	26.9
Heroin	6,222	6,033	3,978	42.0	42.7	42.0
Amphetamine ²	2,159	2,006	1,268	14.6	14.2	13.4
Marijuana	1,222	1,107	1,215	8.3	7.8	12.8
All Drugs	14,807	14,140	9,474	—	—	—

¹Treatment episodes for primary drugs at admission; data for FY 2008 are incomplete.

²Includes methamphetamine.

SOURCE: San Francisco Department of Public Health

Exhibit 5. Price and Purity of Heroin Samples, in San Francisco: 1996–2007

Year	Price per Milligram Pure	Purity (Percent)
1996	\$0.83	24
1997	\$0.63	26
1998	\$0.33	26
1999	\$0.47	20
2000	\$0.70	15
2001	\$1.40	10
2002	\$0.99	12
2003	\$0.98	11
2004	\$0.98	11
2005	\$0.89	12
2006	\$0.68	10
2007	\$1.28	8

SOURCE: DMP, DEA

Drug Abuse Trends in the Seattle/King County Area: 2008

Caleb Banta-Green¹, T. Ron Jackson², David Albert³, Michael Hanrahan⁴, Mary Taylor⁵, Margaret Soukup⁶, John Ohta⁷, Steve Freng⁸, Robyn Smith⁹, Ann Forbes⁹, Richard Harruff¹⁰

ABSTRACT

Cocaine use continued to have substantial impacts in the Seattle/King County area across indicator data sources in 2008. Even as cocaine-involved deaths declined, they remained the second most common substance identified, with 71 of 256 drug-caused deaths involving cocaine. Cocaine was the most common substance detected in local law enforcement evidence testing. Adult treatment admissions climbed steadily to their highest level in at least a decade, with large increases in the numbers of clients age 18–25 and 40 and older. Cocaine was the most common drug identified in the Drug Abuse Warning Network (DAWN) emergency department (ED) reports, with 27 percent of major substance reports (n=3,631). Heroin deaths declined somewhat in 2008, to 59

out of 256 total drug-caused deaths. For heroin, 24 percent of decedents were under age 30, similar to 2007, and up somewhat compared with the previous 7 years. Heroin treatment admissions were second only to cocaine among illegal drugs for adults with an increase in the number (240) and proportion (13 percent) age 18–25, compared with a decade ago. Both the number (401) and proportion (22 percent) of clients over age 50 doubled. DAWN ED reports for heroin totaled 1,981 (15 percent), second to cocaine among illegal drugs. Drug-caused deaths involving pharmaceutical opioids continued to increase, totaling 153 of 256 deaths in 2008, more than double the number of any other type of substance. Those over age 50 constituted 39 percent of deaths involving pharmaceutical opioids, the largest proportion in this age group for all drug types. Among these pharmaceutical opioid-involved deaths, illegal drugs were present in 24 percent, and benzodiazepines were present in 32 percent; overall, multiple substances were involved in 84 percent of deaths. The total number of treatment admissions for primary pharmaceutical opioid use increased from 87 to 614 from 1999 to 2008, with the largest proportion (51 percent) in the 18–29 age group in 2008. ED reports for abuse of pharmaceutical opioids totaled 2,228, more than the reports for heroin. Methamphetamine indicators appeared to have leveled off over the past 4 years. Deaths continued to be relatively uncommon, with 13 drug-caused deaths involving methamphetamine in 2008, down from a peak of 24 in 2005. Treatment admissions have held steady at approximately 1,300 per year for adults over the past 4 years, while youth admissions declined from 68 to 18. Among clients age 18–29, methamphetamine treatment admissions exceeded cocaine admissions in 2008. Methamphetamine ED reports totaled 879 (7 percent) of reports for major substances in 2008. The number and proportion of local law enforcement cases testing positive for methamphetamine declined somewhat in 2008, compared with 2007, ranking third among controlled drugs in both years. Methamphetamine laboratory related incidents statewide

¹The author is affiliated with the Alcohol and Drug Abuse Institute, University of Washington.

²The author is affiliated with Evergreen Treatment Services.

³The author is affiliated with the Division of Alcohol and Substance Abuse, Washington State Department of Social and Health Services.

⁴The author is affiliated HIV/AIDS Epidemiology, Public Health – Seattle and King County.

⁵The author is affiliated with the King County Drug Courts.

⁶The author is affiliated with DCHS/Mental Health, Chemical Abuse and Dependency Services Division.

⁷The author is affiliated with the Ryther Child Center and the University District Youth Center.

⁸The author is affiliated with the Northwest High Intensity Drug Trafficking Area.

⁹The author is affiliated with the Washington State Alcohol and Drug Help Line.

¹⁰The author is affiliated with the Seattle and King County Medical Examiner's Office, Public Health.

continued to decline in 2008, with 44 compared with 88 in 2007. For youth, marijuana was the most common drug cited at admission; for adults it was the fourth most common. Marijuana treatment admissions were older, increasingly African American, and likely to report cocaine or methamphetamine as secondary drugs. ED reports for marijuana totaled 1,735 (13 percent), third among illegal drugs. Reports of hallucinogenic drugs were not common in indicators of morbidity and mortality. Of note, 3,4-methylenedioxymethamphetamine (MDMA) in local law enforcement seizure drug tests decreased substantially from 2007 to 2008, while the number for 1-benzylpiperazine (BZP) increased from 0 to 41. MDMA ED reports totaled 181 (1 percent) in 2008. During 2006–2008 the human immunodeficiency virus (HIV) exposure category of injection drug use (IDU) totaled 4 percent, and men who have sex with men (MSM)/IDU totaled 7 percent. The proportion with IDU as their exposure category was a significant decline from 2000–2002, when it was 8 percent.

INTRODUCTION

Data Sources

The primary sources of information used in this report are listed below.

- **The 2008 Healthy Youth Survey** included 2,228 valid respondents of an estimated 4,579 enrolled students in King County. This survey was sponsored by: the Department of Health (DOH); the Office of Superintendent of Public Instruction; the Department of Social and Health Services; the Department of Community, Trade and Economic Development; the Family Policy Council; and the Liquor Control Board; in cooperation with schools throughout the State of Washington. Data were collected and compiled by the RMC Corporation.
- **Drug trafficking data** were obtained from the Drug Enforcement Administration (DEA) Seattle Field Division Quarterly Trends in the Traffic Reports, and Domestic Monitoring Program (DMP) heroin purchase data (edited versions). 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.
- **Drug overdose data** were obtained from the King County Medical Examiner (KCME), Public Health—Seattle and King County. 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 where there is an indication that the death is “heroin related” in the KCME database.
- **Data on seized drug samples submitted for analysis** were obtained from the National Forensic Laboratory Information System (NFLIS), DEA. Drug testing results for local law enforcement seizures in King County are reported.
- **Emergency department (ED) drug report data** were obtained from the Drug Abuse Warning Network (DAWN) *Live!*, Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA), for 2008. Data were accessed 5/4/2009. Data completeness for 2008 was as follows: out of 25 eligible EDs, 8 to 14 of the EDs reported basically complete data (90 percent or greater) each month, and 9 to 14 reported no data.
- **Drug treatment data** were provided by Washington State Department of Social and Health Services (DSHS), Division of Alcohol and Substance Abuse (DASA), Treatment Report and Generation Tool (TARGET), from 1999 through 2008. 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.

- **Methamphetamine incident data** were provided by the Washington State Patrol Forensic Laboratory Services Bureau.
- **Data on infectious diseases related to drug use and injection drug use (IDU)**, including the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), were provided by Public Health—Seattle and King County (PHSKC). Data on HIV cases (including exposure related to IDU) in Seattle/King County (2001 through 2008) were obtained from the “HIV/AIDS Epidemiology Report.”

Cocaine

Cocaine use continued to have substantial impacts across indicator data sources. Even as cocaine-involved deaths declined somewhat from a peak of 112 in 2006, they remained the second most common substance identified, with 71 of 256 drug-caused deaths involving cocaine (exhibit 1). In 2008, 21 percent of decedents with cocaine present were African American. Three-quarters of decedents with cocaine were age 41 or older, a slightly larger proportion than for all drugs. Three-quarters of deaths with cocaine involved other drugs, indicating the high frequency of polydrug use preceding death (exhibit 2). Three drugs were detected in about one-third of cases—alcohol, heroin/opiate, and pharmaceutical opioids (with some overlap of these substances in decedents).

Adult treatment admissions with cocaine listed as the primary drug of abuse have climbed steadily to their highest level in at least a decade, from 1,279 in 1999 to 2,455 in 2008 (exhibit 3a). Youth admissions remained low, with 32 admissions in 2008, similar to prior years (exhibit 3b). There were large proportional increases in the number of clients age 18–25, from 63 to 206, and 40 and older, from 339 to 1,009. In 2008, an

additional 1,203 people reported cocaine use as secondary to alcohol, and 901 reported it as secondary to heroin (exhibit 4). Including cocaine reported as primary or secondary, cocaine use was reported by more than one-third of treatment enrollees in 2008, 5,095 of 14,203 total admissions.

Among students in grade 10, 7 percent reported ever using cocaine, statistically equivalent to methamphetamine and heroin (exhibit 5). Cocaine was the most common substance detected in local law enforcement evidence testing, with 914 of 2,546 exhibits (36 percent) (exhibit 6). Local law enforcement personnel across Washington identify powder cocaine as widely available and a major concern, according to the NW HIDTA Threat Assessment Report.

Cocaine was the most common drug identified in DAWN ED reports, with 27 percent of major substance reports ($n=3,631$) for the larger Seattle metropolitan area that includes King, Snohomish, and Pierce Counties (exhibit 7).

Heroin

Heroin/opiate deaths declined somewhat in 2008, to 59 out of 256 total drug-caused deaths (exhibit 1). One-quarter (24 percent) of decedents were under age 30, similar to 2007, and up somewhat compared with the previous 7 years. Heroin was the only substance detected in only 19 percent of these deaths: 41 percent were also positive for cocaine; 31 percent were also positive for alcohol; 29 percent were also positive for pharmaceutical opioids; and 17 percent tested positive for benzodiazepines (exhibit 2).

Heroin treatment admissions were second only to cocaine among illegal drugs for adults, with an increase in the number (240) and proportion (13 percent) age 18–25 compared with a decade ago. Both the number (401) and proportion (22 percent) of clients over age 50 doubled. The proportion of primary heroin users reporting other opiates as their secondary drug of choice increased, from 4 percent in 1999 to 12 percent in 2008. On a related note, 12 percent of primary

other opiates users reported heroin as secondary (exhibit 4).

Heroin ranked fourth in local law enforcement seizure drug test results in 2007 and 2008 (exhibit 6). The DEA's DMP data indicated that in the city of Seattle in 2007, heroin averaged 10.3 percent pure, with a median of 10.6 percent, and a maximum of 22.4 percent. In 2008, Seattle area heroin averaged 8.5 percent pure, with a median of 8.0 percent and a maximum of 24.5 percent. Law enforcement from across the State indicated that heroin continued to be available, primarily in larger cities in Washington. The Healthy Youth Survey for King County indicated that 5 percent of students in grade 10 reported ever using heroin in their lifetime, the same level reported statewide (figure 5).

DAWN ED reports for heroin totaled 1,981 (15 percent), second to cocaine among illegal drugs in 2008 (exhibit 7).

Other Opiates

Drug-caused deaths involving other opiates continued to increase, totaling 153 of 256 deaths in 2008, more than double the number of any other type of substance. Those over age 50 constituted 39 percent of deaths involving other opiates, the largest proportion in this age group for all drug types. Among these deaths, illegal drugs were present in 24 percent of deaths, and benzodiazepines in 32 percent, with 84 percent of deaths involving multiple substances (exhibit 2). The most common types of opioids detected were methadone ($n=88$), oxycodone ($n=43$), and hydrocodone ($n=21$). There was one death involving buprenorphine in 2008; there were two deaths with buprenorphine detected in 2007, the first year such deaths were reported. All three deaths involved multiple pharmaceutical drugs, such as benzodiazepines and antidepressants. Buprenorphine is a newer medication used for opioid addiction treatment, and is not routinely tested for in deaths, with a special test needing to be requested.

The total number of treatment admissions for primary pharmaceutical opioid abuse in King County increased from 87 in 1999, to 614 in 2008, with the largest proportion (52 percent) age 18–29 in 2008, up from 16 percent in 2008 (exhibit 4). Age at first use was 12–13 for 5 percent; age 14–15 for 9 percent; age 16–17 for 16 percent; and age 18–20 for 26 percent. Across the State, primary other opiates abuse treatment admissions increased from 325 to 3,276 over the past 10 years, with 56 percent age 18–29 in 2008.

The King County 2008 Health Youth Survey found that 8 percent of students in grade 10 reported using pharmaceutical opioids to “get high” in the past month, similar to 2006 when the question was first asked. Among those reporting use to get high, one-half used one to two times in the past month and one-half used three or more times. The most common source among respondents who had ever used pharmaceutical opioids to get high included: from a friend; their own prescription; taken from their own or someone else's home without permission; family member gave it to them; other sources; and from a drug dealer (exhibit 5). Findings were similar for the entire State.

ED reports for the case type “other/drug abuse” for pharmaceutical opioids totaled 2,228, somewhat more than that reported for all case types involving heroin. Law enforcement drug testing reports stated a growing concern about pharmaceutical opioids, but only a modest street drug dealing market for them. Tests of law enforcement evidence obtained in King County indicated that of 2,546 pieces of evidence tested, oxycodone totaled 89; hydrocodone 35; methadone 11; morphine 9; and buprenorphine 7 (exhibit 6).

Methamphetamine

Methamphetamine indicators appeared to have leveled off over the past 4 years. Deaths continued to be relatively uncommon, with 13 drug-caused deaths involving methamphetamine in 2008, down from a peak of 24 in 2005 (exhibit 1).

Decedents tended to be older, with none under 30. More than one-half (54 percent) involved no other drug (exhibit 2).

Methamphetamine primary treatment admissions have held steady at approximately 1,300 per year for adults over the past 4 years (exhibit 4), while youth admissions declined from 68 to 18 (exhibit 3b). Among clients age 18–29, methamphetamine treatment admissions exceeded cocaine admissions in 2008, 532 compared with 379, respectively. Over the past decade, admissions among those age 40 and over increased tenfold to 351 (exhibit 4).

Tenth graders reported a lifetime prevalence of 5 percent for ever using methamphetamine (exhibit 5). The number and proportion of local law enforcement cases testing positive for methamphetamine declined somewhat in 2008 compared with 2007, ranking third in both years below cocaine and marijuana (exhibit 6). Methamphetamine manufacturing-related incidents statewide continued to decline in 2008, with 44 compared with 88 in 2007. Methamphetamine ED reports totaled 879 (7 percent) reports for major substances in 2008 (exhibit 7).

Marijuana

For youth, marijuana was the most common drug cited at admission; for adults it was the fourth most common (exhibits 3a and 3b). The total number of admissions where marijuana was reported to be the primary drug of abuse increased from 1,665 to 2,326 (exhibit 4); use as the secondary drug increased from 1,999 in 1999 to 2,867 in 2008. Youth admissions declined 28 percent in the past decade. As the average age of clients has increased, so too has the proportion who were African American, and the proportion who reported cocaine or methamphetamine as secondary drugs.

Thirty percent of students in grade 10 reported ever smoking marijuana, 20 percent in the past month. Among past-month users, one-third reported using 1–2 days; another one-third reported using 3–9 days; and one-third reported

using 10 or more days. Among all 10th graders, 7 percent reported using marijuana 10 or more days in the past month (exhibit 5).

Marijuana/cannabis was the second most common drug detected in local law enforcement seizures, the same ranking as 2007. There were a total of 827 positive tests for marijuana/cannabis in 2008, out of 2,546 tests positive for any substance (exhibit 6). ED reports for marijuana totaled 1,735 (13 percent), third among illegal drugs (exhibit 7).

In terms of marijuana growing in Washington State, the NW HIDTA Threat Assessment reported that outdoor grows totaled 538,918 plants in 2008, compared with 241,097 in 2007. The report also noted that there is, "...continued evidence Southeast Asian growers have moved operations from Canada to Washington [with a]...decrease in southbound marijuana seizures at border" since 2003.

MDMA and Other Hallucinogenic Drugs

Hallucinogenic drugs are uncommonly reported in indicators of morbidity and mortality. There was one death in which 3,4-methylenedioxymethamphetamine (MDMA) was detected in 2008; there have been a total of 18 deaths involving MDMA since 1999.

1-Benzylpiperazine (BZP) has emerged as an MDMA-like drug, often being sold in tablet form as MDMA; it is reported that both dealers and users may be unaware that the substance is BZP. In 2007, there were no cases positive for BZP among law enforcement seizures in King County, compared with 41 in 2008. At the same time, MDMA is reported to be somewhat less available and law enforcement seizure tests positive for MDMA declined from 249 in 2007 to 56 in 2008 (exhibit 1). MDMA ED reports totaled 181 (1 percent) in 2008, with trend data unavailable (exhibit 7).

In October 2008, 203,897 BZP tablets were seized at the United States–Canadian border in Washington; the BZP was entering the United States. It is believed that BZP is being

manufactured in Canada where it is not a controlled drug (BZP is currently a controlled drug in the United States). According to the NW HIDTA Threat Assessment report, Washington State is number one in the Nation for MDMA seizures. MDMA is being manufactured in Canada, and is getting moved through Washington to destinations throughout the United States. In 2008, the Federal Drug Seizure System reported that seizures in Washington for MDMA totaled 12.6 million dosage units and 66.8 kilograms, compared with 1.9 million dosage units and 366 kilograms in 2007.

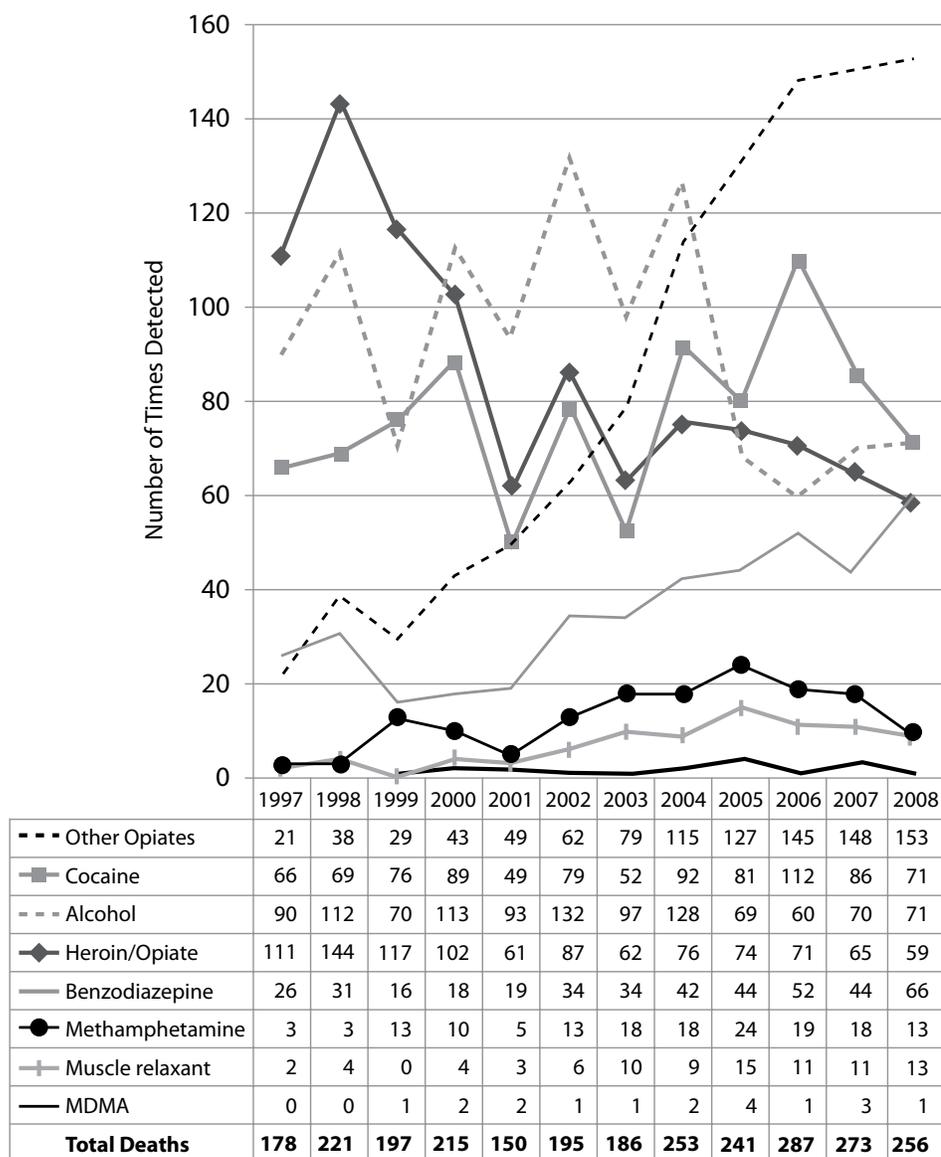
INFECTIOUS DISEASES RELATED TO DRUG ABUSE

HIV

During 2006–2008 the HIV exposure category of IDU totaled 4 percent, and men who have

sex with men (MSM)/IDU accounted for 7 percent (exhibit 8). The proportion with IDU as their exposure category was a significant decline from 2000–2002, when it was 8 percent. Syringe exchange volume fluctuated between 1.8 and 2.1 million syringes exchanged per year between 2000 and 2007, then increased to 3.3 million in 2008. In 2008, the needle exchange placed 445 heroin-using IDUs in methadone treatment, up from 157 in 2007, and 138 in 2006.

For inquiries concerning this report, contact Caleb Banta-Green, M.S.W., M.P.H., Ph.D., 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. Number of Drug-Caused Deaths for Selected Drugs¹, King County (Seattle) Washington: 1997–2008

¹Other opiates includes pharmaceutical opioids, including pharmaceutical morphine where noted, and excludes codeine. Heroin/opiate includes heroin, morphine (unless noted to be pharmaceutical), and cases where there is an indication that the death is "heroin related" in the King County Medical Examiner database.

SOURCE: King County Medical Examiner, Public Health—Seattle and King County

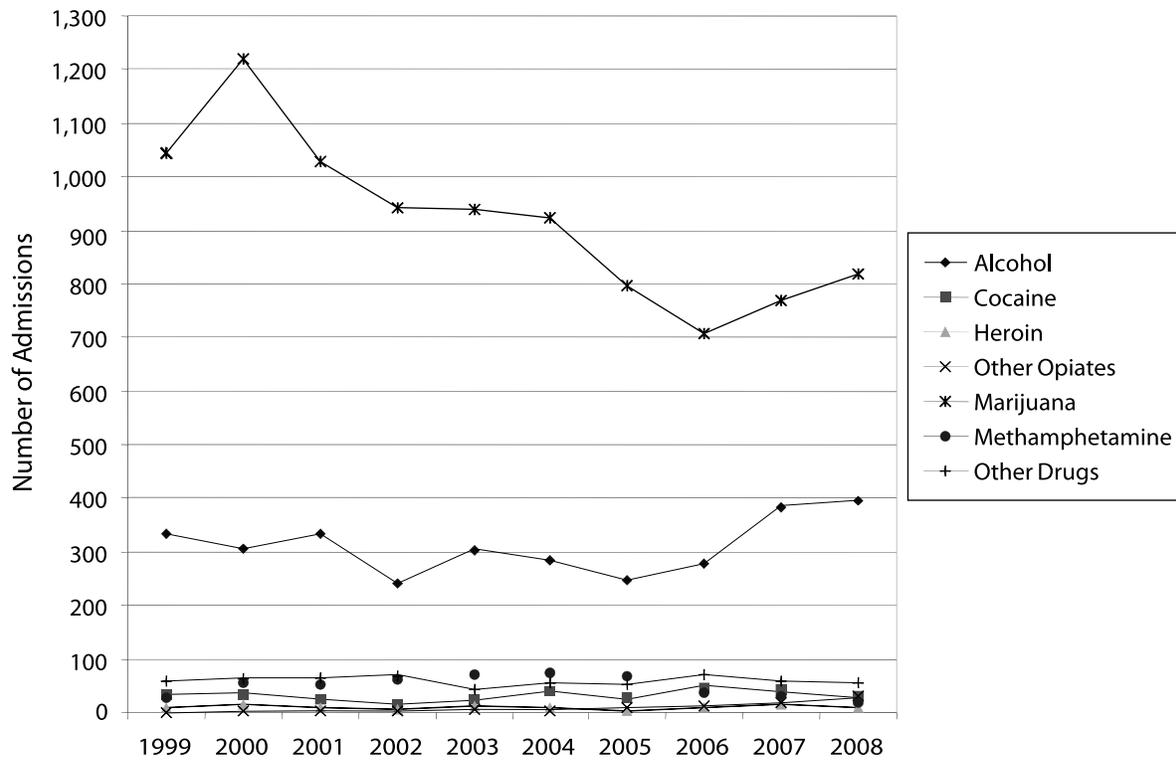
Exhibit 2. Number and Percentage of Drug-Caused Deaths, by Gender, Ethnicity, Age, Type of Death, and Drug, King County (Seattle), Washington: CY 2008

	Alcohol	Cocaine	Heroin/ Opiates	Other Opiates	Metham- phetamine	Benzo- diazepine	All Deaths
% Female	23%	27%	22%	46%	15%	41%	36%
Race							
White	86%	74%	80%	88%	82%	80%	82%
African American	9%	21%	12%	7%	9%	5%	10%
Asian	1%	0%	0%	1%	0%	2%	1%
Native American	3%	1%	7%	3%	0%	9%	4%
Other	1%	3%	2%	1%	9%	5%	2%
Median Age (Range)	44 (19–77)	48 (21–73)	43 (18–69)	48 (17–76)	44 (36–63)	46.5 (21–77)	47 (17–77)
Age Category							
<30	20%	14%	24%	13%	0%	15%	14%
31–40	21%	11%	20%	15%	31%	17%	16%
41–50	34%	41%	29%	33%	38%	30%	32%
>50	25%	34%	27%	39%	31%	38%	38%
Manner of Death							
Accident	85%	99%	95%	89%	100%	79%	89%
Suicide	13%	0%	3%	7%	0%	17%	8%
Undetermined	3%	1%	2%	5%	0%	5%	4%
% Single Drug	9%	25%	19%	16%	54%	0%	29%
Illegal Drug¹	45%	NA	NA	24%	NA	24%	46%
Other Drugs							
Alcohol	100%	31%	31%	22%	8%	29%	28%
Cocaine	31%	100%	41%	17%	15%	15%	28%
Heroin/Opiates	25%	34%	100%	11%	8%	15%	23%
Other Opiates	48%	37%	29%	100%	15%	74%	60%
Methamphetamine	1%	3%	2%	1%	100%	0%	5%
Benzodiazepine	27%	14%	17%	32%	0%	100%	26%
Muscle Relaxants	7%	1%	3%	7%	0%	8%	5%
SSRI Antidepressants	25%	17%	15%	36%	23%	33%	29%
Total Number Drugs [Deaths]	71	71	59	153	13	66	[256]
% of Deaths	28%	28%	23%	60%	5%	26%	100%

¹Cocaine, heroin/opiate, methamphetamine, and MDMA.

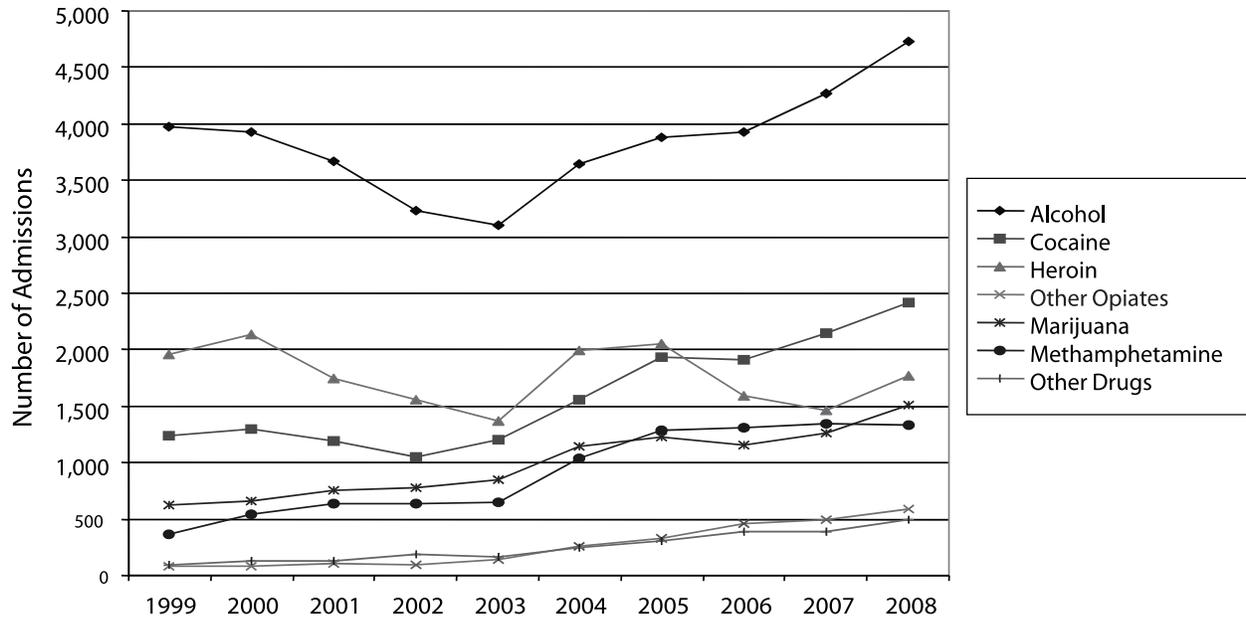
SOURCE: King County Medical Examiner, Public Health—Seattle and King County

Exhibit 3a. Number of Youth Drug Treatment Admissions, by Primary Drug of Abuse for Selected Drugs, King County (Seattle), Washington: 1999–2008



SOURCE: Washington State Division of Alcohol and Substance Abuse, Treatment Report and Generation Tool

Exhibit 3b. Number of Adult Drug Treatment Admissions, by Primary Drug of Abuse for Selected Drugs, King County (Seattle), Washington: 1999–2008



SOURCE: Washington State Division of Alcohol and Substance Abuse, Treatment Report and Generation Tool

Exhibit 4. Number and Percentage of Drug Treatment Admissions for King County (Seattle), Washington Residents, by Gender, Age, and Drug: CY 2008

	Alcohol		Cocaine		Heroin		Other Opiates		Marijuana		Methamphetamine		Other Drugs ¹		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Gender																
Female	1,434	28	844	34	634	36	270	44	509	22	441	33	267	49	4,399	31
Ethnicity																
White	2,592	51	764	31	1,234	69	490	80	900	39	1,068	79	361	66	7,409	52
African American	985	19	1,268	52	266	15	24	4	791	34	56	4	72	13	3,462	24
Asian/Pacific Islander	248	5	83	3	18	1	22	4	83	4	40	3	28	5	522	4
Native American	372	7	75	3	54	3	23	4	91	4	20	1	12	2	647	5
Hispanic	497	10	128	5	116	7	23	4	258	11	79	6	45	8	1,146	8
Multiple Race	210	4	90	4	64	4	24	4	158	7	62	5	21	4	629	4
Other	220	4	47	2	32	2	8	1	45	2	28	2	8	1	388	3
Age																
Under 18	394	8	32	1	10	1	30	5	817	35	18	1	56	10	1,357	10
18–25	653	13	206	8	240	13	194	32	668	29	297	22	108	20	2,366	17
26–29	491	10	173	7	196	11	121	20	231	10	235	17	76	14	1,523	11
30–39	1,164	23	646	26	428	24	133	22	361	16	452	33	122	22	3,306	23
40–49	1,589	31	1,009	41	509	29	84	14	197	8	303	22	102	19	3,793	27
50 and Older	833	16	389	16	401	22	52	8	52	2	48	4	83	15	1,858	13
Recent IDU	109	2	91	4	1,293	72	71	12	15	1	125	9	58	11	1,762	12
Secondary Substance																
Alcohol	0	0	1,100	45	191	11	115	19	1,314	56	350	26	86	16	3,156	22
Cocaine	1,203	23	0	0	901	51	77	13	240	10	162	12	57	10	2,640	19
Heroin	85	2	143	6	0	0	74	12	14	1	41	3	71	13	428	3
Other Opiates	119	2	49	2	219	12	41	7	44	2	42	3	53	10	567	4
Marijuana	1,553	30	528	22	101	6	127	21	0	0	468	35	90	16	2,867	20
Methamphetamine	194	4	99	4	85	5	35	6	131	6	0	0	13	2	557	4
Other Drugs ¹	209	4	85	3	122	7	73	12	150	6	62	5	34	6	735	5
Tobacco	460	9	122	5	60	3	21	3	109	5	43	3	14	3	829	6
None	1,301	25	329	13	105	6	51	8	324	14	185	14	129	24	2,424	17
Age at 1st Use																
11 and Under	945	18	43	2	19	1	12	2	438	19	25	2	12	2	1,494	11
12–13	1,115	22	106	4	106	6	31	5	727	31	134	10	47	9	2,266	16
14–15	1,175	23	177	7	167	9	58	9	663	29	193	14	64	12	2,497	18
16–17	920	18	329	13	249	14	101	16	320	14	223	16	60	11	2,202	16
18–20	574	11	550	22	360	20	157	26	112	5	237	18	72	13	2,062	15
21–25	301	6	545	22	407	23	106	17	49	2	226	17	92	17	1,726	12
26–30	53	1	367	15	219	12	61	10	13	1	144	11	50	9	907	6
30–40	33	1	260	11	209	12	52	8	3	0	135	10	46	8	738	5
41 and Older	8	0	78	3	48	3	36	6	1	0	36	3	26	5	233	2
Missing	0	0	0	0	0	0	0	0	0	0	0	0	78	14	78	1
Total	5,124	100	2,455	100	1,784	100	614	100	2,326	100	1,353	100	547	100	14,203	100

¹Includes: Hallucinogens, None, Barbiturates, Benzodiazepines, Inhalants, Major Tranquilizers, Other sedatives, Over-the-counter, phencyclidine (PCP), Other, Unknown, Prescribed opioid substitute.

SOURCE: Washington State Division of Alcohol and Substance Abuse, Treatment Report and Generation Tool

Exhibit 5. Youth Drug Use Prevalence (Students in 10th Grade), by Number and Prevalence, for King County (Seattle) and Washington State: CY 2008

Lifetime prevalence, NEVER used substance.	King County		Washington State	
Cocaine	(n=997) 93.0% (± 2.5%)		(n=3,253) 93.1% (± 0.9%)	
Heroin	(n=1,000) 95.3% (± 2.4%)		(n=3,259) 95.6% (± 0.9%)	
Methamphetamine	(n=997) 95.3% (± 2.2%)		(n=3,257) 95.3% (± 0.7%)	
Use in the past 30 days	King County		Washington State	
Use marijuana or hashish (grass, hash, pot)?	(n=2,165)		(n=6,757)	
None	79.9%	(± 3.6%)	80.9%	(± 1.2%)
1-2	6.8	(± 1.5)	7.1	(± 0.6)
3-5	4.7	(± 1.0)	4.0	(± 0.5)
6-9	2.1	(± 0.7)	1.8	(± 0.3)
10 or more days	6.5	(± 1.9)	6.2	(± 0.7)
Any use in the past 30 days	-	-	-	-
Use a pain killer to get high, like Vicodin®?	(n=1,027)		(n=3,328)	
None	91.90%	(± 2.0)	90.5%	(± 1.2%)
1-2	3.6	(± 1.1)	4.9	(± 0.9)
3-5	1.9	(± 0.7)	2.0	(± 0.5)
6-9	0.8	(± 0.5)	1.0	(± 0.3)
10 or more days	1.9	(± 1.0)	1.6	(± 0.5)
Any use in the past 30 days	8.1	(± 2.0)	9.5	(± 1.2)
If you have EVER used pain killers to get high, where did you usually get them?	King County		Washington State	
	(n=1,015)		(n=3,282)	
a. I did not use pain killers to get high	85.1%	(± 4.4%)	83.9%	(± 1.7)
b. I used my own prescriptions (from a doctor or dentist)	4.0	(± 1.2)	3.4	(± 0.6)
c. A family member gave them to me	1.5	(± 1.0)	1.8	(± 0.4)
d. I took them from my home or someone else's home without permission	2.1	(± 0.9)	2.4	(± 0.5)
e. I got them from a friend	5.1	(± 2.2)	4.8	(± 1.0)
f. I got them from an acquaintance	0.5	(± 0.3)	0.9	(± 0.4)
g. I got them from a drug dealer	0.9	(± 0.5)	0.9	(± 0.3)
h. I got them from the Internet	0.1	(± 0.2)	0.2	(± 0.1)
i. I got them some other way	0.7	(± 0.4)	1.6	(± 0.4)

SOURCE: Washington Healthy Youth Survey: Office of the Superintendent of Public Instruction, Washington State Departments of Health, Social and Health Services, and Community Trade and Economic Development, the Family Policy Council, and RMC Research, 2008

Exhibit 6. Number and Percentage of Law Enforcement Drug Seizure Tests, by Drug, for King County (Seattle), Washington: 2007–2008

Result	CY 2007		CY 2008	
	#	%	#	%
Cocaine	1,673	42%	914	36%
Cannabis	754	19%	827	32%
Methamphetamine	658	16%	315	12%
Heroin	189	5%	112	4%
Oxycodone	144	4%	89	3%
3, 4-Methylenedioxy-methamphetamine	249	6%	56	2%
1-Benzylpiperazine	--	0%	41	2%
Hydrocodone	72	2%	35	1%
Dimethylsulfone	6	0%	14	1%
Phencyclidine	22	1%	13	1%
Clonazepam	23	1%	11	0%
Methadone	51	1%	11	0%
Alprazolam	17	0%	10	0%
Lysergic Acid Diethylamide	1	0%	10	0%
Diazepam	21	1%	9	0%
Morphine	20	0%	9	0%
Psilocin	19	0%	8	0%
Amphetamine	16	0%	7	0%
Buprenorphine	8	0%	7	0%
Other	83	2%	48	2%
Total	4,026	100%	2,546	100%

SOURCE: NFLIS, DEA, with data provided by the Washington State Patrol Crime Laboratory

Exhibit 7. Number and Percentage of DAWN ED Reports, by Drug, in King (Seattle), Snohomish, and Pierce (Tacoma) Counties, Washington: CY 2008

Drug	Total	
Major Substances of Abuse	13,324	100%
Alcohol	4,242	32%
Non-alcohol illicit	9,082	68%
Cocaine	3,631	27%
Heroin	1,981	15%
Marijuana	1,735	13%
Stimulants	1,143	9%
Amphetamines	264	2%
Methamphetamine	879	7%
MDMA (Ecstasy)	181	1%
LSD	56	0%
PCP	139	1%
Opioids Pharmaceutical		
Type of Case	Total	
Overmedication	809	
Malicious Poisoning	1	
Other	2,228	
Total	3,038	

SOURCE: DAWN *Live!*, OAS, SAMHSA, Accessed 5/4/2009

Exhibit 8. Number and Percentage of HIV Diagnoses in King County (Seattle), Washington: 1982–2008, by Date of HIV Diagnosis

	1982–1999		2000–2002		2003–2005		2006–2008 ¹	
	No.	%	No.	%	No.	%	No.	%
Total	7,672	(100)	1,164	(100)	1,030	(100)	913	(100)
HIV Exposure Category								
Men who have sex with men (MSM)	5,761	(75)	730	(63)	652	(63)	561	(61)
Injection drug user (IDU)	427	(6)	88	(8)	52	(5)	37	(4)
MSM/IDU	797	(10)	93	(8)	79	(8)	68	(7)
Heterosexual contact	350	(5)	175	(15)	134	(13)	96	(11)
Blood product exposure	94	(1)	8	(1)	5	(0)	1	(0)
Perinatal exposure	25	(0)	2	(0)	0	(0)	2	(0)
<i>Subtotal—known risk</i>	<i>7,454</i>		<i>1,096</i>		<i>922</i>		<i>765</i>	
Undetermined/other ²	218	(3)	68	(6)	108	(10)	148	(16)

¹Due to delays in reporting, data from recent years may not be complete.

²Includes individuals for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to follow-up), patients still under investigation, patients whose only risk was heterosexual contact and where the risk(s) of the sexual partner(s) was (were) undetermined, individuals exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.

SOURCE: Public Health—Seattle and King County, “HIV/AIDS Epidemiology Report”

Drug Abuse Trends in Texas: 2008

Jane C. Maxwell, Ph.D.¹

ABSTRACT

This report updates indicators of drug abuse in Texas since the June 2008 report and describes trends by calendar year from 1987 through 2008. Important changes to drug patterns in Texas include increases in heroin inhalation by younger Hispanics. This was first noticed with the “cheese heroin” situation in Dallas, but further investigation has found that heroin inhalation is increasing statewide. Some treatment admissions are young teenagers who are not novices and are using other illicit drugs, and those in their twenties are shifting to injecting. The availability of cocaine decreased in the last half of 2008 due to violence and gang warfare on the border. The methamphetamine indicators have changed since 2005, with supplies down, prices increasing, and purity decreasing. Border security and seizures of Mexican methamphetamine have encouraged local manufacturers to return to “cooking,” using over-the-counter pseudoephedrine with the “one pot” or “shake and bake” method. Other changes include continuing shifts in demographics of cocaine users and ecstasy users; severity of problems among noncoerced marijuana treatment admissions; and increasing problems with alprazolam and carisoprodol. The magnitude of the substance abuse and mental health problem on the border is of serious concern. The majority of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) cases continue to be people of color. The proportion due to injection drug use (IDU) continues to

decrease, but the proportion due to men who have sex with men (MSM) is beginning to increase.

INTRODUCTION

Area Description

The population of Texas in 2008 was 24,326,974, with 48 percent White; 11 percent Black; 36 percent Hispanic; and 4 percent “Other.” Illicit drugs continue 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

Substance Abuse Trends in Texas is an ongoing series that is prepared annually as a report for the Community Epidemiology Work Group meetings sponsored by the National Institute on Drug Abuse (NIDA). This report updates the June 2008 report. To compare the June 2009 report with earlier periods, please access www.utexas.edu/research/cswr/gcattc/drugtrends.html.

Data for this report include the following sources:

- **Student substance use data** for 2008 came from the *Texas School Survey of Substance Abuse: Grades 7–12, 2008* and the *Texas School Survey of Substance Abuse: Grades 4–6, 2008*, which were authored by L.Y. Liu and published by the Texas Department of State Health Services (DSHS). Data on Texas college students came from the *2005 Texas Survey of Substance Use among College Students: Main Findings*, also written by L.Y. Liu and published by DSHS. For 2007, the data for high school students in grades 9–12 came from the Youth Risk Behavior Surveillance Survey (YRBS)—United States,

¹The author is a Senior Research Scientist with the Gulf Coast Addiction Technology Transfer Center, University of Texas, Austin.

2007, *MMWR Surveillance Summaries*, June 6, 2008/57(SS-4); 1–136.

- **Data on drug use** by Texans age 12 and older came from the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Survey on Drug Use and Health (NSDUH). The statewide estimates are from the 2006–2007 NSDUH, and the substate estimates in exhibit 1 are from the 2004, 2005, and 2006 NSDUH. 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 2008. Analysis was provided by Mathias Forrester, epidemiologist with the Texas Poison Center Network, and by the author.
- **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, 2008, in a dataset extracted May 12, 2009. 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. Information on impaired drivers entering treatment was drawn from Maxwell, J.C. and 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., and 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*, available online May 27, 2008. Information on marijuana admissions to treatment are from Copeland, J. and 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 2007 came from death certificates from the Bureau of Vital Statistics, DSHS; analysis was by the author. Because justices of the peace, who have no medical training, can sign death certificates, the actual substances involved may not be listed. Instead, a notation such as “narcotism” may be used. The 2003 death cases are incomplete. Data on heroin overdose deaths in Dallas came from Coleman, J.J., Special Report: Cheese-Heroin in Dallas, TX, Prescription Drug Research Center, Fairfax, VA, 2007.
- **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 2008 to the National Forensic Laboratory Information System (NFLIS) of the Drug Enforcement Administration (DEA). Analysis was by the author on data downloaded from NFLIS on May 14, 2009. Reports from the National Clandestine Laboratory Database were downloaded on May 23, 2008 from www.usdoj.gov/dea/concern/map_lab_seizures.html.
- **Price, purity, trafficking, distribution, and supply** information was provided for July–December 2008 reports on trends in trafficking from the Dallas, El Paso, and Houston Field Divisions of the DEA and from DEA's Domestic Monitor Program (DMP).
- **Emergency department data** (weighted data) for Houston only, for years 2004–2007, were provided by the Drug Abuse Warning Network (DAWN), administered by the Office of Applied Studies (OAS), SAMHSA.
- **Reports by users and street outreach workers** on drug trends for the first three quarters of fiscal year (FY) 2009 were reported to DSHS by workers at local human immunodeficiency virus (HIV) counseling and testing programs across the State.
- **Sexually transmitted disease (STD), HIV, and acquired immunodeficiency syndrome (AIDS) data** were provided by DSHS for annual

periods through December 2008. The HIV cases exclude any that later seroconverted to AIDS. Data also came from Maxwell, J.C. and Spence, R.T., An exploratory study of inhalers and injectors who used black tar heroin, *Journal of Maintenance in the Addictions*, 3(1), 61–81, 2006.

DRUG ABUSE PATTERNS AND TRENDS

The 2006–2007 NSDUH estimated that 6.4 percent of the Texas population age 12 and older had used an illicit drug in the past month, which is below the national average of 8.0 percent, and 2.7 percent of Texans were dependent on or abused an illicit drug in the past year, as compared with 2.8 percent nationally. For the period 2004–2006, 6.5 percent of the population age 12 and older in the Dallas metropolitan area and 6.2 percent in the Houston area had used any illicit drug. The prevalence of drug use by planning region is shown in exhibit 1.

With the recent problems in the economy, HIV/AIDS outreach programs have reported increases in the numbers of people engaging in sex work to support themselves and their families or to obtain drugs, which is resulting in increases in STDs.

Cocaine/Crack

Trends in cocaine use have varied over time (exhibit 2). 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, 2008* reported that lifetime use of powder and crack cocaine had dropped from a high of 9 percent in 1998 to 7 percent in 2008, while past-month use dropped from 4 percent in 1998 to 2 percent in 2008. Some 6 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—10 percent lifetime and 4 percent past month (exhibit 3). The 2007 YRBS reported that 12.6 percent of Texas high school students in grades 9–12 had ever used cocaine, as compared with 11.9 percent in 2005; 5.4 percent had used in the past month, as compared with 5.5 percent in 2005. The 2005 Texas college survey reported that 10 percent had ever used cocaine or crack, and 2 percent had used in the past month. For the period 2006–2007, the NSDUH reported that 2.3 percent of the Texas population age 12 and older had used cocaine in the past year, below the national rate of 2.4 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 977 in 2008 (exhibit 2). Sixty-one percent of the cases in 2008 were male.

Cocaine (crack and powder together) represented 22 percent of all admissions to DSHS-funded treatment programs in 2008, down from 32 percent in 1995. Among all cocaine admissions, cocaine inhalers were the youngest and most likely to be Hispanic, and involved in the criminal justice or legal systems (exhibit 4). Cocaine injectors were older than inhalers but younger than crack smokers; they were the most likely to be White. While 36 percent of the powder cocaine clients reported no problem with a second substance, 30 percent reported a problem with alcohol and 20 percent with marijuana. Of the crack cocaine clients, 37 percent reported no second substance problem, with 31 percent reporting a problem with alcohol, 18 percent with marijuana, and 5 percent with powder cocaine.

The term “lag” (exhibit 4) refers to the period from first consistent or regular use of a drug to the date of admission to treatment. Powder cocaine inhalers averaged 10 years between first regular use and entrance to treatment, while injectors averaged 16 years of use before they entered treatment.

Between 1987 and 2008, the percentage of Hispanic treatment admissions using powder cocaine increased from 23 percent to 50 percent, while for Whites and Blacks the percentages

dropped from 48 to 30 percent and from 28 to 19 percent, respectively. Exhibit 5 shows these changes between 1993 and 2008 by route of administration. The proportion of Blacks among crack cocaine admissions fell from 75 percent in 1993 to 47 percent in 2008, while the proportion of Whites increased from 20 percent in 1993 to 36 percent in 2008. Hispanic crack admissions rose from 5 to 17 percent in the same time period.

The number of deaths statewide in which cocaine was mentioned increased from 223 in 1992 to 703 in 2007 (exhibit 6). The average age of the decedents in 2007 was 41; 40 percent were White, 33 percent were Hispanic, and 25 percent were Black. Seventy-six percent were male.

Exhibit 2 shows that the proportion of substances identified as cocaine by the DPS laboratories is decreasing. In 1998, cocaine accounted for 40 percent of all items examined, compared with 32 percent in 2008.

The Dallas DEA Field Division (FD) reported decreased availability of cocaine between July and December, 2008. The purity of seized cocaine decreased from 69 percent in FY 2006 and 70 percent in FY 2007 to 45 percent for the second half of FY 2008. The El Paso FD reported a temporary moratorium on cocaine smuggling in Ciudad Juarez. Reluctance of Colombian sources to provide cocaine shipments on consignment to Mexican traffickers resulted in a decreased supply in west Texas in the second half of 2008. The Houston DEA FD reported the price of a kilogram of cocaine continued to increase, and cocaine was less available and more expensive in San Antonio.

Cocaine continued to be available across the State (exhibit 7). A gram of powder cocaine cost \$50–\$60 in El Paso; \$50–\$80 in Dallas; and \$60–\$100 in Houston. An ounce cost \$600–\$950 in Dallas; \$600–\$1,000 in Houston; \$500–\$850 in Lubbock; \$400–\$700 in Midland; \$500 in El Paso; and \$400–\$500 in Laredo. A kilogram of cocaine cost \$17,500–\$27,500 in Dallas; \$11,000–\$22,500 in El Paso; \$15,000–\$26,500 in Houston; \$16,000–\$17,000 in Laredo; \$12,400–\$25,000 in McAllen; \$21,000–\$22,000 in Lubbock; and \$25,000–\$28,000 in San Antonio.

Across the State, a rock of crack cost \$10–\$50, with \$10–\$20 being the most common price. An ounce of crack cocaine cost \$500 in El Paso; \$650–\$750 in Fort Worth; \$500–\$700 in Lubbock; \$500 in Amarillo; \$800 in Midland; \$500–\$1,000 in Houston; \$800 in Galveston; \$400–\$700 in San Antonio; \$350–\$450 in Austin; and \$500 in Waco. A kilogram in Dallas ranged between \$18,500 and \$25,500, as compared with \$14,000 in El Paso; \$24,000–\$26,000 in San Antonio; and \$16,000 in McAllen and Midland.

Street outreach workers reported that crack cocaine is the drug of choice on the streets of Galveston and Brazoria Counties as well as in Houston and Corpus Christi. Use of crack cocaine was reported increasing in parts of Austin. Lubbock reported cocaine was cheap and very potent, and inhaling cocaine was increasing in the Beaumont area.

Alcohol

Alcohol is the primary drug of abuse in Texas. In 2008, 63 percent of Texas secondary school students (grades 7–12) had ever used alcohol, and 30 percent had drunk alcohol in the last month. Lifetime use decreased by 5 percent and past-month use decreased by 3 percent between 2006 and 2008. Of particular concern is heavy consumption of alcohol, or binge drinking, which is defined as drinking five or more drinks at one time. In 2008, 12 percent of all secondary students said that when they drank, they usually drank five or more beers at one time, and 13 percent reported binge drinking of liquor, which has remained relatively stable since 1992 (exhibit 8).

Among students in grades 4–6 in 2008, 23 percent had ever drunk alcohol, and 15 percent had drunk alcohol in the past school year. Lifetime use of alcohol increased 4 percent and past-year use increased 12 percent between 2006 and 2008. Eleven percent of fourth graders had used alcohol in the school year, compared with 21 percent of sixth graders.

The 2007 YRBS reported 78 percent of Texas high school students in grades 9–12 had ever

drunk alcohol, 48 percent had drunk in the past month, and 29 percent had drunk five or more drinks in a row in the last month. In 2005, 26 percent of girls and 33 percent of boys reported binge drinking, as compared with 28 percent of girls and 30 percent of boys reporting binge drinking behavior in 2007.

The 2005 Texas college survey found that 84 percent had drunk alcohol in their lifetime, and 66 percent had drunk in the past month. Almost 30 percent of college students reported binge drinking (38 percent males and 23 percent females). Although the legal drinking age is 21, 58 percent of college students age 18 to 20 reported drinking an alcoholic beverage in the past month.

The 2006–2007 NSDUH estimated that 47.6 percent of all Texans age 12 and older had drunk alcohol in the past month, below the national average of 51.0 percent; 22.8 percent had drunk five or more drinks on at least 1 day (binge drinking) in the past month, below the national average of 23.2 percent. Among underage Texas drinkers (age 12 to 20), 25 percent reported past-month alcohol use, as compared with 28.1 percent nationally, and 16.3 percent of Texas underage youths reported past-month binge drinking, as compared with 18.8 percent nationally. The highest rate of binge drinking was in Region 1, and the lowest rate was in Region 4. Region 10 had the highest proportion of the Texas population who thought there was great risk in drinking five or more drinks once or twice a week, while Region 7 had the lowest perception of great risk (exhibit 1).

In 2008, 27 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 70 percent in 2008. The proportion of White clients declined from 63 percent in 1988 to 56 percent in 2008, and the proportion of Hispanic clients increased from 28 to 30 percent. The proportion of Black clients increased from 7 to 12 percent. The average age increased from 33 to 38 years. Alcohol clients are becoming more likely to be polydrug users—the proportion reporting no

secondary drug problem dropped from 67 to 52 percent, and the proportion with a problem with cocaine (powder or crack) increased from 7 to 23 percent. Consuming cocaine and alcohol at the same time produces cocaethylene, which intensifies cocaine's euphoric effects.

The characteristics of persons who entered treatment with a past-year offense for Driving Under the Influence (DUI) have changed over time. Between 1990 and 2008, the proportion of past-year DUI arrestees who went to DSHS-funded treatment who were female increased from 13 to 29 percent in 2008, and the proportion of DUI treatment admissions who had a primary problem with alcohol decreased from 88 to 67 percent. Of those DUI arrestees under the legal drinking age of 21 who entered treatment, the proportion reporting a primary problem with alcohol decreased from 75 percent in 1990 to 21 percent in 2008; the proportion with a primary problem of marijuana increased from 19 to 63 percent; and the proportion with a primary problem with cocaine increased from 5 to 7 percent.

Heroin

The proportion of Texas secondary students reporting lifetime use of heroin dropped from 2.4 percent in 1998 to 1.4 percent in 2008. The 2007 YRBS found 2.4 percent of Texas high school students had ever used heroin, as compared with a national median of 4 percent. Dallas and Houston students reported lifetime use of heroin at approximately 5 percent, as compared with a median of 3 percent among other local school districts that participated across the Nation. The 2005 college survey found 5 percent of students had ever used heroin or other opiates. The 2004–2006 NSDUH reported 0.1 percent of Texans age 12 and older had used heroin in the past year.

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 dropped to 192 in 2008 (exhibit 9).

Heroin was the primary drug of abuse for 11 percent of clients admitted to treatment in 2008.

The characteristics of these addicts vary by route of administration, as exhibit 10 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 20 percent in 2008. During that time, the proportion of inhalers who were Hispanic increased from 26 to 64 percent, and the average age of inhalers decreased from 30 to 27 years.

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 14 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. They will either enter treatment sooner while still inhaling, or they will shift to injecting, thus increasing their risk of hepatitis C and HIV infection, becoming more impaired, and entering treatment later.

In addition to the decrease in the age of inhalers, the age of all heroin admissions has decreased from 37 in 1996 to 33 in 2008. This increase in inhalers and decrease in age at admission is evidence of the emergence of a younger cohort of heroin users. The proportion of all treatment clients with a primary problem with heroin who were Hispanic increased from 23 percent in 1996 to 56 percent in 2008 (exhibit 11).

Of all the 2008 heroin admissions, 45 percent reported no second substance problem and 20 percent reported a problem with powder cocaine (which shows the tendency to “speedball,” or use heroin and cocaine sequentially). Nine percent reported a second problem with marijuana, 8 percent with alcohol, 6 percent with other opiates, and 5 percent with crack cocaine.

“Cheese heroin,” a mixture of Tylenol PM® and heroin (heroin combined with diphenhydramine and acetaminophen), continues to be a problem in Dallas, and heroin inhaling is increasing across the State. Diphenhydramine has traditionally been used as a “cut” to turn tar into powder. A 2007 analysis of records from the Dallas County Medical Examiner found that only one

death involved just cheese heroin. All the other cheese heroin deaths also involved combinations of cocaine, alprazolam, hydrocodone, and others, which shows that this is not a population of novice users but is a growing problem among young experienced heroin users (Coleman, 2007).

Cases of cheese heroin were reported in other counties in the Dallas/Fort Worth area, but the term cheese heroin is rarely reported elsewhere in the State, although heroin use by teenagers and persons in their twenties continued to increase statewide. The number of clients statewide under age 30 entering treatment with a primary problem with heroin increased from 3,118 in 2005 to 4,630 in 2008. Fifty-seven percent of the teenage clients were male and 85 percent were Hispanic. Sixty-two percent were heroin inhalers, but as age increased, users shifted route of administration, with 74 percent of clients in their twenties reporting injecting the drug.

In 2007, there were 390 deaths in Texas in which the death certificate included a mention of heroin, narcotics, opiates, or morphine (terms used by justices of the peace were not always as specific as desired) (exhibit 12). Fifty-four percent were White, 38 percent were Hispanic, and 7 percent were Black; 76 percent were male. The average age was 37, down from 39 in 2007, which is another indication of a younger heroin-using population.

Exhibit 9 shows that the proportion of items identified as heroin by DPS laboratories has remained low at 1–2 percent over the years. 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 13 shows the decline in price over the years. Depending on the location, black tar heroin sold on the street for \$5–\$20 per paper, balloon, or capsule; \$100–\$300 per gram; \$800–\$4,000 per ounce; and \$25,000–\$62,000 per kilogram. An ounce of black tar cost \$1,000 in El Paso; \$3,600–\$4,000 in Midland; \$1,000–\$2,500 in Houston; \$1,300 in Galveston; \$1,300 in Laredo; \$1,000 in McAllen; \$1,200–\$1,600 in Austin; \$800–\$1,300 in Fort Worth; \$1,000 in Lubbock; and \$1,200–\$2,400 in San

Antonio. Black tar heroin cost \$35,000–\$50,000 per kilogram in Dallas; \$25,000 in El Paso; \$40,000–\$50,000 in Houston; \$25,000–\$40,000 in McAllen; and \$50,000–\$62,000 in San Antonio.

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 per cap and \$110–\$250 per gram. An ounce cost \$500–\$800 in San Antonio; \$800 in McAllen; \$800–\$1,600 in Dallas; and \$3,400–\$4,000 in Lubbock. Colombian heroin sold for \$60–\$80 per gram and \$1,200 per ounce in McAllen and \$2,000 in Dallas. It sold for \$50,000–\$80,000 per kilogram in Houston; \$30,000 in McAllen; \$84,000–\$90,000 in El Paso; and \$65,000–\$80,000 in Dallas. Southwest and Southeast Asian heroin sold for \$200–\$350 per gram, \$2,000–\$4,000 per ounce, and \$70,000 per kilogram in Dallas.

The Houston Police Department reported an increase in the availability of heroin on the street, and the Galveston DEA Regional Office reported black tar was more readily available than in previous quarters. Heroin prices in McAllen were stable. In the second quarter of 2009, the Houston DEA FD reported Mexican nationals and Mexican Americans and Blacks dominated the heroin trade, with a few Nigerians also involved in heroin trafficking. Blacks from Louisiana were trafficking quantities of Colombian heroin. Black tar was more prevalent in the north areas of Houston, while Colombian white heroin was more prevalent in the southwest areas of Houston.

Exhibit 14 shows the purity and price of heroin purchased by the DEA in four Texas cities under the DMP. Heroin is much purer at the border in El Paso and decreases in purity as it moves north, since it is cut with other products as it passes through the chain of dealers. Street outreach workers reported an increase in black tar heroin in areas of Corpus Christi. Lubbock outreach workers reported heroin was not as pure as in the past, it was being cut with alprazolam, and there were mentions of cheese heroin.

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®), hydro-morphone (Dilaudid®), morphine, meperidine (Demerol®), and opium.

The 2008 Texas secondary school survey queried about use of other opiates “to get high,” and reported that 2.0 percent had ever used hydrocodone, 1.8 percent reported ever having drunk codeine cough syrup, and 1.1 percent had ever used oxycodone in that manner.

The 2006–2007 NSDUH reported that 4.7 percent of Texans age 12 and older had used pain relievers nonmedically in the past year (as compared with 5.1 percent nationally). Region 7 reported the highest level of past-year nonmedical use of pain relievers in 2004–2006, and Region 6 had the lowest levels of use (exhibit 1).

The proportion of deaths involving only methadone or methadone plus alcohol has decreased from 58 percent of all methadone deaths in 1992 to 39 percent in 2007, while those involving combinations with illicit drugs decreased from 25 to 15 percent, and those involving combinations with prescription or licit drugs increased from 17 to 46 percent. The number involving overdose deaths of clients in narcotic treatment programs has remained level, at 11 of all the methadone deaths in 1993 and 11 in 2007.

Six percent of all clients who entered publicly funded treatment during 2008 used opiates other than heroin. Of these, 160 used illegal methadone and 5,221 used other opiate drugs (exhibit 15). Clients who reported a primary problem with other opiates differed from those who reported a problem with heroin. They were much more likely to be female (58 percent), to be White (77 percent), to have sought help in an emergency department (45 percent), and to report more health and psychological or emotional problems in the month prior to entering treatment.

Forty-five percent of these clients with problems with other opiates also reported problems with other substances such as sedatives (14 percent) and alcohol (12 percent). The clients with problems with illicit methadone were also more likely than heroin admissions to be female (54 percent) and 79 percent were White and 12 percent were Hispanic. Only 24 percent had no second drug problem, and of those who did have other problems, 13 percent had problems with alcohol, 26 percent with other opiates, 13 percent with sedatives, and 11 percent with heroin.

Persons who died from one of the other opiates were more likely to be White and to be older than persons whose death certificates mentioned heroin. Of the 360 deaths with a mention of hydrocodone in 2007, 54 percent were male; 78 percent were White; 9 percent were Black; 13 percent were Hispanic; and the average age was 41. Of the 65 deaths in 2007 with a mention of oxycodone, 63 percent were male; 73 percent were White; 8 percent were Black; 1 percent was Hispanic; and the average age was 41. There were 48 deaths with a mention of fentanyl in 2007. Of these, 62 percent were male; 89 percent were White; 8 percent were Hispanic; and the average age was 42. Of the 195 deaths with a mention of methadone, 62 percent were male; 87 percent were White; 2 percent were Black; 6 percent were Hispanic; and the average age was 42.

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. Houston DEA FD reported hydrocodone was one of the most commonly abused drugs, and codeine cough syrup continued to be abused, but not as widely as in the past. The El Paso DEA FD reported morphine, Demerol®, oxycodone, and hydrocodone were the leading causes of drug poisoning deaths in El Paso.

Promethazine or phenergan cough syrup with codeine sold for \$200–\$400 per pint in Dallas and \$300–\$400 in Houston. Hydrocodone sold for \$5–\$10 per pill in Dallas and \$2–\$4 in Houston,

and OxyContin® cost \$20 per pill in Dallas and \$20–\$50 in Waco. In Tyler, OxyContin® sold for \$8–\$20 for a 20-milligram tablet, \$6–\$10 for a 40-milligram tablet, and \$35 for an 80-milligram tablet. Dilaudid® sold for \$20–\$40 in Dallas, and methadone cost \$7–\$10 per tablet in Fort Worth.

DPS laboratories reported decreases in the number of exhibits of hydrocodone and methadone in 2008, while the number of fentanyl exhibits has varied over the years (exhibit 15).

Street outreach workers in Brazoria County reported “doctor hopping” occurring, with pain clinics being sources of opioid medications. In Beaumont, there was increasing use of codeine and promethazine syrup diluted in sodas.

Marijuana

New slang terms for marijuana include “Bud,” “Kill,” and “Carpet.” Marijuana indicators have varied over the years (exhibit 16). Among Texas students in 2008 in grades 4–6, 1.7 percent had ever used marijuana, with 1.2 percent reporting use in the past school year. Among Texas secondary students (grades 7–12), 25 percent had ever tried marijuana, and 10 percent had used in the past month. From 2006 to 2008, this amounted to a 7-percent decrease in lifetime use and a 9-percent decrease in past-month use. Past-month use shown by grade level is shown in exhibit 17. The 2008 survey found that of those youths who used marijuana, 66 percent smoked “blunts” at least one-half of the time, as 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, 2.5 percent had ever used cigars. In comparison, of those who had ever used tobacco and ever used marijuana, 72 percent had ever used cigars.

In 2007, the YRBS reported that 38 percent of Texas high school students in grades 9–12 had ever smoked marijuana, a significant decrease from 42 percent in 2005. Past-month use declined from 22 percent in 2005 to 19 percent in 2007. The 2005

Texas college survey reported that 37 percent of students had ever used marijuana, and 11 percent had used in the past month. The 2006–2007 NSDUH estimated that 7.9 percent of Texans age 12 and older had used marijuana in the past year (compared with 10.2 percent nationally), with 4.3 percent using in the past month (compared with 5.9 percent nationally). Region 7 reported the highest level of past-year use of marijuana and Region 10 had the lowest level (exhibit 1).

The Texas Poison Center Network reported there were 133 calls confirming exposure to marijuana in 1998, compared with 544 in 2006 and 502 in 2008 (exhibit 16). Marijuana was the primary problem for 23 percent of admissions to treatment programs in 2008, and while 45 percent reported no second substance abuse problem, 28 percent had a problem with alcohol, and 11 percent had a problem with powder cocaine. The average age was 24. Approximately 42 percent were Hispanic, 29 percent were White, and 28 percent were Black. Eighty-one percent had legal problems or had been referred from the criminal justice system. Clients 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 (Cope-land and Maxwell, 2007).

Marijuana was identified in 33 percent of all the exhibits analyzed by DPS laboratories in 2000, but in only 26 percent in 2008 (exhibit 16) and exhibit 18 shows the decline in the price of a pound of marijuana since 1992. The Houston DEA FD reported increases in indoor hydroponic grow houses in Houston; marijuana prices and quantities were stable in San Antonio and McAllen. The Houston FD reported the majority of

marijuana trafficking organizations in the Houston area were Mexican, but there was a growing trend of Vietnamese and Canadian trafficking organizations distributing marijuana in the area. In the Dallas/Fort Worth area, “Popcorn” marijuana was available at \$850 per pound. This variety is often grown in Chihuahua in shade under pine trees; it is mostly buds, and is slightly greasy or oily to the touch.

Hydroponic marijuana sold for \$4,600 per pound in Galveston; \$3,000–\$4,500 in Austin; \$2,500–\$6,000 in Dallas; and \$3,000–\$5,000 in San Antonio. The average price for a pound of commercial grade marijuana was \$140–\$160 in Laredo; \$85–\$180 in McAllen; \$330–\$450 in San Antonio; \$280 in Houston; \$200 in El Paso; \$500–\$600 in Lubbock; \$375–\$600 in Midland; \$250–\$650 in Alpine; and \$300–\$800 in Dallas. Sinsemilla sold for \$750–\$1,200 per pound in the Dallas/Fort Worth area, \$300–\$500 in Houston, and \$600 in Galveston.

Outreach workers in Dallas reported increased marijuana use among the homeless. Houston workers reported youths in middle schools were entering outpatient treatment due to their problems with marijuana.

Stimulants

Amphetamine-type substances come in different forms and with different names. “Speed” (“meth,” “crank”) is a powdered methamphetamine of relatively low purity and 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, “Yaba,” or ecstasy. Stimulant pills can be taken orally, crushed for inhalation, or dissolved in water for injection.

There is also a damp, sticky methamphetamine powder of higher purity than speed that is known as “Base” in Australia and “Peanut Butter”

in parts of the United States. “Ice,” also known as “crystal” or “Tina,” is methamphetamine that has been “washed” in a solvent to remove impurities; it has longer-lasting physical effects 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 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 2008. Two percent responded positively to a separate question regarding lifetime use of methamphetamine, and 1 percent reported past-month use. The 2007 YRBS reported lifetime use of methamphetamine by Texas high school students was 6.7 percent. The 2005 Texas college survey reported that 10 percent had ever used stimulants and 2 percent had used in the past month. The 2004–2006 NSDUH reported that past-year nonmedical use of stimulants (which included amphetamines, methamphetamine, methylphenidate, and prescription diet pills) in Texas was 1.4 percent, and past-year use of methamphetamine was 0.7 percent.

As exhibit 19 shows, all methamphetamine indicators have decreased since 2005 when the precursor regulations were implemented. There were 144 calls to Texas poison control centers involving exposure to methamphetamine in 1998; 336 in 2006; 315 in 2007; and 298 in 2008 (exhibit 19). Of the 2008 calls, 104 were for Adderall®; 77 for methamphetamine or speed; 28 for amphetamine; 72 for Vyvanse®; 21 for Concerta®; 19 for Ritalin®; and 6 for phentermine.

Methamphetamine/amphetamine admissions to treatment programs increased from 5 percent of all admissions in 2000 to 11 percent in 2007, and dropped to 8 percent in 2008. The average age of clients admitted for a primary problem with stimulants increased from 26 in 1985 to 33 in 2008 (exhibit 20). The proportion of White clients rose from 80 percent in 1985 to 85 percent in 2008, while the proportion of Hispanics remained at 11 percent, and the proportion of Blacks dropped from 9 to 2 percent. Unlike the

other drug categories, more than one-half of the clients entering treatment were female (55 percent). Clients with a primary problem with methamphetamine reported secondary problems with marijuana (24 percent), alcohol (16 percent), and powder cocaine (8 percent); 41 percent reported no secondary substance abuse problem.

Users of amphetamines or methamphetamine tend to differ depending on their route of administration, as exhibit 20 shows. Methamphetamine injectors were more likely to have been in treatment before (62 percent readmissions) than amphetamine pill takers (48 percent), ice smokers, or inhalers (both at 45 percent).

In 2008, more clients smoked ice than injected speed (exhibit 21). The proportion smoking ice increased from less than 1 percent in 1988 to 53 percent in 2007, but dropped to 49 percent in 2008. The percentage of clients injecting the drug dropped from 84 percent in 1988 to 33 percent in 2008.

Statewide, there were 17 deaths in which amphetamines or methamphetamines were mentioned in 1998, compared with 177 in 2005, 116 in 2006, and 106 in 2007 (exhibit 19). Of the decedents in 2007, 76 percent were male; 73 percent were White; 22 percent were Hispanic; 4 percent were Black; and the average age was 40.

Methamphetamine and amphetamine together represented 16 percent of all items examined by DPS laboratories in 2000, and reached a peak of 25 percent in 2005 before dropping to 16 percent in 2008 (exhibit 19). Sixteen percent of the exhibits in 2008 were methamphetamine, and 0.5 percent were amphetamine.

The National Clandestine Laboratory Database reported that 1,773 methamphetamine laboratories were seized in Texas in 1999; 429 in 2000; 619 in 2001; 547 in 2002; 677 in 2003; 452 in 2004; 270 in 2005; 132 in 2006; 79 in 2007; and 112 in 2008.

A pound of powder methamphetamine sold for \$6,000–\$7,500 in Laredo. A pound of ice sold for \$12,000–\$21,000 in Houston; \$20,000–\$25,000 in San Antonio; \$6,000–\$7,500 in Laredo; and \$20,000–\$27,000 in Dallas. An ounce of

ice sold for \$375–\$1,000 in Houston and \$1,000 in Waco.

Statewide, the purity of methamphetamine dropped from 56 percent in 2004 to 33 percent in 2008 because it is being cut with methylsulfonylmethane (MSM). 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. Pure methamphetamine from Mexico, which typically sold for \$18,000–\$20,000 per pound, sold for \$18,500 per pound when cut with MSM. 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.

Although Texas law requires purchasers of pseudoephedrine products to register when they buy the product, the registries are not computerized. Some methamphetamine organizations are returning to “smurfing” to obtain pseudoephedrine by paying hourly wages to people to purchase the product from every available outlet. The Dallas FD reports more local clandestine laboratories have been encountered. In Tyler, a case of 60 milligram, 120-count pseudoephedrine pills sold for \$28 per bottle, and in Dallas a case sold for \$2,400. Red phosphorus, which is used in making methamphetamine, sold for \$100 per ounce. A new method of producing methamphetamine was reported. In 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 DEA expects this method to spread because of the ease of production and small amount of space required.

The Dallas DEA FD reported that the availability of methamphetamine and ice had declined, with the price rising because of tighter border security and increasing difficulty in obtaining

precursor chemicals in Mexico. The price of a pound of methamphetamine increased in Dallas from \$4,500–\$18,000 in 2005 to \$20,000–\$27,000 in 2008.

The Houston DEA FD reported the price of a pound of methamphetamine increased from \$8,000–\$17,500 to \$12,000–\$21,000 between 2005 and 2008. In the past, most of the methamphetamine was produced in Mexico and most of it was ice. There has been a significant rise in methamphetamine production in the Waco area, with laboratories producing gram to ounce quantities per production. The majority use anhydrous ammonia. There is a small increase in the diversion of pseudoephedrine-based medications in the San Antonio area, as well as reports of a few small laboratories in the Houston and Galveston areas. Galveston reports an increase in the number of Hispanic users and wholesale distributors.

The El Paso FD reported that Mexico and California were the primary sources of methamphetamine, with the drug transiting through El Paso to other places in the United States. Street outreach workers in Houston, Lufkin, and Huntsville reported methamphetamine was continuing to be abused in those areas.

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 2008 Texas secondary school survey reported lifetime use of “downers” was 6 percent, and past-month use was 2 percent. Four percent had ever used alprazolam and 1 percent had ever used diazepam. The 2005 Texas college survey

reported 9 percent had ever used sedatives, and 2 percent had used them in the past month. The 2004–2006 NSDUH reported 0.2 percent of Texans age 12 and older had used sedatives in the past year.

About 1.6 percent of the clients entering DSHS-funded treatment in 2008 had a primary problem with barbiturates, sedatives, or tranquilizers. Sixty-four percent of these clients were female; 68 percent were White; 15 percent were Hispanic; and 13 percent were Black. They were users of multiple drugs: only 28 percent reported no other problem substance, as compared with 44 percent of users of all other drugs.

Of the downer clients, 20 percent reported a secondary problem with marijuana; 18 percent with alcohol; 14 percent with other opiate drugs; and 8 percent with powder cocaine.

In 2007, there were 300 death certificates in which alprazolam was mentioned, as compared with 215 in 2006. Alprazolam, clonazepam, and diazepam were among the 12 most commonly identified substances, according to the 2008 DPS laboratory report, although none of them represent more than 5 percent of all items examined in a year (exhibit 22). Alprazolam tablets sold for \$5 in San Antonio; \$2–\$3 in Houston; \$3–\$5 in Fort Worth; and \$5 in Dallas.

In the Dallas area, alprazolam was used to cut black tar heroin to produce brown heroin, and there were reports that the alprazolam was originating in Mexico. The Houston DEA reported benzodiazepines were among the most commonly abused drugs. The McAllen DEA office reports most of the prescription drugs abused at “pharming parties” came from Medicaid fraud and from Mexican pharmacies catering to senior citizens and uninsured United States residents.

Club Drugs and Hallucinogens

Exhibit 23 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. Note that the treatment data include a broader category, “Hallucinogens,” which includes lysergic acid diethylamide (LSD), dimethyltryptamine (DMT), STP (phencyclidine and 2,5-dimethoxy-4-methylamphetamine), mescaline, psilocybin, and peyote.

Among the clients shown in exhibit 23, the gamma hydroxybutyrate (GHB) clients were the most likely to be White; phencyclidine (PCP) clients were the most likely to be Black; Rohypnol® clients were the most likely to be Hispanic and the youngest; and ketamine clients were the oldest. Users of PCP were the most likely to have a primary problem with PCP (55 percent); users of Rohypnol®, ecstasy, and hallucinogens were more likely to have primary problems with marijuana. Users of GHB tended to have a primary problem with methamphetamine (56 percent). Ketamine users were the most likely to have a history of injection drug use (IDU), followed by GHB and steroid users.

Benzylpiperazine (BZP)

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 1-(3-trifluoromethylphenyl)piperazine (TFMPP), a noncontrolled substance, in order to enhance its effects as a substitute for 3,4-methylenedioxyamphetamine (MDMA). It is generally taken orally, but can be smoked or inhaled. Piperazines are a broad class of chemicals which include several stimulants (BZP, TFMPP), as well as anti-vertigo agents (cyclizine, meclizine) and others (sildenafil/Viagra®).

A major seizure of 147,000 suspected MDMA tablets in Texas in 2008 found the tablets were BZP, TFMPP, and methorphan. There were 312 items submitted to DPS laboratories in 2008 that

were identified as BZP and 66 that were TFMPP. In comparison, in 2007, there were 19 BZP exhibits and 2 TFMPP exhibits.

Dextromethorphan (DXM)

The most popular DXM products are Robitussin-DM®, Tussin®, and Coricidin Cough and Cold Tablets HBP®, which can be purchased over the counter and can produce hallucinogenic effects if taken in large quantities. Coricidin HBP® pills are known as “Triple C” or “Skittles.”

The 2008 Texas school survey reported that 3 percent of secondary students indicated they had ever used DXM, and 2 percent had used in the past year. The 2005 Texas college survey found that 5 percent had ever used DXM, and less than 1 percent had used it in the past month.

Poison control centers reported the number of abuse and misuse cases involving DXM rose from 99 in 1998 to 467 in 2008. The average age was 21. The number of cases involving abuse or misuse of Coricidin HBP® was 7 in 1998; 189 in 2005; 288 in 2006; 483 in 2007; and 158 in 2008. The average age in 2008 was 18, which shows that youth can easily access and misuse this substance. There were 12 deaths in 2007 in which DXM was one of the substances mentioned on the death certificate.

DPS laboratories examined 2 substances in 1998 that were DXM, compared with 13 in 1999; 36 in 2000; 18 in 2001; 42 in 2002; 10 in 2003; 15 in 2004; 10 in 2005; 12 in 2006; 5 in 2007; and 9 in 2008. In Lubbock, street outreach workers reported some youths were taking 10–16 Triple C or CCC pills at a time to achieve hallucinogenic effects.

Ecstasy (MDMA, MDA)

The 2008 Texas secondary school survey reported that lifetime ecstasy use dropped from a high of 9 percent in 2002 to 5 percent in 2008, while past-year use dropped from 3 to 2 percent during that time. The 2007 YRBS reported that 10 percent of Texas high school students had ever used ecstasy,

a significant increase from 8 percent in 2005. The 2005 Texas college survey found that 9 percent of college students had ever used ecstasy, and less than 1 percent had used in the past year. The 2004–2006 NSDUH survey reported 1.1 percent of Texans had used ecstasy in the past year.

The Texas Poison Center Network reported 23 calls involving misuse or abuse of ecstasy in 1998, compared with 46 in 1999; 119 in 2000; 155 in 2001; 172 in 2002; 284 in 2003; 302 in 2004; 343 in 2005; 292 in 2006; 232 in 2007; and 293 in 2008 (exhibit 24). In 2008, the average age was 22.

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 23). In 1998, there were 63 of these polydrug admissions, as compared with 114 in 1999; 199 in 2000; 349 in 2001; 521 in 2002; 502 in 2003; 561 in 2004; 640 in 2005; 1,212 in 2006; 1,247 in 2007; and 1,189 in 2008. Exhibit 25 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 the clients in 2008 were White.

In 1999, there were two death certificates that mentioned ecstasy or MDMA in Texas. There was 1 death in 2000, compared with 5 in 2001; 5 in 2002; 2 in 2003; 9 in 2004; 11 in 2005; 15 in 2006; and 6 in 2007 (exhibit 24). Of the 2007 deaths, 67 percent were male; 50 percent were White; 17 percent were Hispanic; 33 percent were Black; and the average age was 24.

The DPS laboratories identified MDMA in 5 exhibits in 1998; 107 exhibits in 1999; 387 in 2000; 817 in 2001; 63 in 2002; 490 in 2003; 737 in 2004; 821 in 2005; 1,173 in 2006; and 1,134 in 2007; and 1,011 in 2008. 3,4-Methylenedioxyamphetamine (MDA) was identified in no exhibits in 1998; 31 in 1999; 27 in 2000; 60 in 2001; 106 in 2002; 94 in 2003; 67 in 2004; 85 in 2005; 80 in 2006; 43 in 2007; and 63 in 2008.

The Dallas DEA FD reported wholesale distribution was dominated by ethnic Vietnamese, while retail level distribution was conducted

mainly by younger White males. The mid-level distributors were reported being 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 was readily available, with Vietnamese and Chinese operators controlling trafficking. The drug was imported from Canada with smaller amounts coming in from Europe. Single dosage units of ecstasy sold for \$20 in Houston; \$4 in McAllen; \$20 in Laredo; \$12–\$20 in Dallas; and \$10–\$15 in Lubbock.

Gamma Hydroxybutyrate (GHB), Gamma Butyrolactone (GBL), 1,4-Butanediol (1,4-BD)

The 2005 Texas college survey reported that 2 percent of the students had ever used GHB, and none reported past-month use. The number of cases of misuse or abuse of GHB or its precursors reported to the Texas Poison Center Network was 110 in 1998; 150 in 1999; 120 in 2000; 119 in 2001; 100 in 2002; 66 in 2003; 84 in 2004; 62 in 2005; 43 in 2006; 56 in 2007; and 49 in 2008. The average age of the abusers in 2008 was 30.

Adults and adolescents with a primary, secondary, or tertiary problem with GHB, GBL, or 1,4-BD have been admitted to DSHS-funded treatment. In 1998, there were 2 clients, compared with 17 in 1999; 12 in 2000; 19 in 2001; 33 in 2002; 31 in 2003; 45 in 2004; 48 in 2005; 111 in 2006; 103 in 2007; and 113 in 2008. In 2008, clients who used GHB tended to be older (average age 32) and were more likely to be White (84 percent) (exhibit 23). GHB users were more likely to have used the so-called “hard-core” drugs; 54 percent had a history of IDU, and 56 percent had a primary problem with amphetamines or methamphetamine. Because of the sleep-inducing properties of GHB, users will also use methamphetamine to stay awake while they are “high” on GHB, or they use GHB to “come down” from their use of methamphetamine.

There were three deaths that involved GHB in 1999, compared with five in 2000; three in 2001; two in 2002; two in 2003; three in 2004; three in

2005; one in 2006; and two in 2007. There were 18 items identified by DPS laboratories as being GHB in 1998, compared with 112 in 1999; 45 in 2000; 34 in 2001; 110 in 2002; 150 in 2003; 99 in 2004; 92 in 2005; 89 in 2006; 56 in 2007; and 57 in 2008. There were no items identified as GBL in 1998, compared with four in 1999; seven in 2000; seven in 2001; nine in 2002; five in 2003; two in 2004; one in 2005; nine in 2006; none in 2007; and three in 2008. There were no items identified as 1,4-BD in 1988, compared with 4 in 1989; 4 in 2000; 19 in 2001; 5 in 2002; and none in 2003, 2004, 2005, 2006, 2007, or 2008.

In Houston, GHB sold for \$5–\$10 per dosage unit and \$725–\$1,000 per gallon. In Dallas, it sold for \$20 per dosage unit and \$500–\$1,600 per gallon.

Ketamine

The 2005 Texas college survey found that 2 percent of the students had ever used ketamine, and none reported past-month use. Eight cases of misuse or abuse of ketamine were reported to Texas Poison Control Centers in 1998, compared with 7 in 1999; 15 in 2000; 14 in 2001; 10 in 2002; 17 in 2003; 7 in 2004; 5 in 2005; 3 in 2006; 1 in 2007; and 1 in 2008.

In 2008, there were 14 admissions to treatment with a primary, secondary, or tertiary problem with ketamine. The average age was 35; 71 percent were male; 100 percent had an IDU history; 36 percent were White; 57 percent were Hispanic; and 7 percent were Black (exhibit 23). While 50 percent had a primary problem with ketamine, 21 percent had a primary problem with heroin, and 14 percent had a primary problem with methamphetamine and a secondary or tertiary problem with ketamine.

There were two deaths in 1999 that involved use of ketamine, compared with none in 2000; one in 2001; one in 2002; none in 2003; two in 2004; one in 2005; none in 2006; and two in 2007. In 1998, two substances were identified as ketamine by DPS laboratories. There were 26 items identified in 1999; 49 in 2000; 120 in 2001; 116 in

2002; 85 in 2003; 79 in 2004; 19 in 2005; 140 in 2006; 154 in 2007; and 76 in 2008.

Ketamine cost \$2,200–\$2,500 per liter in Fort Worth and \$65 per vial in Tyler, with a dose selling for \$20 per pill or gram in Tyler, \$20–\$40 in Lubbock, and \$15–\$20 in San Antonio.

Lysergic Acid Diethylamide (LSD) and Other Hallucinogens

The Texas secondary school survey showed that use of hallucinogens (defined as LSD, phencyclidine [PCP], mushrooms, and others) continued to decrease. Lifetime use peaked at 7.4 percent in 1996 and dropped to 4.4 percent in 2008. Past-month use dropped from a peak of 2.5 percent in 1998 to 1.5 percent in 2008. The 2005 Texas college survey found that 10 percent of college students had ever used hallucinogens, and less than 1 percent had used in the past month. The 2002–2004 NSDUH reported past-year use by Texans age 12 and older at 0.3 percent.

The Texas Poison Center Network reported 82 mentions of abuse or misuse of LSD in 1998, compared with 113 in 1999; 97 in 2000; 70 in 2001; 129 in 2002; 20 in 2003; 22 in 2004; 38 in 2005; 33 in 2006; 31 in 2007; and 17 in 2008. There were also 98 cases of intentional misuse or abuse of hallucinogenic mushrooms reported in 1998; 73 in 1999; 110 in 2000; 94 in 2001; 151 in 2002; 130 in 2003; 172 in 2004; 82 in 2005; 96 in 2006; 125 in 2007; and 93 in 2008. The average age in 2008 was 20 for the LSD cases and 21 for the mushroom cases.

The number of adults and youths with a primary, secondary, or tertiary problem with hallucinogens entering treatment has increased since 2005. There were 636 admissions in 2000; 486 in 2001; 436 in 2002; 319 in 2003; 266 in 2004; 223 in 2005; 338 in 2006; 370 in 2007; and 404 in 2008. Of the hallucinogen admissions in 2008, the average age was 25; 68 percent were male; 51 percent were White; 17 percent were Hispanic; and 29 percent were Black. Seventy-three percent were referred from the criminal justice or legal system, and 18 percent had an IDU history (exhibit 23).

Statewide, there were two deaths in 1999 with a mention of LSD. No deaths with a mention of LSD have been reported since then. DPS laboratories identified 69 substances as LSD in 1998, compared with 406 in 1999; 234 in 2000; 122 in 2001; 11 in 2002; 10 in 2003; 25 in 2004; 14 in 2005; 1 in 2006; 29 in 2007; and 19 in 2008.

A dosage unit of LSD 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.

Phencyclidine (PCP)

The 2002–2004 NSDUH reported past-year use of PCP in Texas at 0.1 percent. 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 increased from 102 in 1998 to 290 in 2008 (exhibit 26).

Exhibit 26 shows the increases in the number of clients entering treatment with a primary problem with PCP. Of the clients in 2008, 85 percent were Black, 48 percent were male, and 67 percent were involved in the criminal justice system. While 55 percent reported a primary problem with PCP, another 21 percent reported a primary problem with marijuana, which demonstrates the link between these two drugs (exhibit 23).

There were eight death certificates in 2007 that mentioned PCP (exhibit 26). DPS laboratories identified 10 substances as PCP in 1998 and 216 in 2008 (exhibit 26). According to the DEA, PCP cost \$375–\$450 per ounce in Dallas. A gallon cost \$5,500 in Dallas and \$20,000–\$30,000 in Houston. PCP use was reported by street outreach workers to be increasing among youths and young adults age 16–30.

Rohypnol®

Rohypnol® (flunitrazepam) 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® continues to be a problem along the Texas–Mexico border. The 2008 secondary school survey found that students from the border area were about three times more likely to report 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. Among Texas college students in 2005, 1 percent reported lifetime use of Rohypnol®, and none reported past-month use.

The number of confirmed exposures to Rohypnol® reported to the Texas Poison Control Centers peaked at 102 in 1998; 22 in 2005; 10 in 2006; 11 in 2007; and 12 in 2008. The average age in 2008 was 19, 42 percent were male, and 66 percent lived in counties on the border.

The number of youths and adults admitted into treatment with a primary, secondary, or tertiary problem with Rohypnol® has varied: 247 in 1998; 364 in 1999; 324 in 2000; 397 in 2001; 368 in 2002; 331 in 2003; 221 in 2004; 198 in 2005; 278 in 2006; 272 in 2007; and 207 in 2008. In 2008, clients abusing Rohypnol® were among the youngest of the club drug clients (age 20), and they were mostly Hispanic (94 percent), reflecting the availability and use of this drug along the border. Seventy-six percent were involved with the criminal justice or legal system. While 18 percent of these clients said that Rohypnol® was their primary problem drug, 43 percent reported a primary problem with marijuana, and 19 percent had a problem with heroin (exhibit 23).

DPS laboratory exhibits for flunitrazepam numbered 43 in 1988; 56 in 1999; 32 in 2000; 33 in 2001; 26 in 2002; 17 in 2003; 17 in 2004; 10 in 2005; 9 in 2006; 1 in 2007; and none in 2008. Rohypnol® sold for \$2–\$4 per pill in San Antonio in 2008.

Other Abused Substances

Inhalants

The 2008 elementary school survey found that 9 percent of students in grades 4–6 had ever used inhalants, and 7 percent had used in the school year. The 2008 secondary school survey found that 9 percent of students in grades 7–12 had ever used inhalants, and 3 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 (exhibit 27). 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 different kinds of inhalants than any other grade; this may be a factor that exacerbates the damaging effects of inhalants and leads to dropping out.

The 2007 YRBS reported that 12.9 percent of Texas high school students had ever used inhalants. Respondents to the 2005 Texas college survey reported 4 percent lifetime and 0.3 percent past-month use of inhalants. The 2002–2004 NSDUH estimated that 0.7 percent of Texans age 12 and older had used inhalants in the past year.

Out of the 77 calls to the poison control centers in 2008 that involved human exposure to the inhalation of chemicals, there were 12 calls for exposure to automotive products such as carburetor cleaner, transmission fluid, and gasoline; 30 calls for misuse of air fresheners or dusting sprays containing tetrafluoroethane or difluoroethane; 20 calls for abuse or misuse of paint or toluene; and 4 calls involving gases such as butane, helium, nitrous oxide, or propane.

Inhalant abusers represented 0.1 percent of admissions to treatment programs in 2008. The clients tended to be male (72 percent) and Hispanic (64 percent). The overrepresentation of Hispanics is related to the fact that DSHS developed

and funded treatment programs targeted specifically to this group. The average age of the clients was 25. Forty-nine percent were involved with the criminal justice system; the average education was 10.2 years; 14 percent were homeless; and 11 percent had a history of IDU. Of the inhalant abusers, 27 percent reported no secondary drug problem, 27 percent had a second problem with marijuana, and 26 percent had a second problem with alcohol.

The categorization of inhalant deaths is difficult and leads to underreporting. In 2000, there were 12 death certificates that reported inhalants, compared with 15 in 2001; 8 in 2002; 13 in 2003; 11 in 2004; 17 in 2005; 4 in 2006; and 28 in 2007. Six of the 2007 deaths involved inhaling tetrafluoroethane or difluoroethane, ingredients used in computer dusters.

Steroids

The Texas school survey reported that 1.5 percent of all secondary students surveyed in 2008 had ever used steroids, and 0.5 percent had used steroids during the month before the survey. The 2007 YRBS found lifetime use among Texas students in grades 9–12 was 3.9 percent, with 4.8 percent among boys and 3.0 percent among girls. The 2005 Texas college survey found less than 1 percent had ever used steroids, and 0.1 percent had used in the past month.

There were 20 persons admitted to DSHS-funded treatment in 2008 with a primary, secondary, or tertiary problem with steroids. Eighty-five percent were male; 75 percent were White; 20 percent were Hispanic; the average age was 31. Seventy-five percent were involved with the criminal justice or legal system, 35 percent had a primary problem with steroids, and 25 percent had a primary problem with alcohol (exhibit 23).

NFLIS data for Texas reported testosterone was the steroid most likely to be identified in forensic testing, although it only constituted 0.14 percent of all the items tested in 2008. Dallas DEA reported that Mexico was the source for anabolic

steroids and China was the source of human growth hormone (HGH).

Carisoprodol (Soma®)

Poison control centers confirmed that exposure cases of intentional misuse or abuse of the muscle relaxant carisoprodol (Soma®) increased from 83 in 1998 to 390 in 2008. Fifty-three percent were male and the average age was 34.

In 2007, carisoprodol was mentioned on 208 death certificates, up from 51 in 2003. Only four of the 2007 death certificates mentioned only carisoprodol; all the others listed combinations of drugs. Hydrocodone and alprazolam were substances most often mentioned on the other carisoprodol death certificates. Of the 2007 deaths, 50 percent were male and the average age was 39.

DPS laboratory exhibits of carisoprodol reported to NFLIS increased from 13 in 1998 to 90 in 1999; 153 in 2000; 202 in 2001; 232 in 2002; 277 in 2003; 253 in 2004; 336 in 2005; 558 in 2006; 700 in 2007; and 471 in 2008. According to the Dallas DEA Field Division, Soma® and Soma® with codeine sold for \$2–\$5 per tablet.

DRUG ABUSE PATTERNS ON THE TEXAS–MEXICO BORDER

The 2008 Texas Secondary School Survey reported that students living in counties along the Texas border were more likely to report lifetime use of tobacco (33 versus 31 percent nonborder), powder cocaine (10 versus 6 percent), crack cocaine (3 versus 2 percent), and Rohypnol® (6 versus 2 percent), while nonborder students were more likely to report use of marijuana (25 versus 22 percent border), alcohol (63 versus 61 percent), alprazolam (14 versus 8 percent), ecstasy (5 versus 4 percent), and methamphetamine (4 versus 3 percent). One percent of each group reported lifetime use of heroin.

When asked which substances were very easy to obtain, border students reported Rohypnol®

(12 versus 6 percent), powder cocaine (16 versus 11 percent), and crack cocaine (11 versus 8 percent), while nonborder students reported tobacco (40 versus 32 percent), alcohol (47 versus 39 percent), and marijuana (26 versus 23 percent).

Different patterns were also seen in border and nonborder admissions to DSHS-funded treatment in 2008. While the proportion of admissions with a primary problem with heroin was similar (12 percent border versus 11 percent nonborder), border clients were more likely to report problems with alcohol (31 versus 27 percent nonborder), powder cocaine (21 versus 9 percent), and marijuana (27 versus 23 percent). Nonborder clients were more likely to report problems with other opiates (6 versus 1 percent nonborder), methamphetamine (9 versus 1 percent), and crack cocaine (12 versus 6 percent). In addition to differences in primary problems, nonborder clients were older (33 versus 30 years); less likely to be first admissions (48 versus 62 percent); less likely to be male (60 versus 64 percent); less likely to be employed (31 versus 40 percent); more likely to be homeless (11 versus 5 percent); and more likely to have a history of IDU (27 versus 17 percent). The nonborder clients reported more days of problems on the Addiction Severity Index in the month prior to admission than did border admissions.

Over time, the drug use problems have changed on the border and in the nonborder areas. Exhibit 28 shows the increase in use of marijuana and powder cocaine, the decrease in heroin, and the low levels of use of crack cocaine and methamphetamine on the border. In comparison, in the nonborder areas, the use of crack cocaine was high but has decreased, while the use of marijuana has increased. Use of methamphetamine peaked in 2005 (exhibit 29).

The drug problem also differs in cities along the border. The primary problems at treatment admission in El Paso in 2008 were marijuana and cocaine (24 percent each), and heroin (14 percent). In Laredo, 38 percent of the admissions were for marijuana, 22 percent for cocaine, and 21 percent for heroin. In McAllen, 38 percent of the admissions were for cocaine, 23 percent for

marijuana, and 11 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 2008 reported 69 percent of the items examined were marijuana, 20 percent cocaine, and 1 percent heroin. In Laredo, 59 of the items examined were marijuana, 26 percent were cocaine, and 5 percent heroin. In McAllen, 62 percent of the items examined were cocaine, 17 percent were marijuana, and 0.3 percent heroin.

While poverty, unemployment, lack of social services and drug treatment programs to meet the increasing demand, drug trafficking, and cartels and gangs are not new to the border, street outreach workers have reported increasing fear, trauma, and mental health issues related to loss of partners and parents. There is less ability to coordinate services across the border, while at the same time there is an increasing need for greater collaboration. There were growing concerns by workers about their personal safety in providing substance abuse services in communities which are experiencing increases in violence and crimes related to drugs. The workers also reported increasing numbers of youth involved in drug trafficking and fewer options for these youth. Choosing whether or not to become involved in drugs and gangs seemed less like a choice and more like a decision based on threats and fear. There was also concern that people in need of substance abuse and mental health services were becoming more “closeted” and afraid to ask for help due to repercussions related to the safety of their families and/or immigration issues.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Forty-eight percent of the 200 clients in Texas narcotic treatment programs said they were positive for hepatitis C (HCV), and 54 percent said

a doctor had told them they had liver problems (Maxwell and Spence, 2006). DSHS estimates that 1.8 percent of Texans are infected with HCV. There are approximately 368,000 cases of HCV in Texas, 80 percent of which (about 300,000) are chronic (long-lasting) infections. In Texas, estimates also indicate that there may be a greater disease burden among Blacks (2.2 percent) and Hispanics (2.0 percent). Whites have the lowest estimated infection rate (1.4 percent). Although most cases of infection occur in and around large urban areas, a disproportionate amount of the disease happens along the Texas–Mexico border.

The case rate for syphilis increased from 3.5 per 100,000 in 1997 to 4.9 in 2007. The case rate for chlamydia increased from 260.7 per 100,000 in 1997 to 562.0 in 2007, and the case rate for gonorrhea decreased from 136.9 per 100,000 in 1997 to 133.0 in 2007. HIV/AIDS outreach workers were reporting increasing numbers of cases of syphilis and untreated HCV and HIV cases.

The proportion of adult IDUs entering DSHS-funded treatment programs decreased from 32 percent in 1988 to 16 percent in 2008. In 2008, 60 percent of heroin injectors were people of color (exhibit 9), while injectors of cocaine (exhibit 3) and of stimulants (exhibit 19) were far more likely to be White.

HIV/AIDS Cases

The proportion of HIV cases among men having sex with men (MSM) increased from 46 percent in 1999 to 65 percent in 2008 (exhibit 30), and the proportion of AIDS cases among MSM decreased from 81 percent in 1987 to 59 percent in 2008 (exhibit 31). Of the HIV cases in 2008, 23 percent were heterosexual mode of exposure, and 10 percent were IDUs. Of the 2008 AIDS cases, 25 percent were heterosexual and 12 percent were IDUs. HIV cases that later seroconverted to AIDS are excluded from the HIV exhibits. The proportions of cases involving IDU or IDU/MSM have decreased over time.

Persons infected with HIV or AIDS were increasingly more likely to be people of color. Among HIV cases in 2008, 45 percent were Black, 27 percent were White, and 26 percent were Hispanic (exhibit 32). Among AIDS cases in 2008, 42 percent were Black, 28 percent were White, and 28 percent were Hispanic (exhibit 33).

For inquiries regarding this report, contact Jane C. Maxwell, Ph.D., Senior Research Scientist, Gulf Coast Addiction Technology Transfer Center, University of Texas at Austin, 1717 West 6th Street, Suite 335, Austin, TX 78703, Phone: 512-232-0610, Fax: 512-232-0617, E-mail: jcmaxwell@sbcglobal.net.

Exhibit 1. Marijuana Use in Past Year, Cocaine Use in Past Year, and Nonmedical Use of Pain Relievers in Past Year Among Persons Age 12 or Older, by Substate Region: Percentages, Annual Averages Based on 2004, 2005, and 2006 National Survey on Drug Use and Health



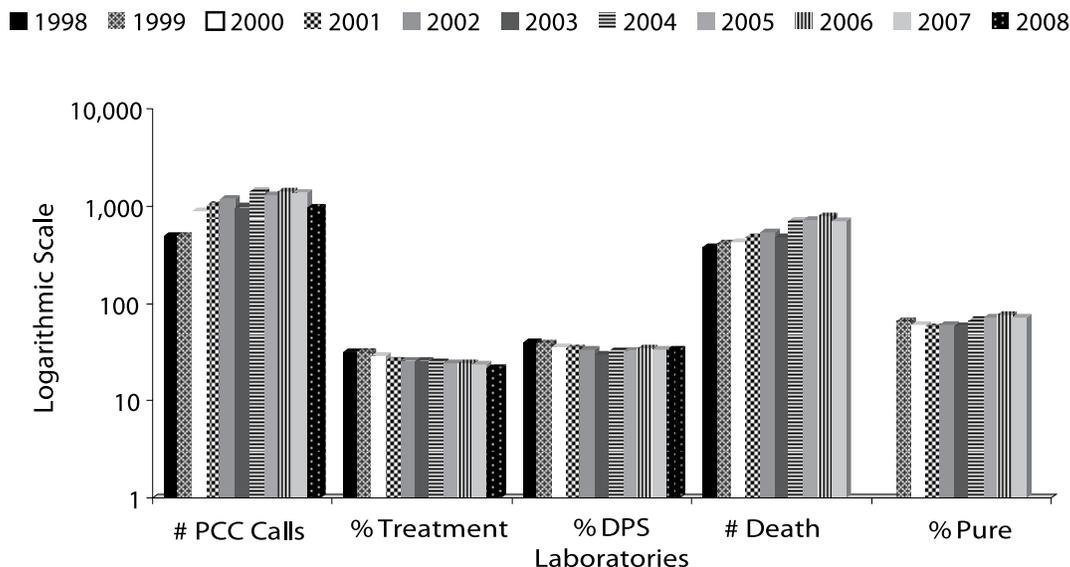
Alcohol Use in Past Month, Binge Alcohol Use in Past Month, and Perceptions of Great Risk of Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week Among Persons Age 12 or Older, by Substate Region: Percentages, Annual Averages Based on 2004, 2005, and 2006 National Survey on Drug Use and Health

	Marijuana Use in Past Year		Cocaine Use in Past Year		Nonmedical Use of Pain Relievers in Past Year	
	Estimate	95% Prediction Interval	Estimate	95% Prediction Interval	Estimate	95% Prediction Interval
Total United States	10.47	(10.24–10.69)	2.38	(2.26–2.49)	4.89	(4.75–5.03)
Texas	8.49	(7.91–9.11)	2.46	(2.16–2.80)	4.66	(4.25–5.10)
Region 1	9.92	(8.02–12.22)	2.84	(2.06–3.90)	5.71	(4.47–7.28)
Region 2	8.21	(6.37–10.53)	2.38	(1.64–3.45)	4.92	(3.73–6.47)
Region 3	8.59	(7.67–9.60)	2.06	(1.63–2.59)	4.98	(4.31–5.75)
Region 4	6.95	(5.50–8.75)	2.24	(1.61–3.11)	4.82	(3.77–6.16)
Region 5	8.67	(6.74–11.08)	2.55	(1.77–3.67)	5.02	(3.81–6.57)
Region 6	7.93	(6.84–9.19)	2.21	(1.76–2.77)	3.78	(3.16–4.53)
Region 7	11.96	(10.49–13.61)	3.26	(2.59–4.08)	5.82	(4.91–6.89)
Region 8	7.73	(6.44–9.25)	2.80	(2.13–3.68)	4.42	(3.52–5.54)
Region 9	6.88	(5.23–9.00)	2.43	(1.69–3.50)	4.79	(3.58–6.38)
Region 10	6.82	(5.23–8.86)	2.66	(1.83–3.85)	4.18	(3.08–5.66)
Region 11	7.26	(5.96–8.81)	2.81	(2.14–3.69)	4.12	(3.30–5.13)

	Alcohol Use in Past Month		Binge Alcohol Use in Past Month ¹		Perceptions of Great Risk of Having 5 or More Drinks Once or Twice a Week	
	Estimate	95% Prediction Interval	Estimate	95% Prediction Interval	Estimate	95% Prediction Interval
Total United States	51.01	(50.44–51.58)	22.84	(22.52–23.16)	41.45	(41.06–41.84)
Texas	49.14	(47.75–50.53)	24.02	(22.96–25.11)	44.15	(42.80–45.51)
Region 1	47.53	(42.17–52.95)	26.89	(23.31–30.80)	41.42	(37.20–45.76)
Region 2	46.30	(40.85–51.84)	22.79	(19.25–26.76)	41.52	(37.18–45.99)
Region 3	49.68	(47.31–52.05)	22.69	(21.05–24.43)	42.98	(40.91–45.08)
Region 4	43.24	(38.02–48.61)	21.14	(17.91–24.78)	41.46	(37.34–45.70)
Region 5	42.75	(37.61–48.06)	21.47	(18.13–25.24)	43.14	(38.99–47.38)
Region 6	52.46	(49.76–55.14)	24.10	(22.04–26.29)	44.36	(41.84–46.91)
Region 7	54.78	(51.54–57.97)	25.84	(23.58–28.24)	40.88	(38.15–43.67)
Region 8	47.96	(44.29–51.66)	25.07	(22.28–28.07)	45.89	(42.63–49.18)
Region 9	42.60	(36.85–48.55)	22.21	(18.51–26.41)	47.29	(42.60–52.03)
Region 10	43.75	(38.30–49.35)	25.34	(21.37–29.77)	51.31	(47.10–55.51)
Region 11	43.32	(39.37–47.36)	26.07	(23.27–29.09)	50.02	(46.91–53.12)

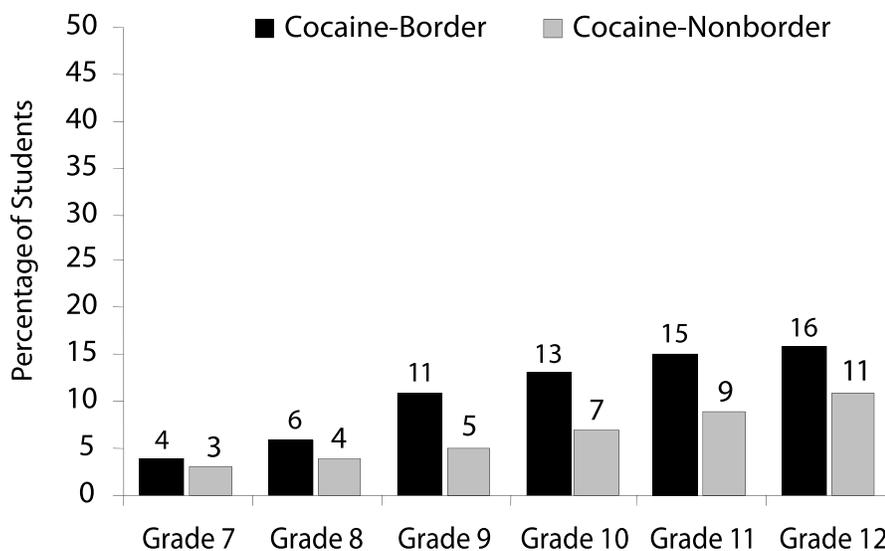
¹Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days.
SOURCE: NSDUH, SAMHSA

Exhibit 2. Number of Poison Control Calls (PCC), Percentage of Treatment Admissions, Percentage of Laboratory Exhibits, Number of Deaths, and Percent Purity for Cocaine, Texas: 1998-2008



SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); Texas Bureau of Vital Statistics; and DMP, DEA

Exhibit 3. Percentage of Border and Nonborder Secondary Students Who Had Ever Used Powder or Crack Cocaine, by Grade, Texas: CY 2008



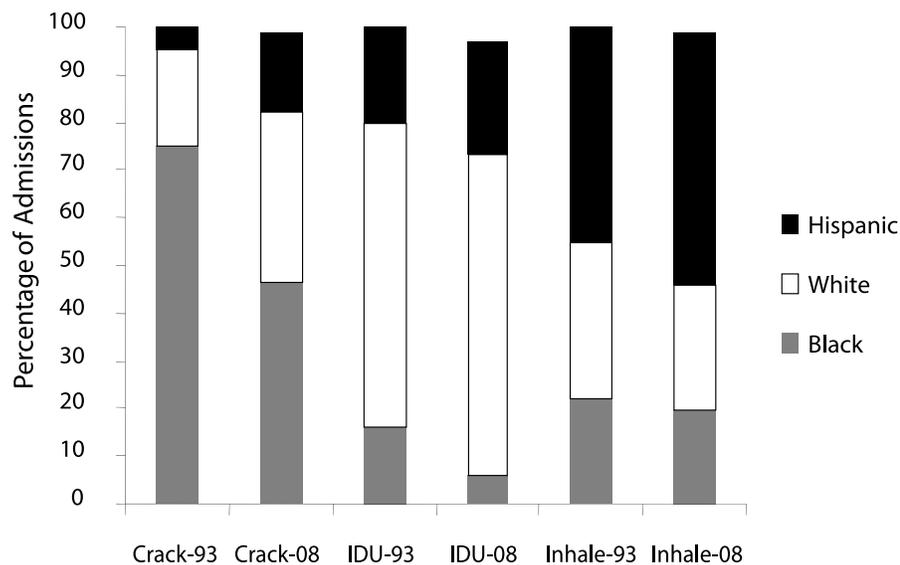
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 4. Characteristics of Clients Admitted to Texas DSHS-Funded Treatment With a Primary Problem With Cocaine by Route of Administration: CY 2008

	Crack/Cocaine Smoke	Powder Cocaine Inject	Powder Cocaine Inhale	Cocaine All ¹
# Admissions	10,593	940	6,899	19,247
% of Cocaine Admits	55	5	36	100
Lag-1st Use to Treatment—Years	14	16	10	13
Average Age	39	37	31	36
% Male	48	56	50	50
% Black	47	6	20	35
% White	36	67	26	33
% Hispanic	17	23	53	31
% Criminal Justice Involved	47	54	62	54
% Employed	15	19	36	24
% Homeless	20	16	5	14

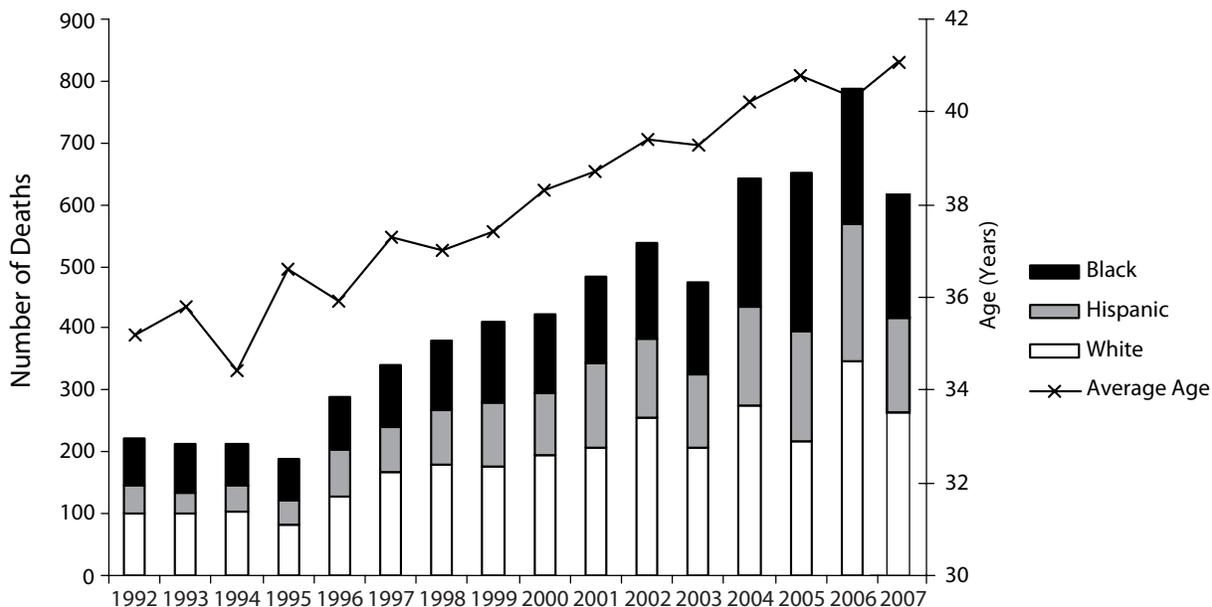
¹Total includes clients with other routes of administration.
 SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 5. Route of Administration of Cocaine by Race/Ethnicity from DSHS Treatment Admissions, Texas: 1993–2008



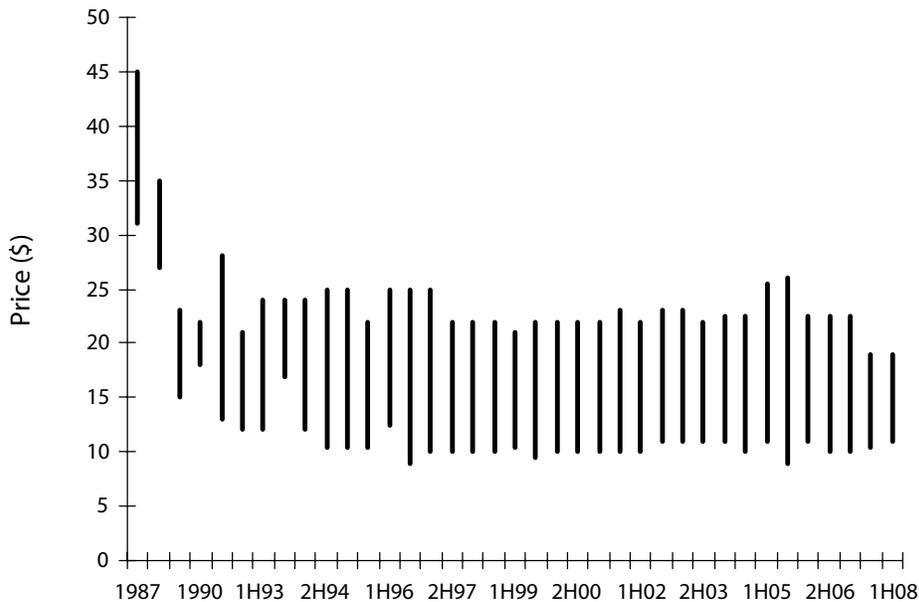
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 6. Age and Race/Ethnicity of Persons Dying With a Mention of Cocaine in Texas: 1992–2007



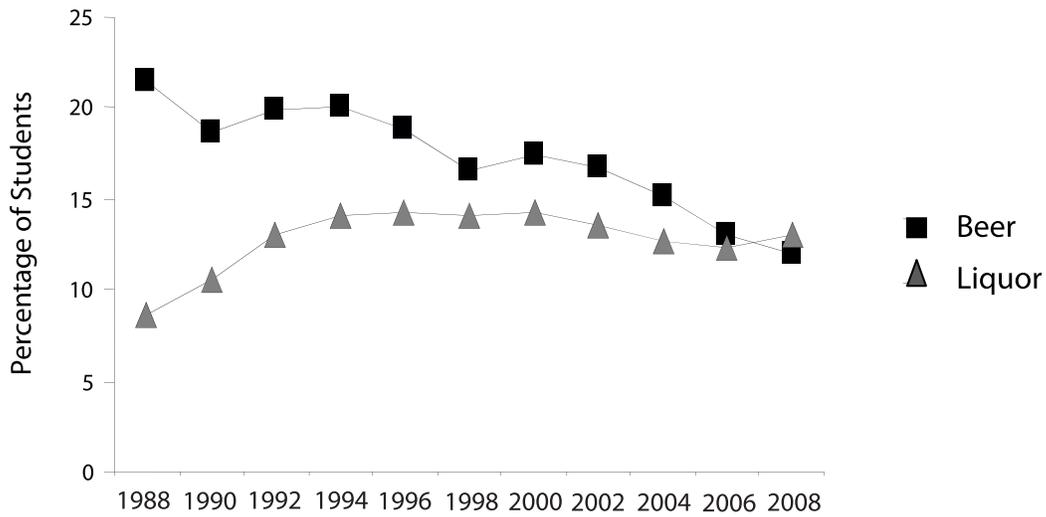
SOURCE: Department of State Health Services (DSHS); analysis by Jane C. Maxwell

Exhibit 7. Price of a Kilogram of Cocaine in Texas as Reported by the DEA: 1987–2008 (Prices reported by half year since 1993)



SOURCE: DEA

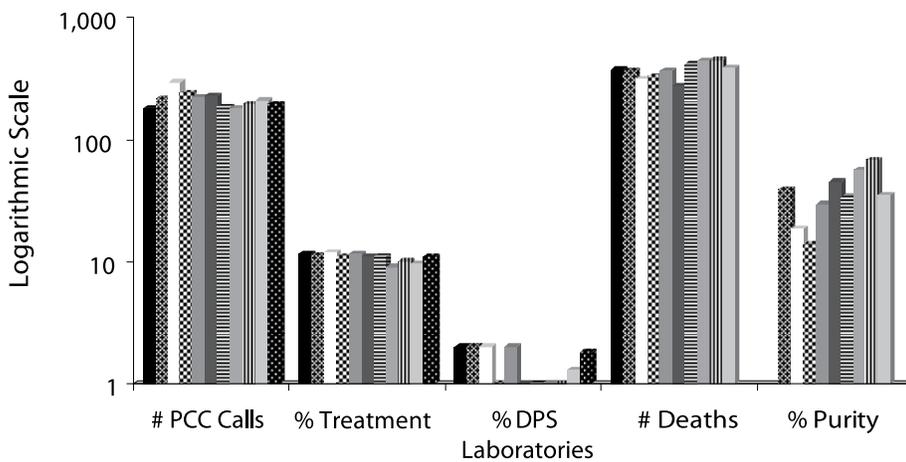
Exhibit 8. Percentage of Secondary Students Who Reported They Normally Consumed Five or More Drinks at One Time, by Specific Alcoholic Beverage, Texas: 1988–2008



SOURCE: YRBS, 2007

Exhibit 9. Number of Poison Control Calls (PCC), Percentage of Treatment Admissions, Percentage of DPS Laboratory Exhibits, Number of Deaths, and Percent Purity for Heroin, Texas: 1998–2008

■ 1998 ■ 1999 □ 2000 ▨ 2001 ■ 2002 ■ 2003 ▨ 2004 ■ 2005 ▨ 2006 □ 2007 ■ 2008



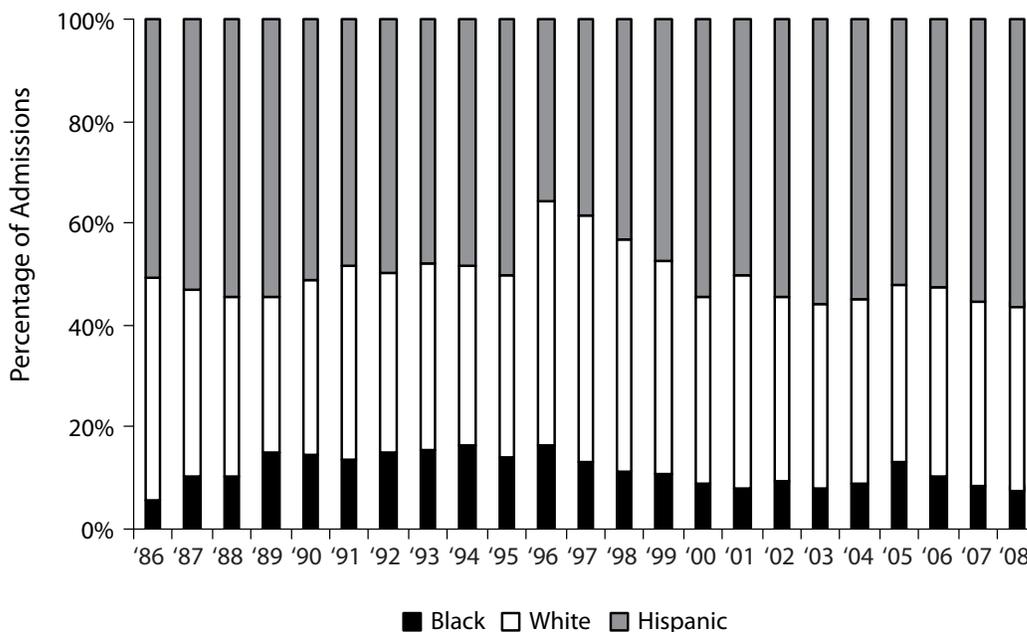
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); Texas Bureau of Vital Statistics; and DMP, DEA

Exhibit 10. Characteristics of Clients Admitted to DSHS-Funded Treatment With a Primary Problem With Heroin. By Route of Administration, Texas: 2008

	Inject	Inhale	Smoke	Total ¹
# Admissions	7,583	2,023	80	9,945
% of Heroin Admits	76	20	1	100
Lag-1st Use to Treatment—Years	14	7	9	12
Average Age	35	27	30	33
% Male	64	56	66	64
% Black	6	14	5	8
% White	38	21	53	35
% Hispanic	54	64	40	56
% Criminal Justice Involved	29	39	41	32
% Employed	12	23	33	15
% Homeless	15	8	6	13

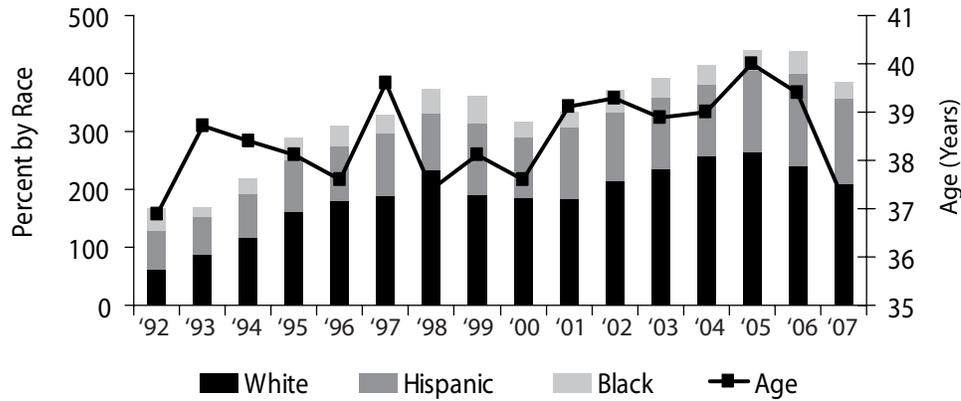
¹Total includes clients with other routes of administration.
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 11. Percentage Heroin Admissions to DSHS-Funded Treatment by Race/Ethnicity, Texas: 1986–2008



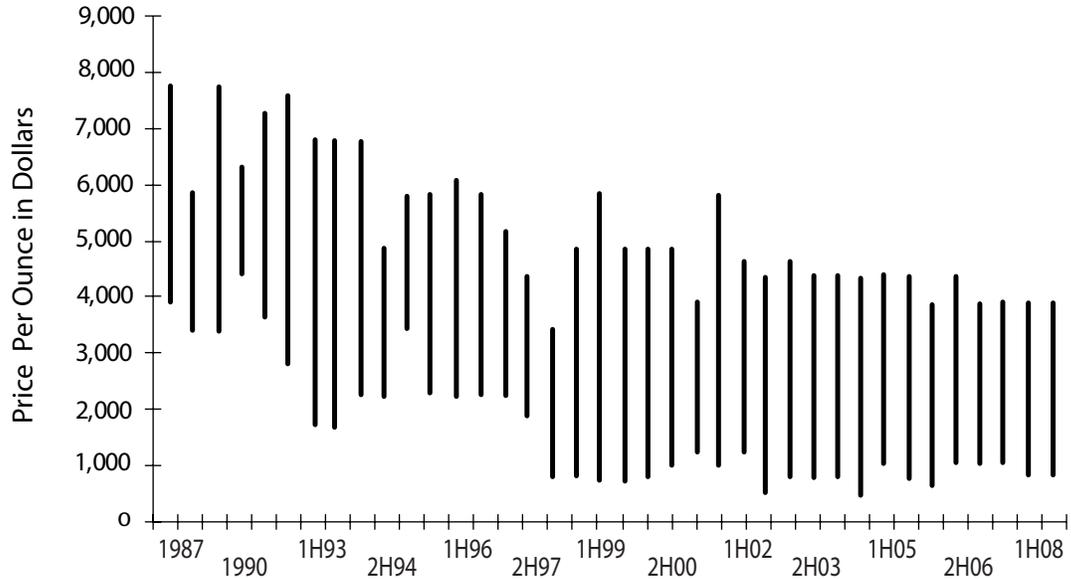
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 12. Age and Race/Ethnicity of Persons Dying With a Mention of Heroin in Texas: 1992–2007



SOURCE: Department of State Health Services (DSHS); analysis by Jane C. Maxwell

Exhibit 13. Price of an Ounce of Mexican Black Tar Heroin in Texas as Reported by the DEA:1987–2008 (Prices Reported by Half Year Since 1993)



SOURCE: DEA

Exhibit 14. Price and Purity of Heroin Purchased in Dallas, El Paso, Houston, and San Antonio by the DEA: 1995–2007

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
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
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
El Paso Purity (%)	–	–	–	–	56.7	50.8	41.8	40.3	44.7	50.5	44.7	44.8	39.8
Price/Milligram Pure	–	–	–	–	\$0.49	\$0.34	\$0.44	\$0.27	\$0.40	\$0.27	\$0.40	\$0.33	\$0.49
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
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
San Antonio Purity (%)	–	–	–	–	–	–	–	–	8.2	6.4	11.2	17.4	7.1
Price/Milligram Pure	–	–	–	–	–	–	–	–	\$1.97	\$2.24	\$0.56	\$0.79	\$1.88

SOURCE: DEA

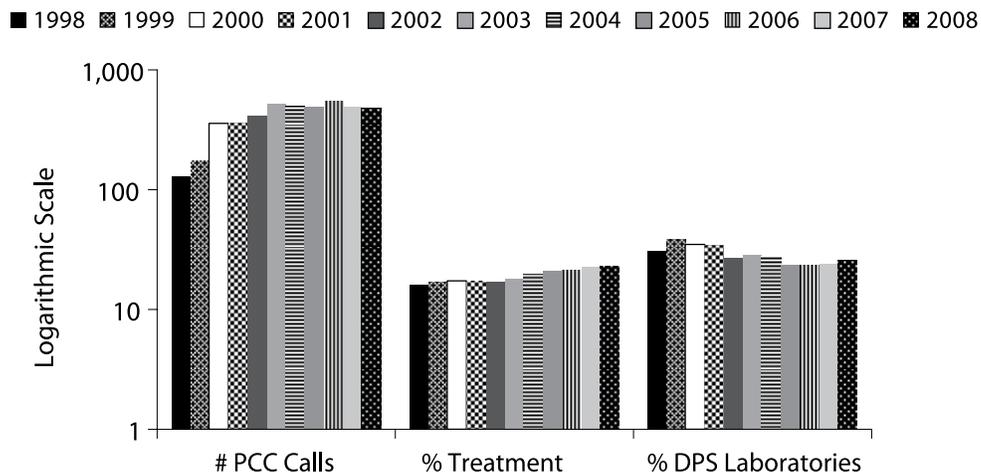
Exhibit 15. Hydrocodone, Oxycodone, Methadone, and Fentanyl Indicators in Texas: 1998–2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Poison Control Center Cases of Abuse and Misuse											
Fentanyl	–	–	9	2	3	11	17	10	36	28	31
Hydrocodone	192	264	286	339	429	414	516	505	657	703	723
Methadone	17	15	30	27	50	41	69	69	73	91	217
Oxycodone	12	26	22	34	68	64	77	50	68	67	81
DSHS Treatment Admissions											
Methadone	55	69	44	52	75	86	63	91	101	113	160
“Other Opiates” ¹	553	815	890	1,386	2,084	2,794	3,433	3,482	3,903	4,529	5,221
Deaths with Mention of Substance (DSHS)											
Fentanyl	8	5	4	7	22	10	32	30	43	49	–
Hydrocodone	5	25	52	107	168	140	201	269	400	360	–
Methadone	31	32	62	90	131	122	164	201	245	195	–
Oxycodone	1	8	20	40	56	60	66	62	81	65	–
Drug Exhibits Identified by DPS Laboratories											
Fentanyl	0	3	1	7	4	2	14	7	14	10	10
Hydrocodone	52	479	629	771	747	1,212	1,598	1,789	2,324	2,812	2,177
Methadone	1	19	22	42	58	70	130	133	169	209	181
Oxycodone	10	36	72	115	106	174	270	237	264	244	258

¹“Other Opiates” refers to those other than heroin.

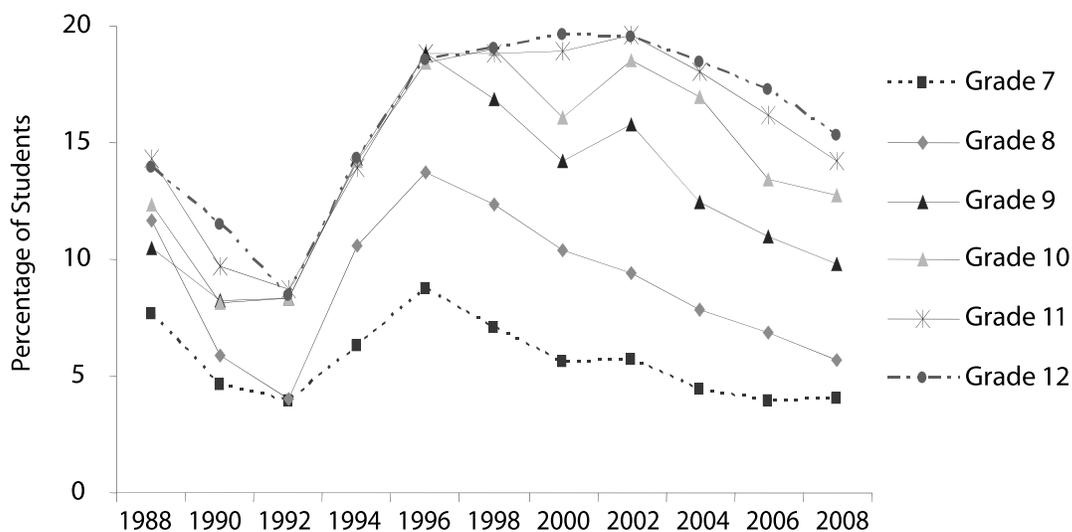
SOURCES: Texas Poison Control Network; Texas Department of State Health Services (DSHS); and Texas Department of Public Safety (DPS)

Exhibit 16. Number of Poison Control Calls (PCC), and Percentage of Treatment Admissions and DPS Laboratory Exhibits for Marijuana/Cannabis, Texas: 1998–2008



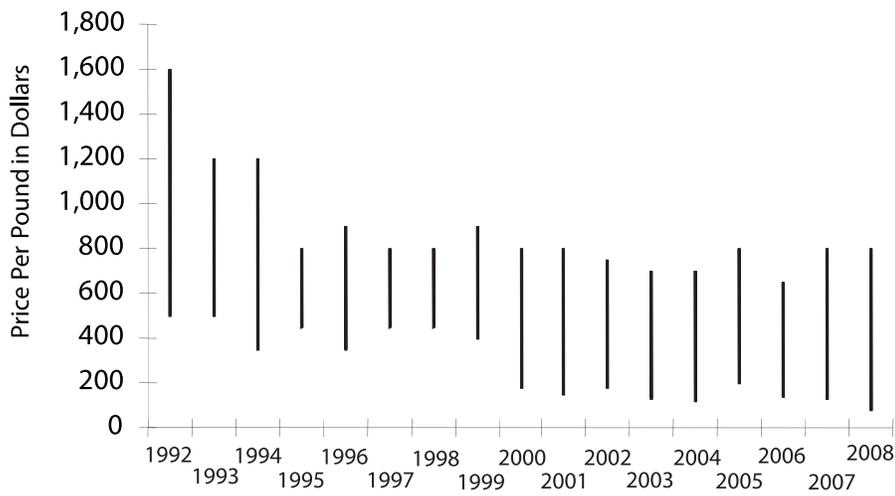
SOURCE: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); and Texas Bureau of Vital Statistics

Exhibit 17. Percentage of Secondary Students Who Had Used Marijuana in the Past Month, by Grade, Texas: 1988–2008



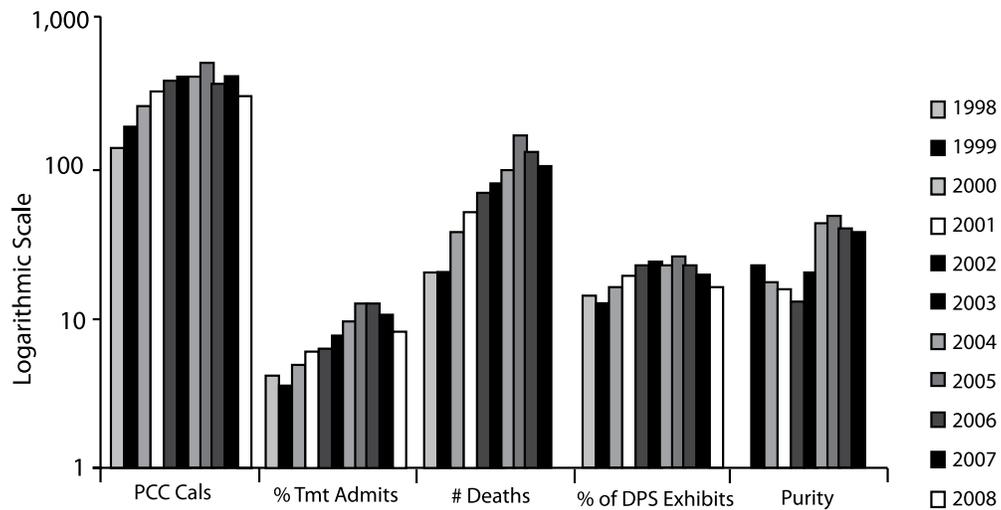
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 18 . Price of a Pound of Commercial Grade Marijuana in Texas as Reported by the DEA: 1992–2008



SOURCE: DEA

Exhibit 19 . Texas Poison Control Calls, Treatment Admissions, Deaths, Laboratory Exhibits, and Purity of Methamphetamine: 1998–2008



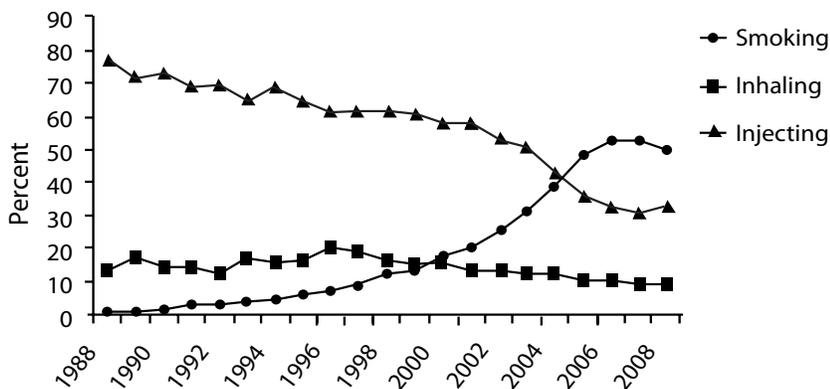
SOURCE: Texas Poison Control Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); Texas Bureau of Vital Statistics; and DMP, DEA

Exhibit 20. Characteristics of Clients Admitted to DSHS-Funded Treatment With a Primary Problem of Amphetamines or Methamphetamines, by Route of Administration, Texas: CY 2008

	Inject	Inhale	Smoke	Oral	Total ¹
# Admissions	3,680	2,470	682	332	7,458
% of Stimulant Admits	49	33	100	9	4
Lag—1st Use to Treatment—Years	10	15	11	13	12
Average Age—Years	32	34	34	35	33
% Male	42	47	46	45	45
% Black	2	1	2	9	2
% White	81	93	81	79	85
% Hispanic	15	5	15	9	11
% Criminal Justice Involved	67	64	72	69	68
% Employed	32	22	35	32	29
% Homeless	7	11	3	7	8

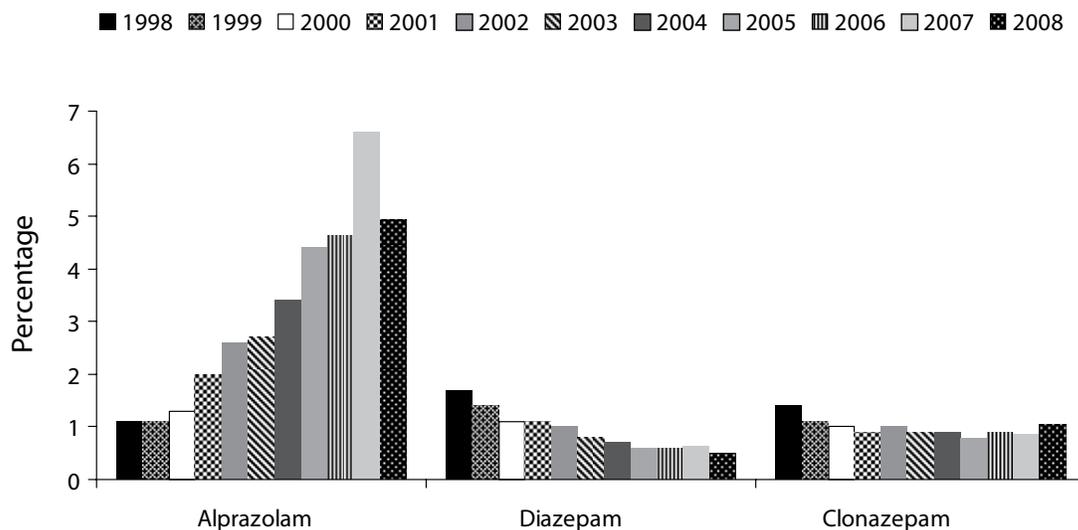
¹Total includes clients with other routes of administration.
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 21. Route of Admission of Methamphetamine by Clients Admitted to DSHS-Funded Programs, Texas: 1988–2008



SOURCE: Department of State Health Services (DSHS). Analysis by Jane C. Maxwell

Exhibit 22. Benzodiazepines as Percent of All Items Identified by DPS Laboratories in Texas: 1998–2008



SOURCES: Texas Department of Public Safety (DPS); NFLIS, DEA

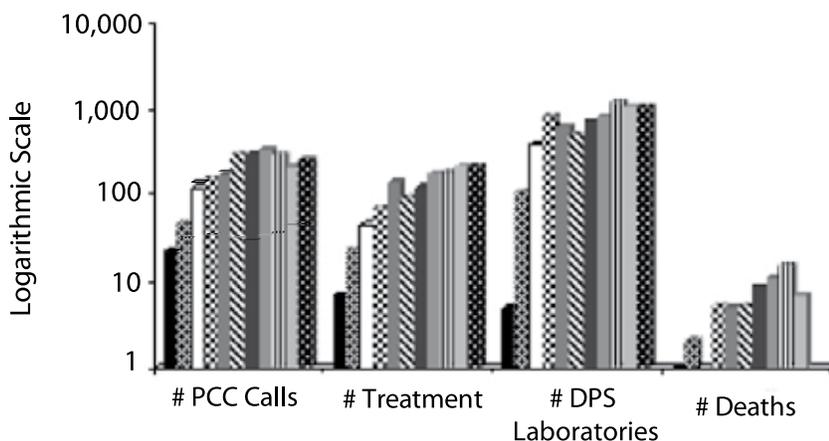
Exhibit 23. Characteristics of Clients Admitted to DSHS-Funded Treatment With a Primary, Secondary, or Tertiary Problem With Club Drugs, Texas: CY 2008

	Club Drug						
	GHB	Hallucinogens	Ecstasy	PCP	Rohypnol®	Ketamine	Steroids
# Admissions	113	404	1,189	880	207	14	20
Average Age (Years)	32	25	24	28	20	35	31
% Male	50	68	57	48	77	71	85
% Black	6	29	38	85	1	7	5
% White	84	51	39	7	4	36	75
% Hispanic	6	17	22	8	94	57	20
% History Needle Use	54	18	10	4	20	100	45
% Criminal Justice Involved	69	73	79	67	76	21	75
% Primary Drug= Club Drug	20	35	18	55	18	50	35
Other Primary Drug							
% Marijuana	3	33	44	21	43	0	20
% Alcohol	5	10	7	5	4	0	25
% Methamphetamine/Amphetamines	56	7	7	1	1	14	0
% Powder Cocaine	2	5	12	9	7	0	10
% Crack/Cocaine	0	5	3	6	6	0	0
% Heroin	4	1	1	0	19	21	10
% Other Opiates	9	2	2	1	1	0	0

SOURCE: Texas Department of State Health Services (DSHS)

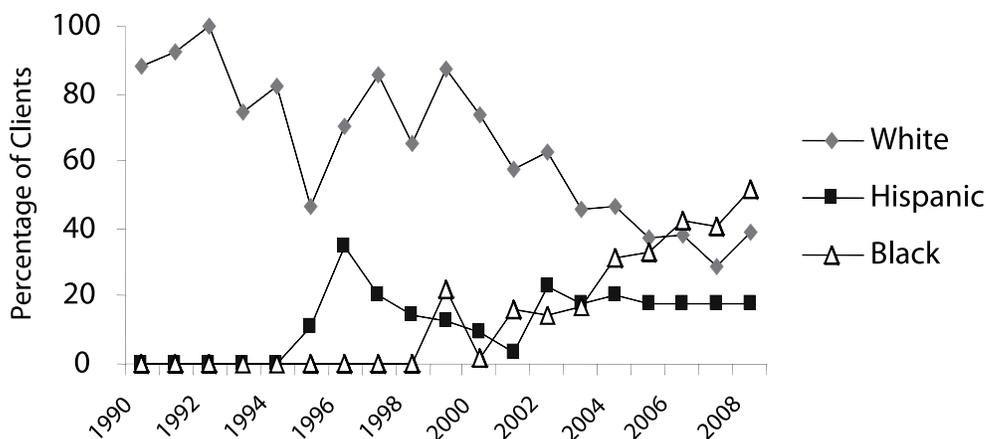
Exhibit 24. Texas Poison Control Calls, Treatment Admissions, Laboratory Exhibits, and Ecstasy Deaths, Texas: 1998–2008

■ 1998 ▨ 1999 □ 2000 ✕ 2001 ■ 2002 ▩ 2003 ■ 2004 ■ 2005 ▨ 2006 ■ 2007 ✕ 2008



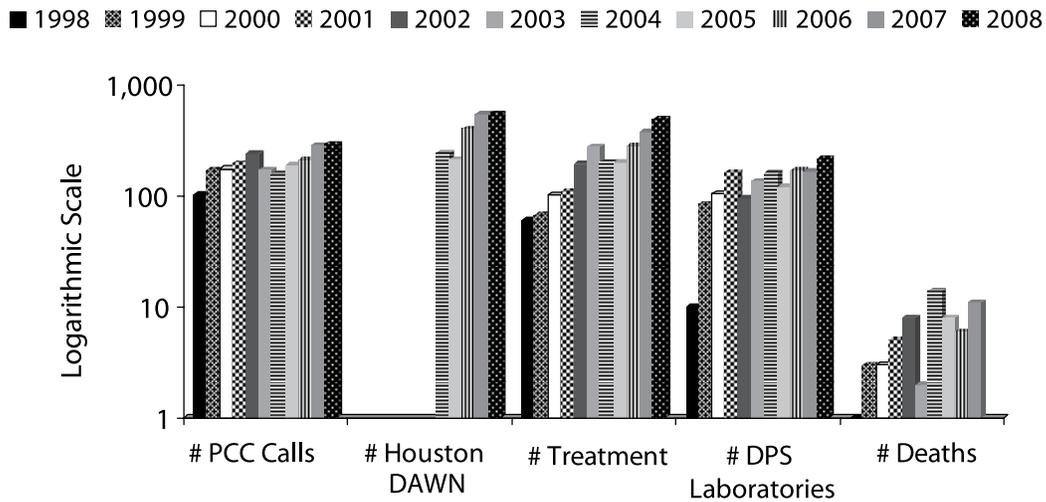
SOURCES: Texas Poison Control (PCC) Network; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); Texas Bureau of Vital Statistics; and DMP, DEA

Exhibit 25. Race/Ethnicity Characteristics of Clients Admitted to DSHS-Funded Treatment With a Primary Problem With Ecstasy, Texas: 1990–2008



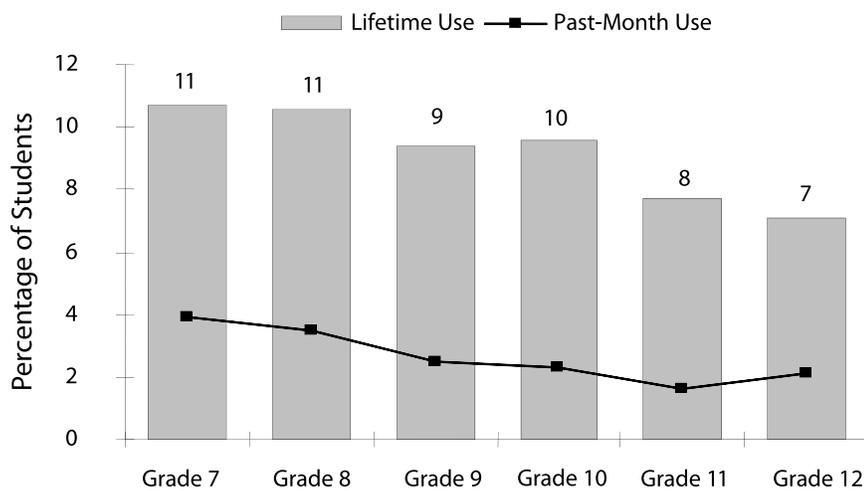
SOURCE: Texas Department of State Services (DSHS)

Exhibit 26. Number of Poison Control Calls (PCC), Treatment Admissions, Laboratory Exhibits, and Deaths for PCP, Texas: 1998–2008



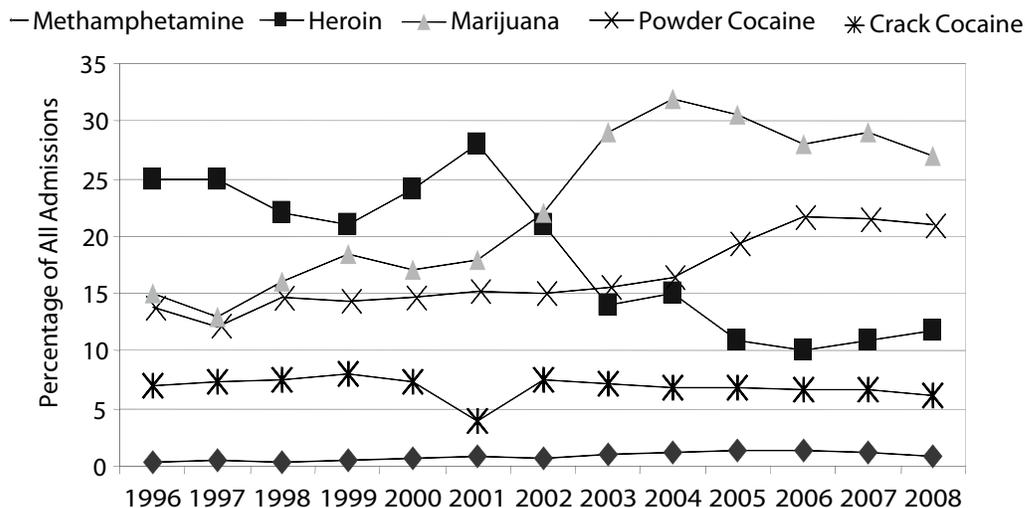
SOURCES: Texas Poison Control Network; DAWN, OAS, SAMHSA (for Houston), updated 11/2008; Texas Department of State Health Services (DSHS); Texas Department of Public Safety (DPS); Texas Bureau of Vital Statistics; and DMP, DEA

Exhibit 27. Percentage of Secondary Students Who Had Used Inhalants Ever or in the Past Month, by Grade, Texas: CY 2008



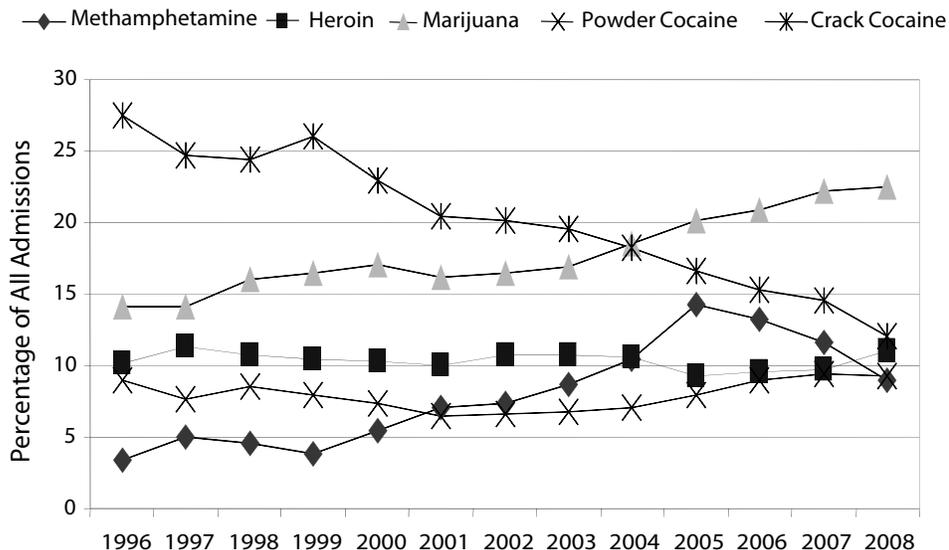
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 28. Percentage of Admissions to DSHS-Funded Treatment Texas Border: 1996–2008



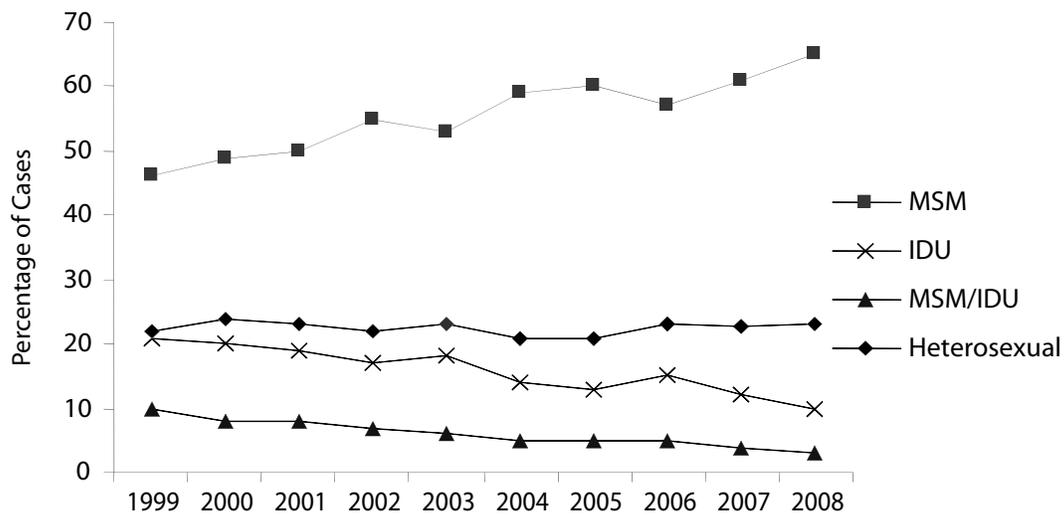
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 29. Percentage of Admissions to DSHS-Funded Treatment: Texas Nonborder: 1996–2008



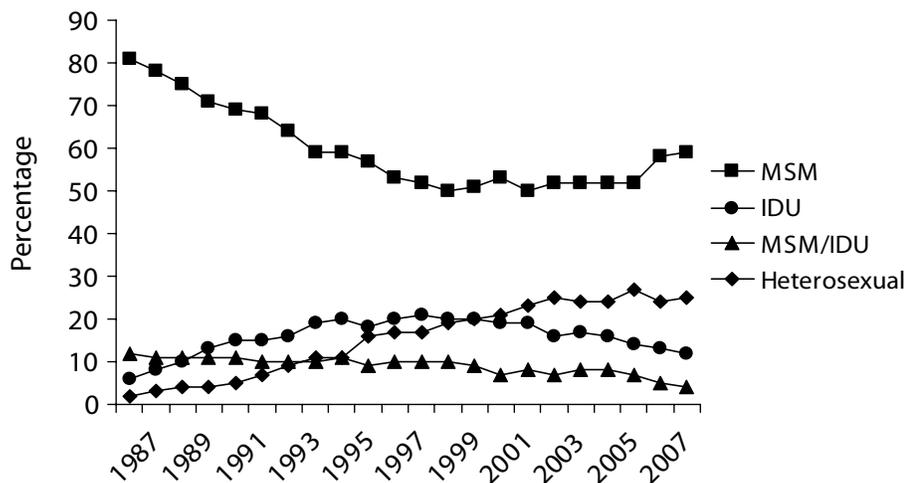
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 30. Percentage of HIV Cases (Excluding Cases With Risk Not Classified) by Selected Modes of Exposure, Texas: 1999–2008



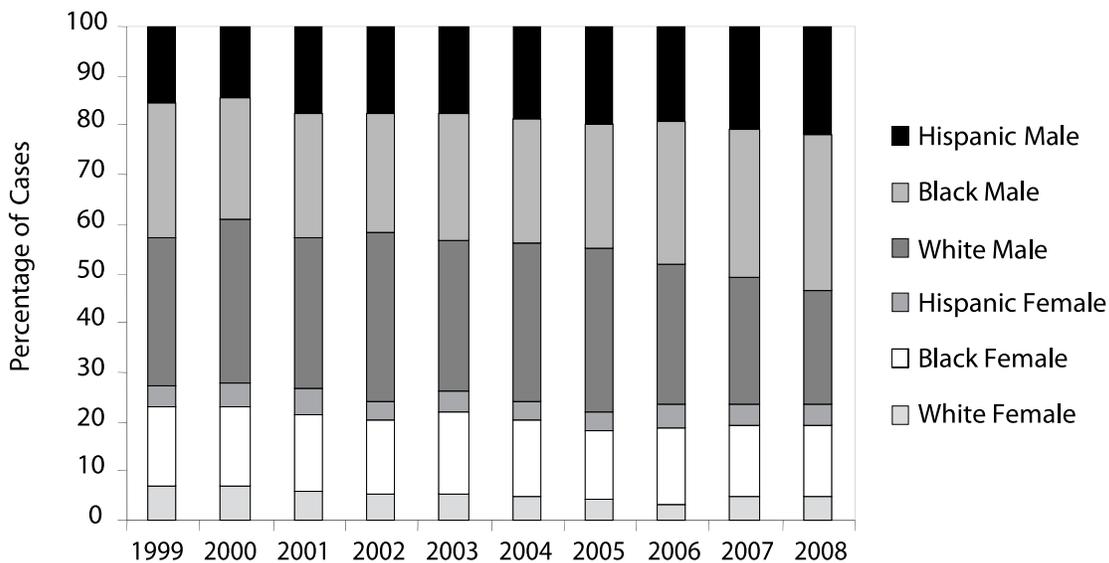
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 31. AIDS Cases in Texas by Mode of Exposure: 1987–2008 (Cases With Risk Not Classified Excluded)



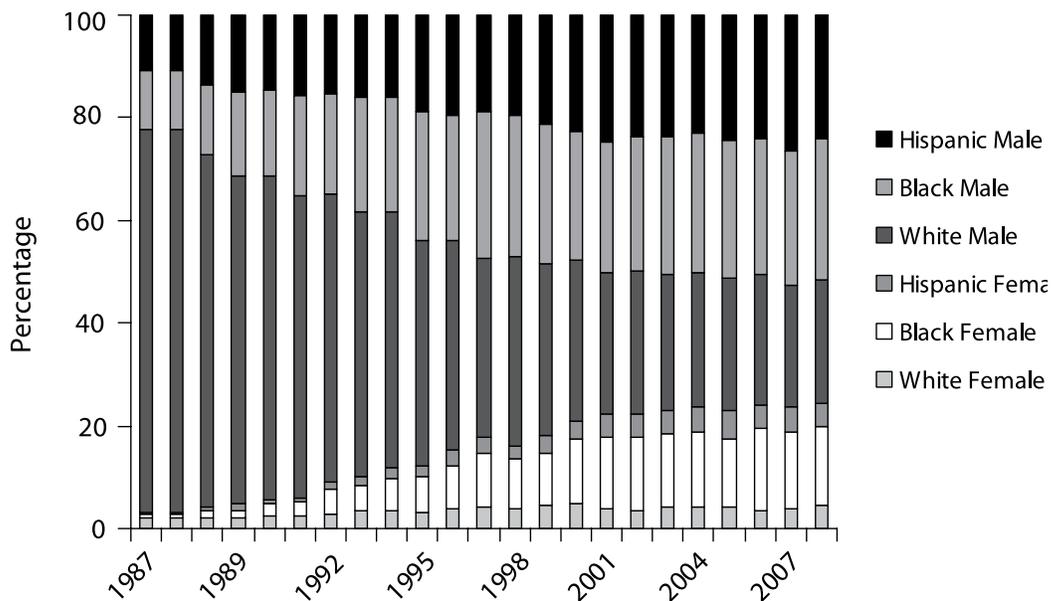
SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 32. Percentage of HIV Cases by Gender and Race/Ethnicity, Texas: 1999–2008



SOURCE: Texas Department of State Health Services (DSHS)

Exhibit 33. Male and Female AIDS Cases by Race/Ethnicity, Texas: 1987–2008



SOURCE: Texas Department of State Health Services (DSHS)

INTERNATIONAL REPORTS
AND SPECIAL PRESENTATION

Drug Abuse in Toronto, Ontario: 2008

Joyce Bernstein, M.Sc., Ph.D.¹

ABSTRACT

The most recent data available on illicit drug use in Toronto indicate serious ongoing problems with a number of substances. A spike in the total number of drug-related deaths in the city confirms anecdotal evidence of increasing indicators of drug-related harm. The most recently available data from the Office of the Chief Coroner in Toronto indicate that 190 deaths in 2007 were categorized as “drug factor” deaths; each of these 190 deaths was determined to be directly caused by one or more drugs. Several indicators of cocaine use were elevated. The total of 66 cocaine-related deaths in Toronto in 2007 matches the previous record observed in 2005. Multiple sources confirmed the overwhelming popularity of crack cocaine among street-based populations. Crack injection is known to be especially popular. The 39 heroin-related deaths in 2007 indicate heroin use remained relatively high, although not near the record levels seen in the mid-1990s. It was during this latter period that control of methadone programs across Ontario was transferred from the Federal Government to the province. Nearly 14,000 individuals are currently receiving methadone treatment in the province, as opposed to just over 400 in 1999. Most recent data indicate increasing oxycodone activity in Toronto, as in several major cities across North America. The time-release formulation of this drug, OxyContin®, was widely credited for the increased use locally. The highest dose of the drug currently available in Canada is 80 milligrams. Recreational users are known to break down the

pills and receive the full 80-milligram dose at one time. The most recently available data reveal 45 oxycodone-related deaths occurred in Toronto in 2007. This represents a high over the period monitored. Since 1985, 18,217 people have tested positive for human immunodeficiency virus (HIV) in Toronto. Men have accounted for 88 percent of all positive HIV test reports. Among men, gay, bisexual, and other men who have sex with men (MSM) accounted for 82.6 percent of all HIV infections. Approximately 10 percent of all HIV cases were associated with injection drug use.

INTRODUCTION

Area Description

Toronto is the fifth largest North American city in population size. The city's total of 2.6 million residents is fewer than only Mexico City, New York City, Los Angeles, and Chicago. Toronto is the largest city in Canada, and is the capital of the province of Ontario.

The 243 square miles which compose Toronto sit on the north shore of Lake Ontario, in the densely populated Golden Horseshoe region of Ontario. Over 8 million people, almost one-quarter of all Canadians, live within the Golden Horseshoe. One in six Canadians is employed in the region, by a wide variety of large and small employers. Toronto is the major financial center of Canada, and boasts many of the country's finest universities, hospitals, and cultural institutions.

The City of Toronto is also exceptionally diverse from an ethnic perspective. According to the 2006 Census of Canada, just less than one-half of all Torontonians were born outside of the country. Approximately one-half of these immigrants to Canada are of European ethnicities. Just less than one-half of all Torontonians are members of a visible minority. The most prominent of these groups are South Asian/West Indian (12 percent), followed closely by Chinese (11 percent), Black/Afro-Caribbean (8 percent), Filipino (4 percent),

¹The author is an epidemiologist with Toronto Public Health, Toronto, Ontario.

and Latin American (3 percent). Aboriginal peoples represent 0.5 percent of Torontonians; they are not considered to be visible minority members. While English is the predominant language spoken by Torontonians, many other languages are commonly spoken, including French, Italian, Chinese, Spanish, Portuguese, Punjabi, Tagalog, and Hindi.

Unfortunately, like many large urban centers, Toronto is home to both those with great wealth as well as a large number who live in poverty. According to Statistics Canada, the average household income in Toronto in 2005 was \$80,343. The percentage of households with incomes over \$100,000 rose from 18 percent in 2000 to 21.4 percent in 2005. At the same time it is estimated that approximately 21 percent of Toronto families, as well as 40 percent of single individuals, depend on salaries below Statistics Canada low-income cutoff. These low income rates are almost twice their national and provincial counterparts, reflecting Toronto's role as a prime destination for new immigrants, as well as its large concentration both of tenants and senior citizens.

Data Sources

The main data sources used for this report are presented below. As noted in several report exhibits, most sources have been followed for 20 or more years, allowing a perspective informed by long-term trends.

- **Mortality Data** were provided by the Office of the Chief Coroner of Ontario. This information summarized all "drug factor deaths" in Toronto from January 1, 1986 through December 31, 2007 which were deemed accidental or self-inflicted. Drug factor deaths correspond to all those Toronto coroner cases in which drugs or poisons were determined to have directly caused the person's death. Each death is then said to be "related" to whatever drug or drugs are found in the deceased. It is important to note that because one death can be related to two or more drugs, drug-related categories are not mutually exclusive. For example, in 2007, 66

individuals died with cocaine in their systems, resulting in 66 cocaine-related deaths. Similarly, there were 39 individuals whose deaths were classified as heroin-related that same year. However, these two groups are not distinct. Twenty-four individuals died with both drugs in their systems, and are included in both sets of drug-related deaths. Although somewhat confusing, this procedure yields an estimate of the number of deceased individuals who used each particular drug, providing an estimate of prevalence. It should be noted, therefore, that adding drug-related deaths of various categories will result in multiple counts of some individuals. It should also be noted that drug-factor deaths do not include individuals killed in crashes caused by driving under the influence of drugs, unless a drug, and not injuries from the accident, was the direct cause of death.

- **Seizure Data** were provided by the Toronto Police Service. These refer to the confiscation of illegal substances of any quantity made by a Toronto police official. The most recent statistics reflect seizures for the 2007 calendar year.
- **Drug use reported in both adult and student surveys** was provided by the Centre for Addiction and Mental Health (CAMH). The most recent student drug use survey results are those for 2007, while the most recent adult survey results are from 2005. In both cases, administration of comparable surveys over several decades affords interesting long-term comparisons for both cohorts of relatively mainstream populations.
- **Drug use reported among homeless adults in the 2007 Street Health Report** is compared with those in the initial Street Health Survey of 1992.
- **Data on drug use among homeless Toronto youth** have most recently been provided by Dr. Pat Erickson of CAMH.

Other sources used less consistently throughout the report will be noted where appropriate.

DRUG ABUSE PATTERNS AND TRENDS

The most recent data available on illicit drug use in Toronto indicate serious ongoing problems with a number of substances. A spike in the total number of drug-related deaths in the city confirms anecdotal evidence of increasing indicators of drug-related harm. The most recently available data from the Office of the Chief Coroner in Toronto indicate that 190 deaths in 2007 were categorized as “drug factor” deaths; each of these 190 deaths was determined to be directly caused by one or more drugs. As seen on exhibit 1, the total of 190 drug factor deaths in 2007 remained at the increased levels observed in preceding years.

Cocaine/Crack

Several indicators of cocaine use were elevated in 2007; there was a general consensus that crack cocaine accounted for most of the cocaine-related activity in the city. Some sources of information separate the two drugs; some do not. Data on cocaine-related mortality do not differentiate between the two forms of the drug. These data are shown in exhibit 2. The increase in cocaine-related deaths is apparent. The total of 66 cocaine-related deaths in Toronto in 2007 matches the previous record observed in 2005.

A high level of cocaine use is confirmed by several additional sources, including recent updates from Ontario’s Drug and Alcohol Registry of Treatment. The full set of data appears on exhibit 3. Exhibit 4 displays percentage of inquiries represented by both cocaine and crack. While not as dramatic as the mortality data, exhibit 4 also indicates higher levels of cocaine activity.

The most recent household and student surveys in Toronto did not indicate an upsurge in cocaine use. Recent surveys of more marginalized populations, however, demonstrated a high level of crack use among these groups. Nearly one-half (49 percent) of the 368 under-housed adults interviewed by Street Health in 2007 indicated they used crack regularly. In addition, approximately 20 percent of the street youth in the 2008 CAMH

Pathway Youth survey indicated crack use during the past year.

Heroin/Morphine

The 39 heroin-related deaths in 2007 indicate heroin use remained relatively high, although not near the record levels seen in the mid-1990s. It was during this latter period that control of methadone programs across Ontario was transferred from the Federal Government to the province, a move that has been largely credited with opening more methadone treatment programs, and eliminating waiting lists. Nearly 14,000 individuals are currently receiving methadone treatment in the province, as opposed to just over 400 in 1999. A significant barrier to increasing methadone treatment in the late 1990s was training and registering general practitioners for licensing to distribute methadone. Administrative changes instituted since 1997 have resulted in a 16-percent increase in practitioners able to prescribe methadone treatment.

Heroin use, like cocaine, continued to register low in general population and student surveys. Surveys from CAMH since the late 1970s continued to show past-year use of the drug at between 1 and 2 percent for both Toronto adults and students.

Data from the Toronto Police Service from 2007 indicated a spike in heroin seizures. As shown on exhibit 5, the 10,000-plus grams seized in 2007 were the highest amount since 1999, when over 33,000 grams were seized—the highest over the monitoring period. Toronto police attributed this surge to several large seizures, rather than a significant increase in heroin-related activity.

Heroin continued to be more popular on the streets. The 2007 Street Health Survey (exhibit 6) found that 30 percent of the homeless clients interviewed used cocaine regularly. Ten percent of the Toronto street youth interviewed for the Pathway Youth Project cited heroin use in the past year (exhibit 7).

Oxycodone and Other Narcotic Analgesics

Most recent data indicate increasing oxycodone activity in Toronto, as in several major cities across North America. The time-release formulation of this drug, OxyContin®, is widely credited for the increased use of oxycodone locally. The highest dose of the drug currently available in Canada is 80 milligrams. Recreational users are known to break down the pills and receive the full 80-milligram dose at one time. The most recently available data on oxycodone-related mortality are summarized on exhibit 8. The 65 deaths in 2007 represent a high over the period monitored.

A recent increase in inquiries regarding problems related to narcotic analgesics is illustrated in exhibit 9. While oxycodone is not explicitly mentioned, it is reasonable to assume that a large part of the increase is “oxy-related.”

Other popular narcotic analgesics in Toronto are codeine, Dilaudid®, methadone, and Vicodin®. While fentanyl is not known to be extremely popular in Toronto, the recent increase in related deaths noted by the CEWG has resulted in increased awareness in Toronto. The fentanyl-related deaths from 2002–2007 in Toronto appear in exhibit 10. Given the similarity to the patterns seen with oxycodone in the early 1990s, fentanyl will be monitored in future reports.

Data from the most recent Toronto student survey confirm the popularity of narcotic analgesics for recreational use. For the first time in 2007, the Ontario Student Drug Use and Health Survey asked students about their “nonmedical use of opioid pain relief pills such as Percocet®, Percodan®, Tylenol 3®, Demerol®, oxycodone, and codeine.” Nearly one in five, or 17.9 percent of Toronto students, answered “Yes” to this question. While these numbers were somewhat higher than expected, comparison of these results to students in other areas of Ontario indicated higher use of these drugs by students outside of Toronto. A full 27 percent of students in largely rural, northern Ontario, indicated nonmedical use of opioid pain relievers, followed by 21.5 percent of those in

eastern Ontario, and 19.3 percent in the western part of the province.

Oxycodone was widely used by homeless adults as well. Fifteen percent of those surveyed by Street Health in 2007 cited the use of this drug. Injection use of oxycodone and other prescription medications was cited in another, smaller survey from Street Health in 2005.

Marijuana

While not considered a lethal drug, an increase in marijuana use can be seen in the mortality data on exhibit 11. An increase in the presence of marijuana in the more recent cases is evident.

Surveys of use among mainstream as well as marginalized populations also reflected a relatively high level of marijuana use. Student marijuana use in 2007 was estimated at 18 percent, somewhat less than the record 23 percent noted in 2003, however, still relatively elevated. Adult use was estimated at 15 percent in 2003, the most recently available adult results. Again, this number is not the highest recorded over the observation period, however, it indicates a relatively high level of marijuana use.

The popularity of marijuana is also seen in the current data on homeless persons. As seen on exhibit 6, upward of 80 percent of Toronto street youth interviewed in 2007 indicated marijuana use in the past year. Among the homeless adults interviewed by Street Health, the regular use of marijuana was recorded by nearly one-half, or 48 percent (exhibit 7).

Barbiturates, Sedative Hypnotics, and Tranquilizers

Indicators of the nonmedical use of barbiturates, sedative hypnotics, and tranquilizers have remained relatively steady for the period monitored. As shown on exhibit 12, the mortality data range between 39 and 86 deaths from 1987–2007, with little discernable pattern over the years.

Club Drugs

Drugs in this category, also known as “designer drugs,” are generally those manufactured by underground chemists, commonly used at clubs and parties. Club drugs have been popular in Toronto since the late 1990s. Use was initially restricted to raves; however, club drugs are now used more widely at various clubs and parties.

Currently, the most popular designer drugs in Toronto include ecstasy, gamma hydroxybutyrate (GHB) and ketamine. Although ketamine is legally produced as an animal tranquilizer, it is often taken with ecstasy and GHB.

Club drugs can be lethal. Between January 1, 2000 and December 31, 2006 there were 16 ecstasy-related deaths in Toronto, along with 10 related to GHB, 5 related to ketamine, and 5 involving methamphetamine. There have also been a number of severe, potentially damaging urinary tract infections related to ketamine use.

INFECTIOUS DISEASES RELATED TO DRUG ABUSE IN TORONTO

Between January 1, 1985 and December 31, 2007, 18,217 Torontonians tested positive for human immunodeficiency virus (HIV). Men have accounted for 88 percent of all positive HIV test reports. Among men, gay, bisexual and other men who have sex with men (MSM) accounted for 82.6 percent of all HIV infections. The most popular modes of transmission have been MSM (72.7 percent), people from countries where HIV is endemic (10.5 percent), heterosexual contact (9 percent), and injection drug users (9.6 percent).

REFERENCES

- AIDS Committee of Toronto, 2008.
- Ambrosia, Eileen, et al. *The Street Health Report*, Street Health, Toronto, Ontario, 1992.
- The CAMH Monitor*, Centre for Addiction and Mental Health, Toronto, Ontario, 2005.
- Epidemiological Trends in Drug Abuse, Proceedings of the Community Epidemiology Work Group, Highlights and Executive Summary, January 2008*, National Institute on Drug Abuse, National Institutes of Health.
- Erickson, Pat. *Report on the Pathways for Youth Project*, Centre for Addiction and Mental Health, Toronto, 2009.
- Khandor, Erika and Mason, Kate. *The Street Health Report, 2007*, Street Health, Toronto, Ontario, 2008.
- The Ontario Student Drug Use and Health Survey, Centre for Addiction and Mental Health, Toronto, Ontario, 2008.
- Personal communication with Lorie Steer, September 2005.
- Statistics Canada (2007), *Census of Canada, 2006*, Ottawa.

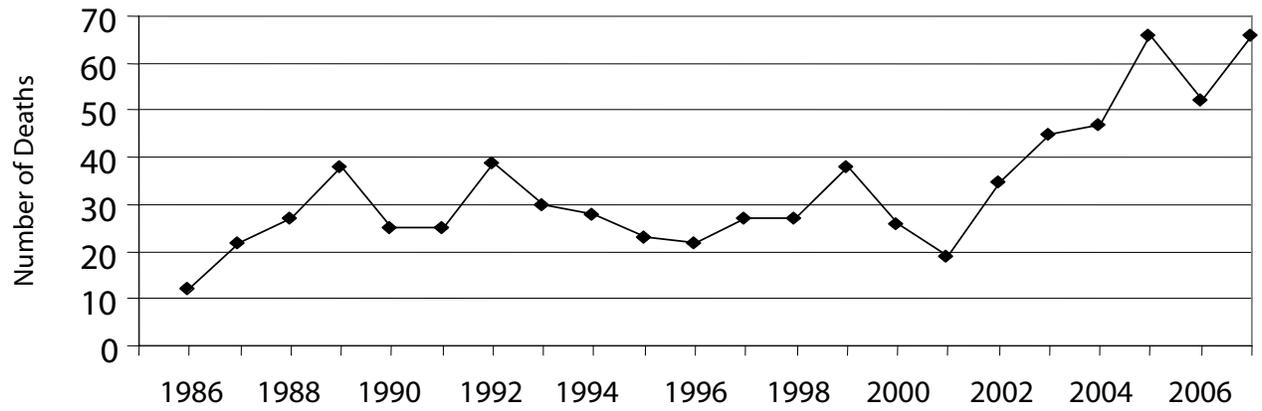
For inquiries regarding this report, contact Joyce Bernstein, M.Sc., Ph.D., Epidemiologist, Toronto Public Health, 125 Memorial Park Avenue, Toronto, Ontario M4J 4Y6, Phone: 416-338-7855, Fax: 416-338-0921, E-mail: jbernste@toronto.ca.

Exhibit 1. Number of Drug-Related Deaths in Which the Following Substances Were Detected¹, Toronto, Ontario: 1986–2007

	Years																						
	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	
Cannabis	9	15	9	14	16	4	11	7	1	5	1	1	3	2	0	0	21	26	22	22	44	41	36
Cocaine	12	22	27	38	25	25	39	30	28	23	22	27	27	38	26	19	35	45	47	66	52	66	66
Heroin	12	26	17	28	40	35	60	57	67	45	38	36	36	39	36	25	39	32	29	47	34	39	39
Barbiturates, Sedatives/ Hypnotics, and Tranquilizers	66	53	64	70	85	82	86	76	79	60	39	51	67	65	39	43	67	70	70	52	52	72	74
Total	141	139	137	151	159	158	143	155	173	130	96	132	155	150	119	106	154	142	144	179	188	190	190

¹Individual column entries do not add to column total. This is because not all drug deaths fall into the four categories shown, and categories are not mutually exclusive.
SOURCE: Office of Chief Coroner of Ontario

Exhibit 2. Number of Cocaine-Related Deaths, Toronto, Ontario: 1986–2007



SOURCE: Office of Chief Coroner of Ontario

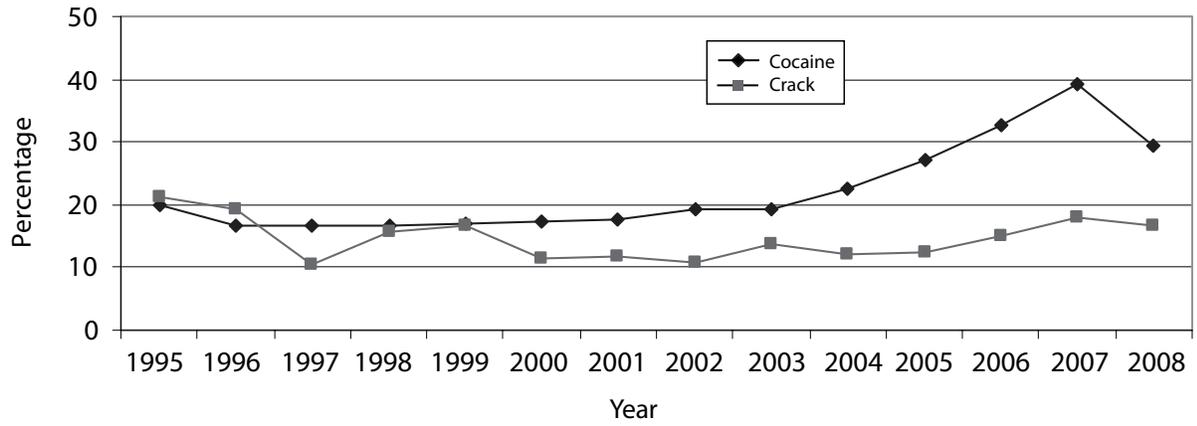
Exhibit 3. Treatment Inquiries, by Percentage of Problem Substances Identified, Toronto: 1997–2008

Problem Substances Identified	Years											
	10/97–09/98	10/98–09/99	10/99–09/00	10/00–09/01	10/01–09/02	10/02–09/03	10/03–09/04	10/04–09/05	10/05–09/06	10/06–09/07	10/07–09/08	
Percentage	%	%	%	%	%	%	%	%	%	%	%	%
Alcohol	48.6	51.3	57.5	56.7	59.8	57.7	53.5	53.7	50.4	53.2	57.2	
Amphetamines	1.1	2.0	1.4	1.9	1.1	1.7	1.5	1.2	2.0	2.1	2.2	
Barbiturates	0.1	0.1	0.1	0.2	0.1	0.4	0.1	0.2	0.1	0.1	0.1	
Benzodiazepines	2.4	2.1	1.9	1.2	1.1	1.7	1.1	1.0	0.8	1.2	1.0	
Cannabis	9.4	9.6	8.6	9.8	9.3	8.5	8.2	8.4	10.4	10.2	10.3	
Cocaine Powder	16.8	17.1	17.3	17.5	19.3	19.4	22.5	27.0	32.6	31.9	29.4	
Crack	15.8	16.7	11.4	11.7	10.7	13.7	12.0	12.5	15.1	18.0	16.6	
Ecstasy	N/A ¹	N/A	N/A	N/A	N/A	N/A	N/A	0.0	0.8	1.5	0.5	
Hallucinogens	0.6	1.0	1.3	0.9	0.6	0.3	0.6	0.7	0.6	0.4	0.2	
Heroin	5.9	5.7	4.9	3.1	3.5	2.2	2.8	1.8	2.7	2.1	3.3	
Inhalants	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
Narcotic Analgesics	4.4	4.3	4.0	3.6	4.2	5.5	5.6	5.6	4.2	4.3	7.7	
Not Identified	10.9	6.9	7.0	6.8	4.0	3.8	3.7	1.7	1.0	0.7	0.5	
Other Non-Prescription	3.4	3.5	1.7	3.1	2.8	2.2	2.2	1.2	1.2	1.1	1.5	
Other Prescription	0.9	1.0	1.4	0.8	1.2	1.4	1.0	0.7	0.9	1.3	0.9	
Other	0.3	0.2	0.1	0.1	0.1	0.3	0.1	0.2	0.5	0.5	0.4	

¹ N/A=Not Available.

SOURCE: Drug and Alcohol Registry of Treatment, Ontario

Exhibit 4. Percentage of All Treatment Inquiries Involving Cocaine and Crack: 1995–2008



SOURCE: Drug and Alcohol Registry of Treatment, Ontario

Exhibit 5. Quantity of Drugs Seized (in Grams), Toronto, Ontario: 1987-2007 (continued on next page)

	Year										
	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97
Cocaine	25,784	34,272	75,557	99,568	82,507	72,283	13,340	38,265	10,149	29,111	19,934
Crack	N/A	N/A	1,207	2,042	3,474	5,616	6,339	9,482	15,796	5,331	7,934
Heroin	2,519	2,282	6,611	5,793	2,805	3,623	5,017	7,983	2,796	6,223	15,473
Marijuana	127,787	123,238	156,205	76,047	140,282	230,702	382,953	437,442	387,150	577,537	496,158
Hash Oil	22,715	10,391	1,271	1,085	8,771	1,275	5,146	13,818	6,801	535	915
Hashish	20,465	41,581	50,429	117,181	26,334	43,466	65,887	15,588	9,684	502,050	22,609
Methadone	N/A										
MDMA	N/A										
Oxycodone	N/A										
GHB	N/A										
Ketamine	N/A										

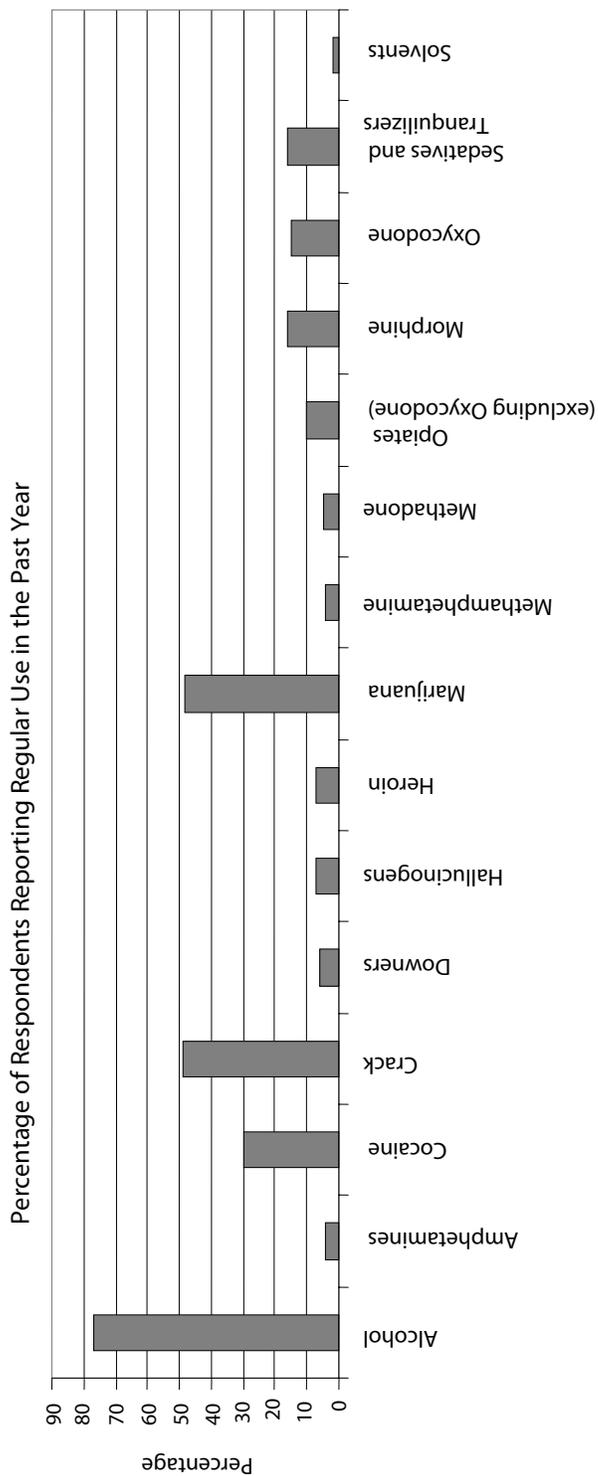
SOURCE: Toronto Police Service

Exhibit 5. Quantity of Drugs Seized (in Grams), Toronto, Ontario: 1987-2007 (continued)

	Year									
	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07
Cocaine	272,992	10,617	7,258	12,462	19,369	33,081	26,353	65,778	73,304	42,193
Crack	6,712	9,540	16,554	4,676	1,476	1,386	7,234	10,323	13,299	10,404
Heroin	2,925	33,763	2,321	1,302	1,354	1,060	1,856	886	3,650	10,184
Marijuana	334,818	312,237	1,273,861	1,204,721	2,770,345	3,148,889	8,926,981	7,652,307	7,227,144	6,317,344
Hash Oil	6,312	4,056	185	243	64	1,987	21,065	10,019	3,683	147
Hashish	5,160	25,903	4,012	4,370	11,571	13,429	13,096	6,836	3,946	3,620
Methadone	N/A	N/A	N/A	N/A	N/A	N/A	6,273	5,487	3,807	34,040
MDMA	N/A	N/A	N/A	N/A	N/A	N/A	41,299	75,096	62,581	199,230
Oxycodone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	117	4,500	12,742
GHB	N/A	N/A	N/A	N/A	N/A	N/A	8,656	11,108	301,734	5,735
Ketamine	N/A	N/A	N/A	N/A	N/A	N/A	2,067	269	1,974	19,565

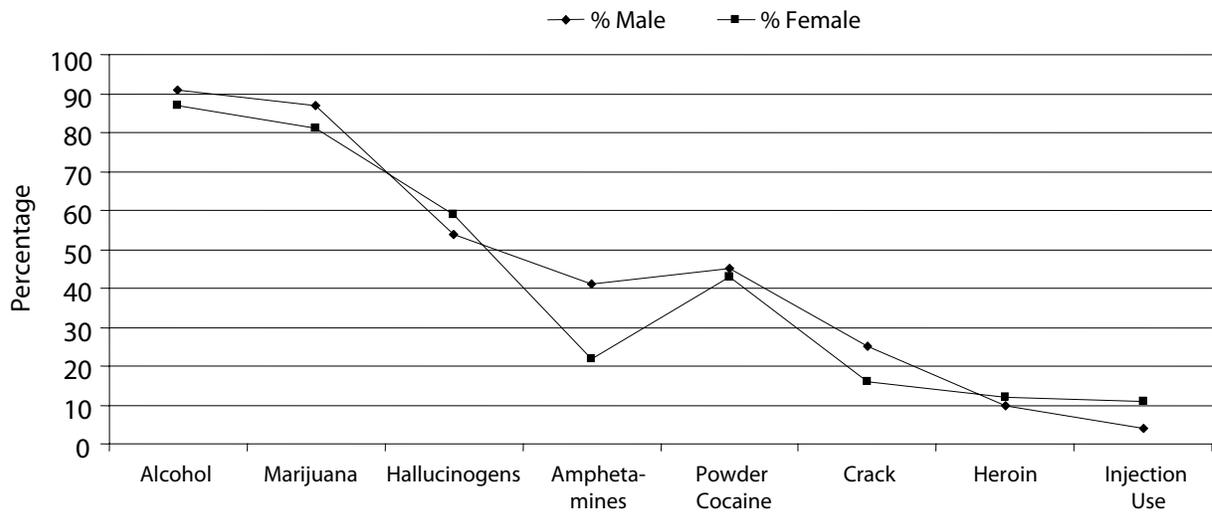
SOURCE: Toronto Police Service

Exhibit 6. Percentage Reporting Past-Year Regular Drug Use Among Homeless Adults, by Drug, Toronto: 2007



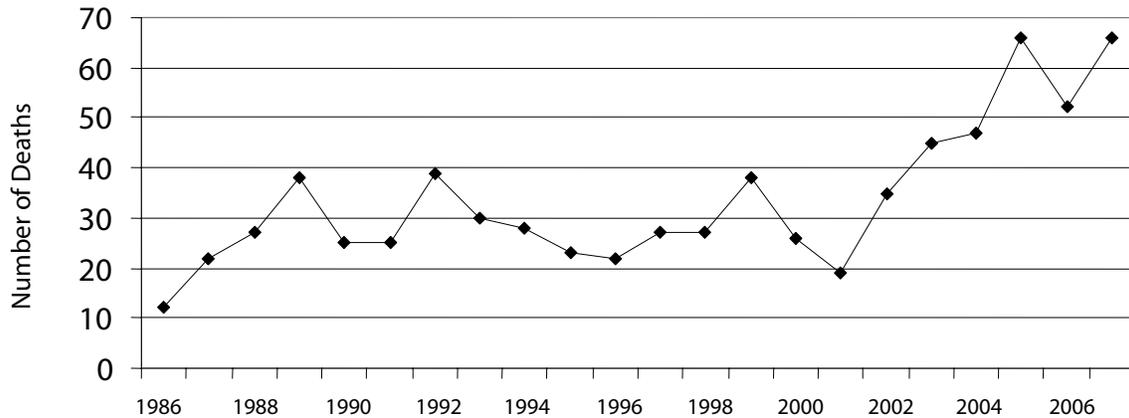
SOURCE: *The Street Health Report, 2007, Toronto, Ontario*

Exhibit 7. Drug Use by Toronto Street Youth: Response to the Survey Question, "Have you used any of the following drugs in the past 12 months?": 2007 Results



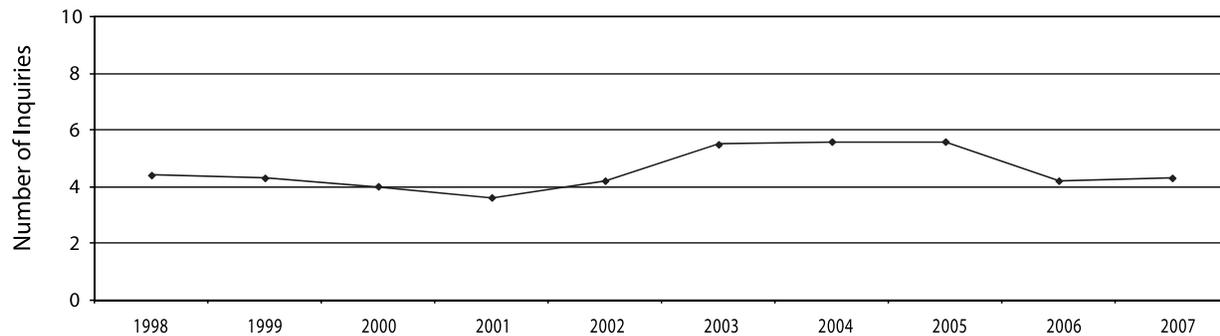
SOURCE: Centre for Addiction and Mental Health, Toronto, Ontario

Exhibit 8. Number of Oxycodone-Related Deaths, Toronto, Ontario: 1986–2007



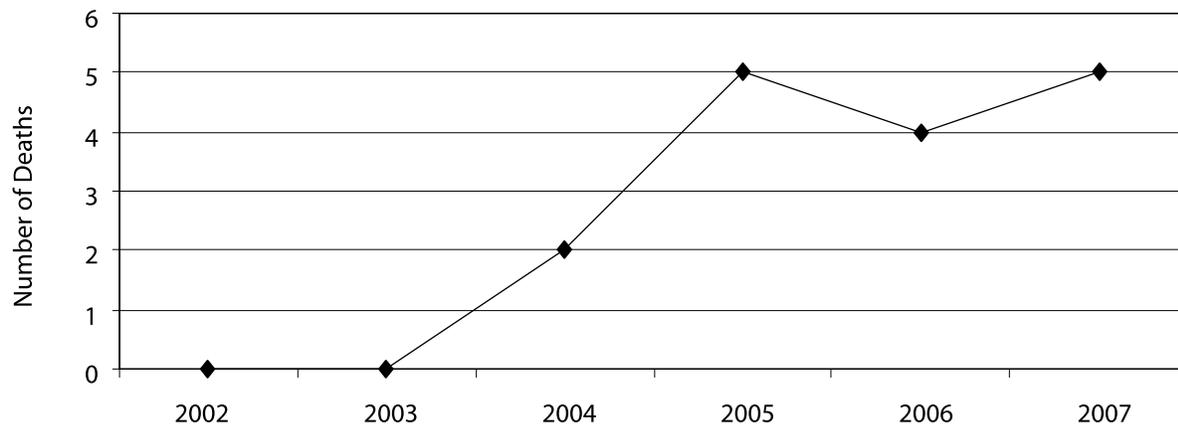
SOURCE: Office of Chief Coroner of Ontario

Exhibit 9. Treatment Inquiries for Problems With Narcotic Analgesics, Toronto, Ontario: 1998–2007



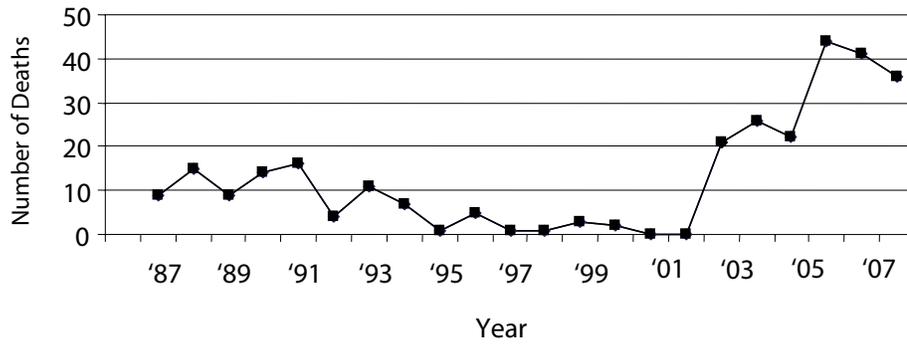
SOURCE: Drug and Alcohol Registry of Treatment, Ontario

Exhibit 10. Number of Fentanyl-Related Deaths, Toronto, Ontario: 2002–2007



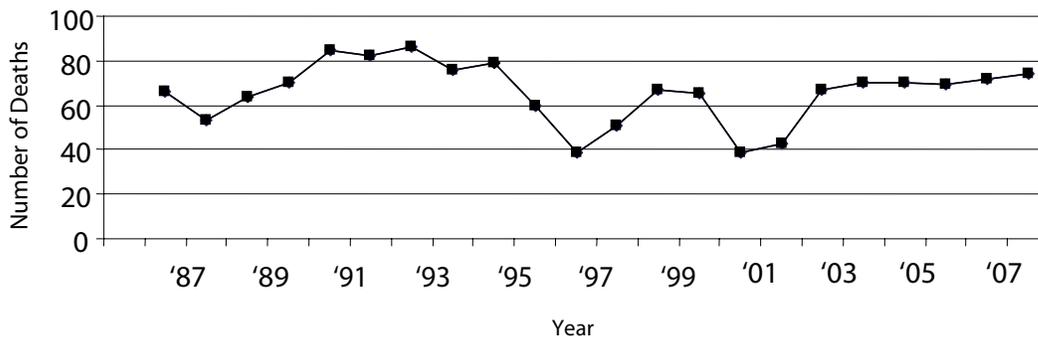
SOURCE: Office of Chief Coroner of Ontario

Exhibit 11. Number of Coroner's Cases in Which Marijuana Was Detected, Toronto, Ontario: 1987-2007



SOURCE: Office of Chief Coroner of Ontario

Exhibit 12. Number of Deaths Related to Sedative Hypnotics, Tranquilizers, and Barbiturates, Toronto: 1987-2007



SOURCE: Office of Chief Coroner of Ontario

Vancouver Community Epidemiology Report: 2008

Jane Buxton, Jat Sandhu, and Monica Durigon¹

ABSTRACT

The Canadian Community Epidemiology Network on Drug Use (CCENDU) Vancouver site committee monitors drug use and its adverse consequences. It collects, collates, and interprets recent sociodemographic and drug use data to produce a regular local report. The eighth report is in progress. Vancouver's Downtown Eastside (DTES) core continues to be the center of injection drug use in Vancouver, and has poor health and social outcomes. Males and Aboriginal people are overrepresented in the DTES core; it has a lower education and average income, and higher unemployment than British Columbia (B.C.). Life expectancy in the DTES is 8.4 years less for males, and 2.5 years less for females, compared with Vancouver. A substantial increase in offences related to each drug type—cocaine, heroin, cannabis, and other drugs—was reported by the Vancouver Police Department from 2003 to 2006, in part associated with a change in reporting. However, offences related to all drug types declined in 2007 and 2008. Substances seized by the police and customs officers are analyzed by the Health Canada Drug Analysis Service. Although marijuana was the most frequent “exhibit” analyzed in 2007 (6,524), crack cocaine (3,305) has shown the most dramatic increase over the past 10 years. Surveys of high-risk populations identified the most frequently reported drug used in the past month; in an adult, injecting, drug-using population, crack cocaine use was reported by

84 percent, with marijuana and heroin use at 66 percent. Three-quarters of street youth, and club/party attendees used marijuana; 47 and 53 percent respectively reported ecstasy use. All groups surveyed reported marijuana, cocaine, crack, and heroin to be very easy to obtain in Vancouver. Another survey found 60 percent of people who smoked crack did not inject drugs. There were 56 illicit drug overdose deaths (IDD) in Vancouver in 2007, down from a high of 191 in 1998; however, the rate of IDD in Vancouver remained twice that of B.C. overall. In-depth analysis of drug overdose deaths in 2006 revealed decedents in Vancouver were more likely to be male, older, and have had opiates more frequently identified (74 versus 55 percent), compared with the rest of B.C. Cocaine was identified in more than 80 percent of Vancouver decedents; polysubstance use was common—two substances were found in 48 percent and three or more in 39 percent of decedents. Hospitalizations attributable to illicit drugs in Vancouver increased by 29 percent from 2002 to 2007. Over 3 million sterile needles/syringes and 1.5 million sterile water vials were distributed in Vancouver in fiscal year 2008/2009. Rigorous research of Vancouver's supervised injection site has been published in eminent peer-reviewed journals; positive results include: an increased uptake of detoxification and treatment programs; no increase in drug-related crime; and 70 percent less sharing of needles. Newly identified hepatitis C virus infections in Vancouver have declined, but no similar evidence is available for seroconversion within 24 months. British Columbia recently identified a cluster of cases of neutropenia related to crack smoking. The network and collaboration of CCENDU members allowed dissemination of information and a timely testing of samples.

INTRODUCTION

Area Description

Vancouver, British Columbia, is on the southwest coast of Canada. Port Metro Vancouver is

¹Jat Sandhu and Monica Durigon are affiliated with Vancouver Coastal Health. Jane Buxton is a Physician Epidemiologist and Assistant Professor with the British Columbia Centre for Disease Control at the University of British Columbia.

the largest and busiest port in Canada.² The 2008 population estimates of B.C. are 4.38 million, 630,000 of whom live in the Vancouver Health Service Delivery Area (HSDA). The Vancouver HSDA is divided into six Community (Local) Health Areas (CHAs) as shown in figure 1. CHA2 is the Downtown Eastside (DTES), with a population 61,242. The DTES Core (population 16,995) continues to be the center of the Vancouver injection drug epidemic.³

Males and Aboriginal people are overrepresented in the DTES Core compared with B.C. (59.7 versus 49 percent, and 10 versus 4.8 percent respectively). The DTES Core also has a lower education and average income level than B.C. Life expectancy at birth has increased in CHA2, but remains lower than Vancouver (8.4 less for males and 2.5 years less for females).

Data Sources

The primary data sources used for this report are listed below.

- **Drug use and its adverse consequences data** came from the Canadian Community Epidemiology Network on Drug Use (CCENDU). The Vancouver site committee monitors drug use and its adverse consequences at the community level. It collects, collates, and interprets recent drug use and indicator data to produce a local report, including: sociodemographics, crime, and enforcement; prevalence of use, mortality, morbidity, treatment, and harm reduction; and HIV/AIDS and hepatitis C epidemiology. Copies of the 2007 Vancouver report were sent to local agencies and organizations, including people who use drugs.⁴ Representatives from each were invited to a forum in August 2007 to discuss the report, ensure relevance, and give perspective to the data. Suggestions from the forum are being incorporated into the eighth Vancouver site CCENDU report currently in development. Information contained in this summary reflects the latest and most complete information available.

- **Crime and enforcement data** were provided by the Vancouver Police Department (VPD). In Canada, offences involving drugs are prosecuted under the Controlled Drugs and Substances Act (CDSA). Offences may be categorized by drug type, i.e., heroin, cocaine, cannabis, or other drugs, or by type of crime, i.e., possession, trafficking, cultivation, and importation. Drug offence data are influenced by police enforcement practices and reporting styles. In 2004, the VPD adapted a new reporting style that takes into account four separate offences per incident, instead of the previous one most serious offence. Following a substantial increase in offences from 2004 to 2006, in part associated with the change in reporting, there was a decline for each drug type in 2007 and 2008 (exhibit 1).
- **Chemical analysis data** came from the Health Canada Drug Analysis Service (DAS), which performs chemical composition analysis of suspected illegal substances seized by Canadian police and customs officers (“exhibits”). Substances are analyzed for purposes of prosecution. Data is recorded in the Laboratory Information Management System (LIMS). The LIMS system does not record the quantity of drug seized. Marijuana was the most frequent exhibit (6,524), followed by crack cocaine (3,305), and powder cocaine (2,468). Crack cocaine has shown the most dramatic increase over the past 10 years, as measured by number of exhibits analyzed by DAS⁵ (exhibit 2).
- **Hospitalization data** were obtained from the B.C. Ministry of Health, Discharge Abstract Database. Hospital separation data is available up to 2007, but only at the Health Service Delivery Area level, not CHA.
- **Drug use survey data** were provided by the Canadian Community Health Survey and Canadian Addiction Survey and the Canadian Centre for Substance Abuse.
- **Drug death data** were provided by the B.C. Coroners Service.

- **Hepatitis C virus information** was accessed through the Public Health Information System for Canada.

Exhibit 1 shows that the highest numbers of drug offences in Vancouver are related to cocaine (44 percent), with cannabis next at 33 percent, and heroin accounting for 12 percent. Compared with British Columbia, Vancouver has a higher proportion of crimes related to cocaine and to heroin and a lower proportion related to cannabis. B.C. overall showed increases from 2006 to 2007, but 2008 provincial data were not yet available.

DRUG ABUSE PATTERNS AND TRENDS

Prevalence of drug use can be obtained from surveys; in Canada these include the Canadian Community Health Survey and Canadian Addiction Survey. These provide snapshots of drug use, and may not include sufficient numbers to estimate local area prevalence. The Canadian Alcohol and Drug Use Survey is a rolling survey currently in the field. The B.C. Adolescent Health Survey is administered in schools, and the latest data is currently being analyzed. These surveys underestimate prevalence, as those with problematic substance use are less likely to answer the surveys.

Surveys have been undertaken with three high-risk populations in Vancouver: club and party attendees; adolescent street-involved youth who use drugs; and adult injection drug users (IDUs).⁵ Crack use in the past month was reported by 84 percent of adult IDUs; two-thirds reported marijuana, heroin, and powder cocaine use. Three-quarters of street youth and club/party attendees used marijuana; 47 and 53 percent, respectively, reported ecstasy use (exhibit 3). A study in Vancouver found 60 percent of people who smoked crack did not inject drugs.⁶

These high-risk groups were asked regarding price and availability of each drug. All reported marijuana, powder cocaine, crack cocaine, and heroin to be very easy to obtain. The reported drug availability is shown in exhibit 4.⁵

The Canadian Centre for Substance Abuse performed a random survey of 513 night-time (9 p.m.–3 a.m.) drivers in Vancouver in 2008. Using an oral sample to detect certain drugs, 10.8 percent of participants were found positive for substance use. Cocaine was identified in 22 participants, cannabis in 17, and opiates in 4.⁷

In 2007, there were 56 illicit drug overdose deaths (IDD) in Vancouver, which is down from a high of 191 in 1998 (exhibit 5). The number of IDD in Vancouver has been fairly consistent since 2002.⁸ However, the IDD rate in Vancouver remained twice that of B.C., at 9.2 deaths/100,000 population compared with 4.6/100,000 (exhibit 6).⁸

The B.C. Coroners Service conducts a toxicological examination for all deaths where the abuse of street drugs is suspected. The decedent is screened for alcohol, cocaine, morphine, amphetamines, cannabinoids, and methadone. In collaboration with the B.C. Coroners Service, the 2006 IDD were explored in detail. A total of 64 deaths occurred in Vancouver (not all were Vancouver residents). Compared with the rest of B.C., decedents in Vancouver were older (mean age 43.9 versus 39.2 years) and more likely to be male (90.7 versus 77.5 percent). Aboriginal ethnicity was reported in 7.4 percent of Vancouver decedents.

Opiates were more often identified in Vancouver, with 74.1 versus 55 percent in the rest of B.C. Cocaine was the most prevalent drug identified, but there was no difference in cocaine prevalence in Vancouver compared with the rest of B.C.; cocaine was identified in 81.5 percent of deaths in Vancouver.

Methadone was identified in seven Vancouver deaths. Polysubstance use including other illicit drugs, prescription drugs, and alcohol was commonly identified in Vancouver; two substances were identified in 48.1 percent of deaths and three or more in 38.9 percent.⁹ The majority of deaths which occurred in Vancouver residents were residents of CHA2 (the downtown eastside core). However, some Vancouver residents had no fixed address, and are therefore not included in figure 1.

Deaths attributable to illicit drugs were calculated using the aetiologic fraction methodology; this includes a proportion of deaths due to human immunodeficiency virus (HIV) and hepatitis C, mental and behavioral disorders due to drugs, as well as 100 percent of accidental and intentional illicit drug overdose deaths. The aggregate data is received from the B.C. Vital Statistics agency by individual ICD-10 code, by sex, and 5-year age group. The most recent death data received at the local health area level was for 2006. A description of the methodology can be found at Alcohol and Other Drug Monitoring Web site.⁵ Exhibit 7 shows the death rates attributable to illicit drugs by CHA. The death rate attributable to illicit drugs in CHA2 in 2006 was more than four times higher than the overall Vancouver rate.

Exhibit 8 shows that hospitalization rate due to illicit drugs between 2002 and 2007 increased by 29 percent in Vancouver. More recent data broken down by CHA have been requested, which will enable comparisons of the downtown core to other CHAs and Vancouver.

Harm reduction aims to keep people safe and minimize death, disease, and injury from high-risk behavior. It involves a range of services and strategies to enhance knowledge, skills, and supports to enable individuals, families, and communities to be safer and healthier. Harm reduction as it relates to drug use works collaboratively with treatment, enforcement, and prevention initiatives. It includes:

- Methadone maintenance therapy;
- Outreach and education;
- Harm reduction supplies—condoms, needles/syringes, sterile water; and
- Supervised consumption sites (Insite).

Studies have found that among opiate-addicted patients who are retained in methadone maintenance therapy programs, harm reduction practices reduce morbidity and mortality, diminish the users' involvement in crime, reduce the risk of contracting HIV, and help drug users to gain control of their lives. The College of Physicians

and Surgeons of British Columbia supervises the B.C. methadone maintenance therapy program for heroin-dependent patients throughout the province. Almost 9,000 persons in B.C. were prescribed methadone maintenance therapy in 2008,¹⁰ an increase over the previous year.

Harm reduction supplies in B.C. are coordinated through the B.C. Centre for Disease Control pharmacy (exhibit 9). Supplies include sterile needles/syringes, sterile water vials, and safer sex products. Five million needles/syringes and 2.4 million water vials are distributed per year in B.C.

Supervised injection sites (SISs) are controlled health care settings where people who use drugs can inject illicit drugs which they have personally acquired in a supervised environment. Counseling, health care, and referral to social services, health, and drug use treatment services are available from staff at the facility. There are 70 SISs in six countries around the world.¹¹ A supervised injection site was established in Vancouver in 2003.

Rigorous peer-reviewed research of Vancouver's SIS has been published in eminent journals and has shown:¹²

- An increase in the uptake of detoxification and treatment programs (*NEJM*)
- No increase of drug-related crime (*Substance Abuse, Treatment, Prevention and Policy*)
- Less public injecting and less injection-related litter (*CMAJ*)
- It attracted the highest risk users (*American Journal of Preventive Medicine*)
- Reduced sharing of needles; 70 percent less syringe sharing (*Lancet*)
- No increased relapse of former users (*BMJ*)
- Prevention of overdose deaths, and reduced hospital visits (*International Journal of Drug Policy*)

The goal of the Canadian Community Epidemiology Network on Drug Use is to collect, organize, and share information on drug use and adverse consequences. It also aims to develop

networking among partners from different sectors, to improve the quality of data collected, and to identify emerging trends in drug use. Recently, an association of neutropenia (very low white cells) with smoking crack cocaine contaminated with levamisole was identified in western Canada. The network allowed the alert and request for information to be disseminated to the various partners and a process for transporting and testing suspected cocaine samples to be rapidly arranged.¹³

INFECTIOUS DISEASES RELATED TO DRUG ABUSE

Approximately 60,000 persons have been reported with hepatitis C virus (HCV) in B.C. since it became a reportable disease in 1992. As 25 percent of cases clear the virus naturally, approximately 40,000 B.C. residents are estimated to have chronic HCV, and are aware of their diagnosis, while an additional 20,000 are projected to be infected, but are unaware of their infection. Sharing of needles and other injecting equipment during intravenous drug use is the most common risk factor for contracting the disease; sharing snorting and smoking equipment such as straws and pipes have also been implicated.

People may be tested for HCV due to ongoing risk factors such as drug use. However, others may be tested as they develop symptoms as a result of chronic infection, such as cirrhosis, having been infected many years ago. Therefore, newly identified infections do not necessarily mean a person has a recent infection of HCV. Newly identified HCV positive results are entered into the provincial integrated Public Health Information System.

Exhibit 10 shows the rate of HCV infection in Vancouver, B.C. and Canada. The HCV infection rate in the downtown core in 2007 was more than 10 times the Vancouver rate, at 788/100,000 persons. The peak of identification seen in 1996/1997 is associated with a notification from the B.C.

Ministry of Health to people who received blood products prior to 1992, recommending they be tested for HCV. Although newly identified cases are declining, seroconversion (negative result in the previous 24 months) is not decreasing. Approximately three-quarters of all HCV cases in Vancouver are male, and younger (age 15–19 and 20–24 years). The rate in females is greater than or closer to the male HCV rate.

Unfortunately, recent HIV data were not currently available.

SUMMARY

Vancouver's DTES continues to be the core of injection drug use and has the poorest health and social outcomes in B.C. Crack cocaine use has increased dramatically as shown by police exhibits; it is the most common drug responsible for VPD offences, and reported most-used by Vancouver IDUs. People who smoke crack often may not inject drugs. The greatest number of exhibits analyzed by DAS was marijuana, which is also the most frequently used drug reported by street youth and club and party attendees. Illicit drug deaths have been fairly stable over the past 5 years, and are often associated with polysubstance use. Hospitalizations attributable to illicit drugs are increasing. The network established through CCENDU in Vancouver allows an efficient means of collaboration and disseminating information and engaging people who use drugs to ensure data is relevant.

For inquiries regarding this report, contact Jane Buxton, M.B.B.S., M.H.Sc., F.R.C.P.C., Physician Epidemiologist and Assistant Professor, BC Centre for Disease Control, University of British Columbia, 655 West 12th Avenue, Vancouver, British Columbia V5Z 4R4, Phone: 604-707-2573, Fax: 604-707-2516, E-mail: jane.buxton@bccdc.ca

References

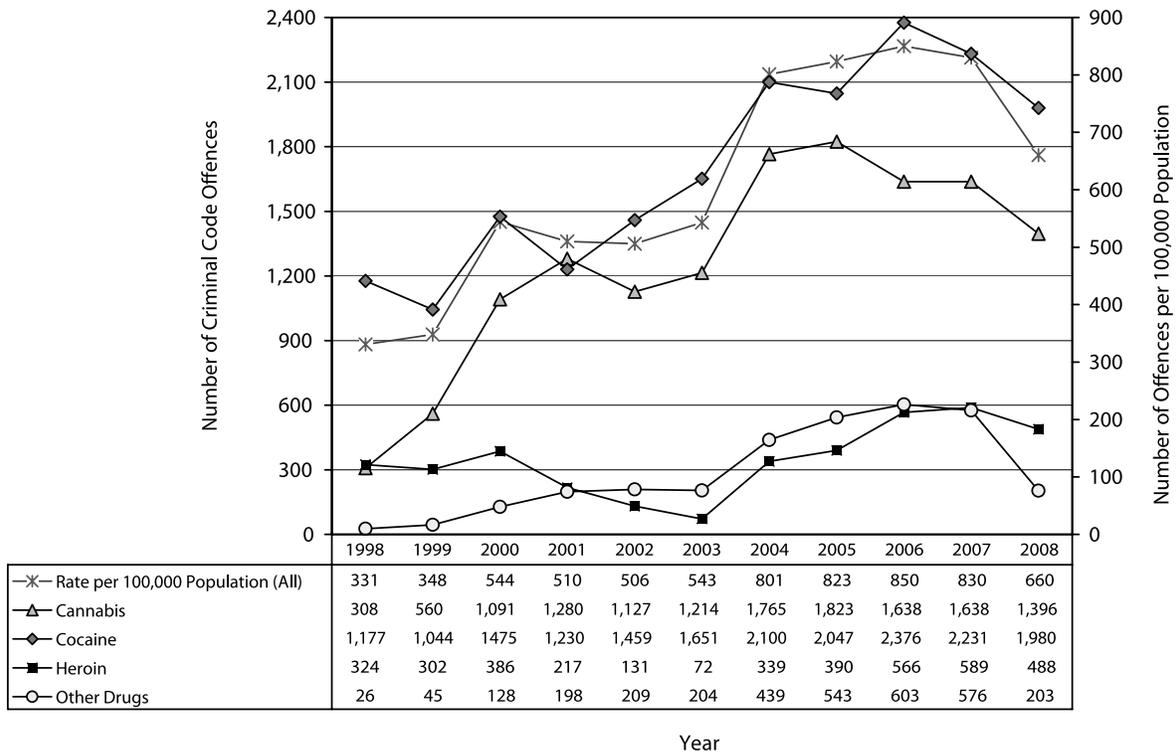
- ²www.portmetrovanancouver.com/about/portoverview.aspx.
- ³B.C. STATS: Population Estimates and Projections (P.E.O.P.L.E. 33).
- ⁴Buxton JA: Vancouver drug use epidemiology, Vancouver Site Report for the Canadian Community Epidemiology Network on Drug Use. Vancouver; 2007, http://vancouver.ca/fourpillars/documents/Full_CCENDU_report_2007_web.pdf.
- ⁵British Columbia Alcohol and Other Drug Monitoring Project, www.AODmonitoring.ca.
- ⁶Lessons learned from the score project: A document to support outreach and education related to safer crack use. Nursing and Health Behaviour Research Unit/NEXUS, University of British Columbia, June 2008, http://nexus.u.B.C..ca/documents/Newsletters/SCORE%20Report_FINAL.pdf.
- ⁷Canadian Centre on Substance Abuse: www.ccsa.ca/2009%20CCSA%20Documents/ccsa0115382009_e.pdf.
- ⁸B.C. Coroners Office; accessed May 2009, www.pssg.gov.B.C.ca/coroners/publications/docs/stats-illicitdrugdeaths-1997-2007.pdf.
- ⁹Buxton JA, Skutezky T, Tu AW, Waheed B, Wallace A, Mak S. The context of illicit drug overdose deaths in British Columbia, 2006. *Harm Reduction Journal* (2009) 6:9, www.harmreductionjournal.com/content/6/1/9.
- ¹⁰B.C. College of Physicians and Surgeons, 2008.
- ¹¹Vancouver's INSITE service and other supervised injection sites: What has been learned from research? Final report of the Expert Advisory Committee, www.hc-sc.gc.ca/ahc-asc/pubs/_sites-lieux/insite/index-eng.php#ex.
- ¹²Insite-Supervised Injection Site, Research Results summarized at Vancouver Coastal Health Web site, www.vch.ca/sis/research.htm.
- ¹³Agranulocytosis associated with levamisole in cocaine users update, April 15, 2009, www.B.C.cdc.org.

Figure 1. Number of Drug Deaths by Local Health Area in Vancouver, British Columbia: 2006



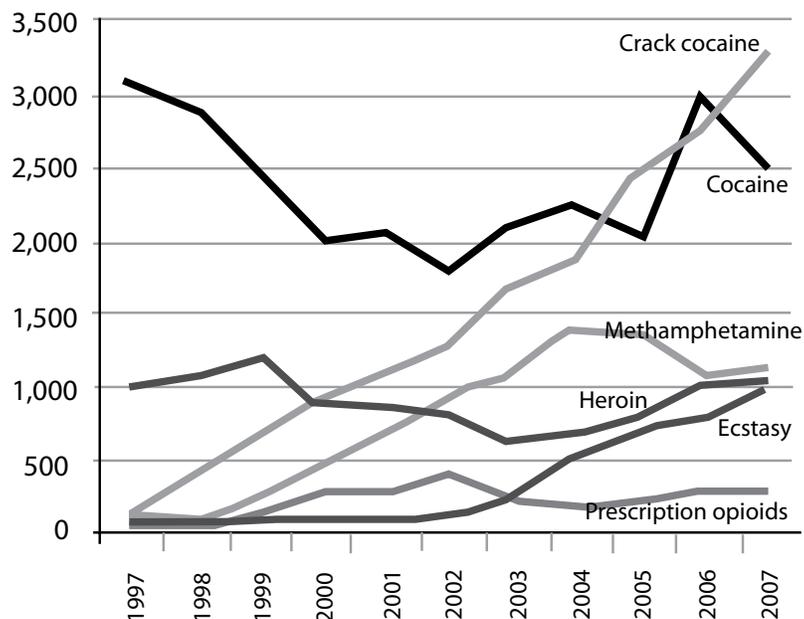
SOURCE: British Columbia Coroners Service

Exhibit 1. Number of Criminal Code Offences (Drugs) in Vancouver, British Columbia: 1998-2008



SOURCE: Vancouver Police Department, Annual Reports (PRIME BC)

Exhibit 2. Number of Exhibits Analysed by the Drug Analysis Service, British Columbia: 1997–2007



SOURCE: Office of Research and Surveillance, Drug Strategy and Controlled Substances, Health Canada

Exhibit 3. Percentage of Respondents Reporting Substance Use in the Past Month, Vancouver, British Columbia: 2007–2008

	Adult IDU ¹	Street Youth	Club and Party
Marijuana	66	76	75
Powder Cocaine	64	33	36
Crack Cocaine	84	15	20
Amphetamine	8	5	7
Crystal Methamphetamine	43	14	18
Heroin	66	14	10
Ecstasy	16	47	53
LSD	1	12	20
Magic Mushrooms	4	14	23

¹IDU=Injection Drug User.

SOURCE: British Columbia Alcohol and Other Drug Monitoring Project

Exhibit 4. Reported Drug Price (CDN\$) and Availability, Vancouver, British Columbia: 2008

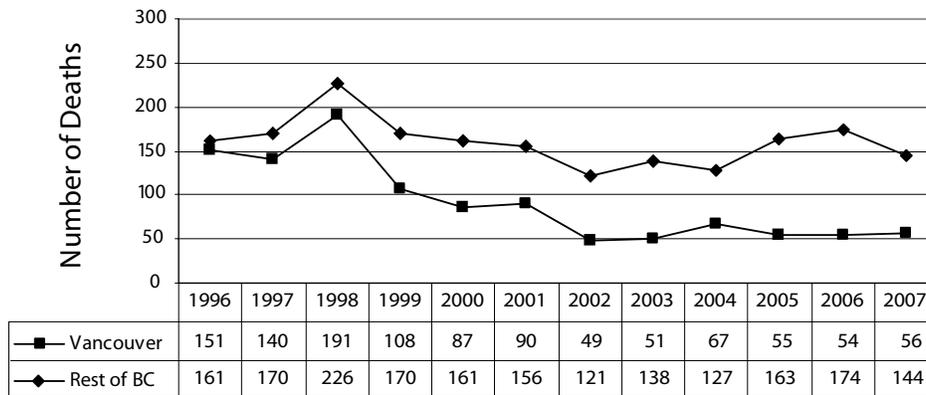
	Club	IDU ¹	Street Youth
Marijuana	Very Easy	Very Easy	Very Easy
Mode	\$7.14/\$10 per 1 g ²	\$10 per 1 g	\$10 per 1 g
Mean	\$7.49 per 1 g	\$7.91 per 1 g	\$8.75 per 1 g
Ecstasy	Very Easy		
Mode	\$10 per tablet	---	---
Mean	\$8.24 per tablet		
Cocaine	Very Easy	Very Easy	Very Easy
Mode	\$60 per 1 g	\$80/\$100 per 1 g	\$80 per 1 g
Mean	\$61.50 per 1 g	\$71.31 per 1 g	\$51.56 per 1 g
Crack	Very Easy	Very Easy	Very Easy
Mode	\$60/\$80 per 1 g	\$100 per 1 g	---
Mean	\$51.84 per 1 g	\$67.97 per 1 g	\$50 per 1 g
Crystal	Difficult	Very Easy	Very Easy
Mode	\$10 per 0.1 g	\$10 per 0.1 g	\$10 per 0.1 g
Mean	\$7.30 per 0.1 g	\$8.68 per 0.1 g	\$8.78 per 0.1 g
LSD	Very Easy		
Mode	\$5 per tablet	---	---
Mean	\$4.89 per tablet		
Heroin	Very Easy	Very Easy	Very Easy
Mode	\$120 per 1 g	\$120 per 1 g	\$200 per 1 g
Mean	\$140 per 1 g	\$146.44 per 1 g	\$158.57 per 1 g
Mushrooms	Easy		
Mode	\$5 per 1 g	---	---
Mean	\$21.92 per 1 g		
GHB	Difficult		
Mode	\$2/\$3 per 5 ml ²	---	---
Mean	\$2.50 per 5 ml		
Ketamine	Very Easy/Easy		
Mode	\$22.86/\$80 per 1 g	---	---
Mean	\$47.32 per 1 g		

¹IDU=Injection Drug User.

²g=gram; ml=milliliter.

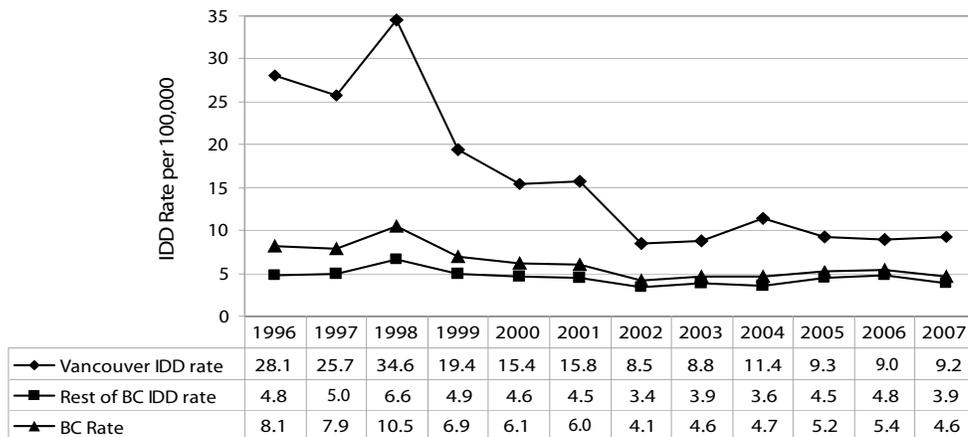
SOURCES: Canadian Adult Sentinel Survey of Injection Drug Use; Canadian Youth Sentinel Survey of Illicit Drug Use; and Canadian Recreational Drug Use Survey

Exhibit 5. Number of Illicit Drug Deaths, Vancouver Versus the Rest of British Columbia: 1996–2007



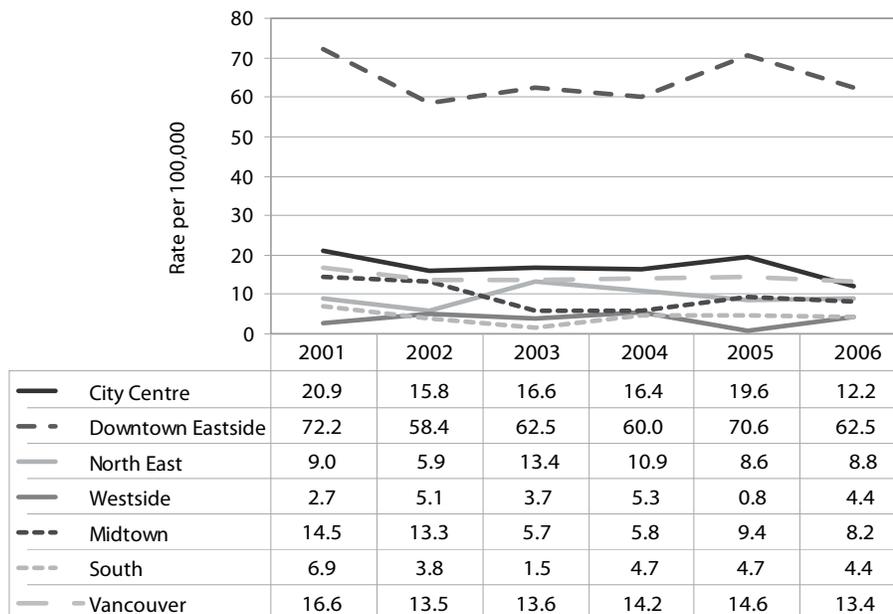
SOURCE: British Columbia Coroner's Office; accessed May 2009

Exhibit 6. Number of Illicit Drug Deaths (IDD) in Vancouver and the Rest of British Columbia (Rate per 100,000 Population): 1996–2007



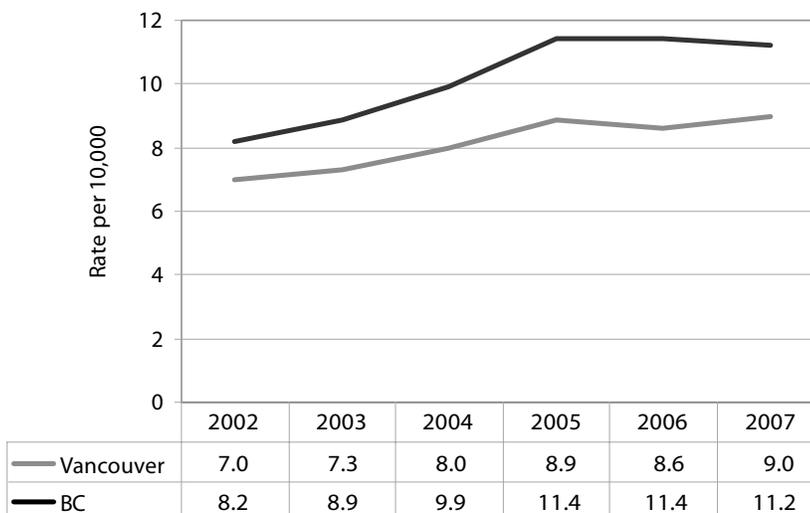
SOURCE: British Columbia Coroner's Office

Exhibit 7. Death Rates (per 100,000) Attributable to Illicit Drugs, by Community Health Area, Vancouver, British Columbia: 2001–2006



SOURCE: British Columbia Vital Statistics

Exhibit 8. Hospitalization Rates (per 10,000 Population) Attributable to Illicit Drugs, Vancouver and British Columbia: 2002–2007



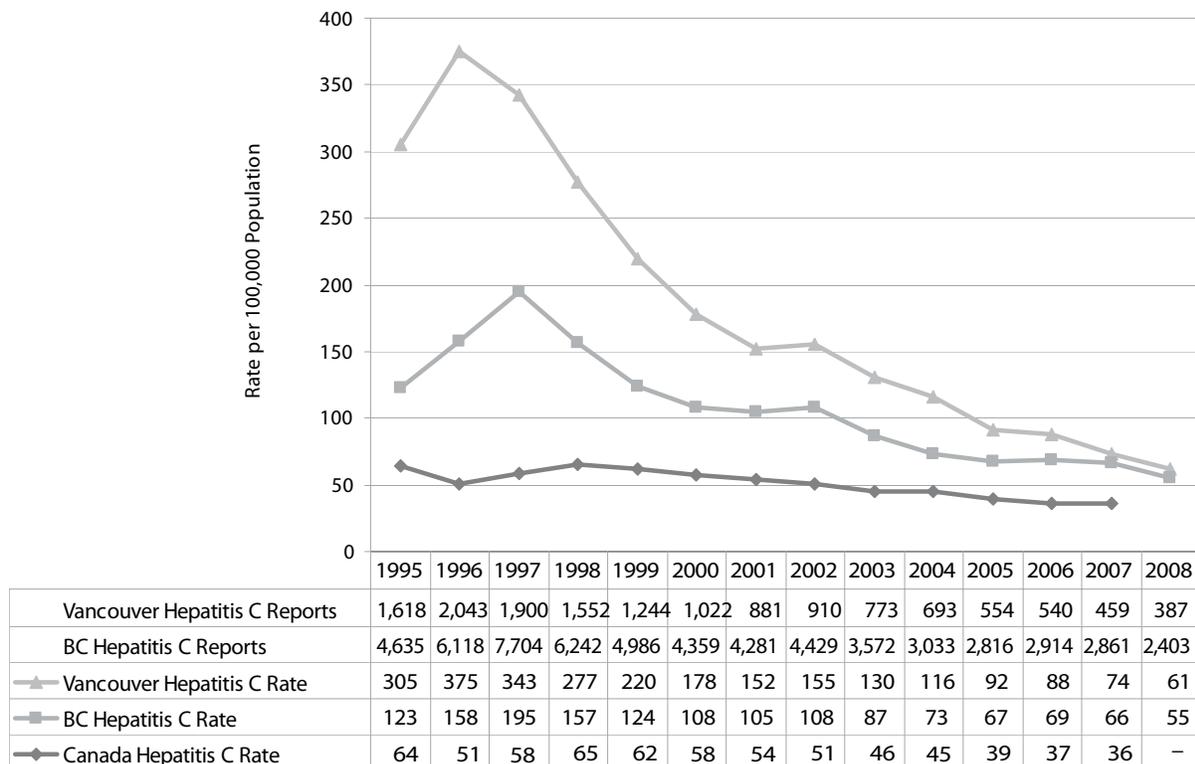
SOURCE: British Columbia Ministry of Health, Discharge Abstract Database

Exhibit 9. Number of Harm Reduction Supplies Distributed by Fiscal Year, in Vancouver: 2006–2009

	2006/07	2007/08	2008/09
Needles/Syringes	2,771, 200	2,971, 800	3,110, 300
Water Vials	1,840, 000	1,621, 100	1,514, 000

SOURCE: British Columbia Centre for Disease Control Pharmacy Database

Exhibit 10. Rate (per 100,000) of Hepatitis C Virus Reported, Vancouver, B.C. and Canada: 1995–2008



SOURCE: Public Health Information System, Canada

Drug Abuse Trends in the Netherlands: 2008

Margriet van Laar, PhD.¹

ABSTRACT

Trends in drug use in the Netherlands are reported annually by the Netherlands National Drug Monitor (NDM). Cocaine use showed a decreasing trend among secondary school students between 1996 and 2007. Yet, the drug (particularly snorting) remained popular among young adults in nightlife settings; although in Amsterdam its use seemed to have reached a saturation point. Among hard drug addicts, crack is part of the standard drug repertoire. Data from outpatient addiction care registered a sharp rise in the number of primary cocaine clients, from 2,500 in 1994 to 10,000 in 2004, followed by a stabilization/slight decrease in 2005–2007. Hospital admissions related to cocaine abuse and dependence continued to rise. Market indicators pointed at a reduced purity of cocaine in cocaine powders, and increase in percentage of powders with adulterants (55 percent in 2008, especially levamisole and phenacetin). Prices tended to decrease (€45/gram in 2008). Cannabis use among secondary school students slowly decreased between 1996 and 2007. Yet, cannabis treatment demand at addiction care centers continued to rise (by 23 percent) from 2006 to 2007. Almost two-thirds of cannabis clients (62 percent) were age 25 or older. The number of hospital admissions citing cannabis misuse and dependence as a secondary diagnosis was also rising. This trend may be indicative of a rise in the number of problem cannabis users; however, it may equally reflect an improvement in treatment availability, change in referral policies, or growing awareness of the addictive properties

of cannabis, leading users to seek help earlier. Average tetrahydrocannabinol (THC) content in Dutch marijuana showed a strong decrease, from 16 percent in 2008 to 11 percent in 2009, while prices continued to increase. While amphetamine use was not very prevalent in the general population, and a decreasing trend has been reported among students (1996–2007), qualitative data pointed at an increasing popularity in some rural areas of the country. The number of amphetamine users seeking help from outpatient addiction care tripled from 482 in 2001 to 1,473 in 2007, but their share of all drug clients remained minor (5 percent). The number of people with a primary ecstasy problem seeking treatment from outpatient addiction care has remained even more limited (less than 1 percent in 2008). Purity of amphetamine powders decreased in 2008 and for the first quarter of 2009; 10 percent of the samples in 2009 (first quarter) sold as amphetamine contained the noncontrolled substance 4-fluoramphetamine. Purity of pills sold as ecstasy (percent 3,4-methylenedioxymethamphetamine [MDMA] and percent of samples containing MDMA) also decreased in the course of 2008, and the proportion of samples containing meta-Chlorophenylpiperazine (mCPP) strongly increased. Trends may be related to a decreased availability in precursors. There are signs of an increased popularity of gamma hydroxybutyrate (GHB) in some regions and subpopulations. Indicators point at a further decreasing and aging population of problem opiate users. The number of opiate users in addiction care or general hospitals was decreasing. The percentage of young opiate clients (age 15–29) receiving outpatient addiction care dropped from 39 percent in 1994 to 6 percent in 2005, stabilizing at this level in 2006 and 2007. Overdose mortality remained low. Human immunodeficiency virus (HIV) and hepatitis C incidence has decreased among (ever) injecting drug users.

¹The author is the Program Director, Drug Monitoring, and Coordinator, National Drug Monitor/Focal, Trimbos Institute, the Netherlands.

INTRODUCTION

Background

Trends in drug use are reported annually by the Netherlands National Drug Monitor (NDM), which is a working program of the Trimbos Institute, the national knowledge institute for mental health care, addiction care, and social work. The Institute assumes responsibility for NDM data collection and data reporting tasks, in close collaboration with the Scientific Research and Documentation Centre (WODC) of the Justice Ministry. The NDM was established by the Minister of Health, Welfare, and Sport in 1999. Since 2002, the Ministry of Justice has also supported the NDM.

As one of the national centers of the European Monitoring Center for Drugs and Drug Addiction (EMCDDA), the NDM utilizes data sources and prepares annual epidemiological reports based on EMCDDA guidelines. The NDM is a coordinating body for monitoring substance use by promoting standardized research methods, compiling data from a variety of drug use indicators, and reporting to national authorities and international organizations (e.g., EMCDDA and the United Nations). In addition, based on data/information reported, the NDM provides advice on gaps in information needed to monitor substance use problems.

Data Sources

Data sources used for this report include the following:

- **Prevalence of substance abuse data by age groups** came from three repeated cross-sectional national surveys: The National Prevalence Survey on Substance Use, a survey of the general population, age 15–64 (conducted in 1997, 2001, and 2005—data for 2009 was not available at the time of this report); the School Survey on Substance Use Among Students age 12–18 (1988, 1992, 1996, 1999, 2003, and 2007); and the Dutch part of the European School Survey
- **Project on Alcohol and Other Drugs (ESPAD)** (1999, 2003, and 2007). Moreover, quantitative data are complemented by data from qualitative studies based on ethnography, focus groups, and individual interviews with key informants (e.g. Trendwatch.NL and Antenna monitor of the University of Amsterdam).
- **Number of drug users** came from estimation methods (based on EMCDDA protocols) used to assess the numbers of problem hard drug users (e.g., opiates, crack). These methods include: a Treatment Multiplier; Multivariate Indicator analysis; and Capture-Recapture analysis. The latest estimate was provided for 2001; the new estimate for 2009 will be available in autumn 2009. Annual numbers of opiate addicts in Amsterdam have been available since 1985 using the capture-recapture methods (police and treatment registration).
- **Treatment demand data** were provided by the National Alcohol and Drugs Information System (LADIS). These data include the number of primary and secondary substances of abuse reported by unique clients (total number registered and first treatment). Treatment demand data also include primary and secondary diagnosis of abuse/dependence (based on ICD-9 codes) for drug-related admissions to general hospitals.
- **Nonfatal emergency data** was based on a registration of ambulance transportation services in Amsterdam, held by the Municipal Health Service of Amsterdam. These data are not representative of the Netherlands as a whole, as Amsterdam is visited by high numbers of (young) tourists who like to experiment with drugs. Also, new trends in drug use often emerge in the capital city. A new monitor on drug-related emergencies is being developed in four pilot regions, using various data sources (registrations from ambulance transportation, hospitals, police, and first aid at parties).
- **Infectious disease data**, including human immunodeficiency virus (HIV) and hepatitis

C incidence data, came from the Amsterdam Cohort Studies on drug users, and treatment (HIV) and notification data (hepatitis B and C).

- **Drug-related death data**, including causes of death and mortality estimations, were based on ICD-10 codes (as of 1996), for underlying causes of death (mainly related to intoxications/overdose) and unintentional, intentional, and undetermined deaths. Among Amsterdam methadone clients, mortality rates include direct (overdoses) and indirect (accidents, life-style, and diseases) deaths.
- **Drug price and purity data** include chemical/toxicological analysis of (recreational) drug samples delivered to prevention units of addiction care centers by consumers, and cannabis samples collected in a random sample of coffee shops (Drugs Information and Monitoring System, or DIMS). In 2008, a total of 6,200 drug samples were submitted by consumers to DIMS. Over 4,500 samples were chemically analyzed.

DRUG ABUSE PATTERNS AND TRENDS

Dutch Drug Law and Enforcement

In the Netherlands, trade in drugs and possession, sale, and production of all drugs are punishable offences, except for medicinal, veterinary, instructive, and research purposes. Both policy and legislation (the Opium Act) make a distinction between hard drugs (substances which involve an unacceptable health risk, such as ecstasy, cocaine, amphetamine, and heroin) and cannabis (marijuana and hashish). Hard drugs are listed on Schedule I of the Opium Act and cannabis on Schedule II of the Opium Act. Since December 1, 2008, mushrooms containing psilocin or psilocybin are also placed on schedule II. Possession of cannabis for personal use (up to 30 grams) is a minor offence, and is given low priority in law enforcement. Sale of cannabis in small quantities is tolerated in coffee shops under strict conditions. Possession of hard drugs of less than

0.5 grams is a serious offence, but is also a low priority in law enforcement policy. The maximum penalty for committing a drug-related offence on more than one occasion is 16 years' imprisonment and/or a fine of € (euro) 67,000.

Cocaine and Crack

The 2005 general population survey, which mainly reaches individuals who are well integrated in society, showed that on the national level the last-year ("recent") prevalence of cocaine use in 2005 was 0.6 percent in the population age 15–64. This is below the European average (1.5 percent for the EU-15, European Union, first 15 member States). Data for the 2009 survey will be available in 2010.

The Dutch National School Surveys showed a decrease in lifetime prevalence of cocaine use from 3 percent in 1996 to 1.7 percent in 2007. In 2007, last-month prevalence of cocaine use was 0.8 percent, with higher levels among boys (1.1 percent) than girls (0.4 percent) (exhibit 1).

Cocaine is popular among trendsetting, socially integrated clubbers and party-goers (sniffing-the-hydrochloride, or HCl, preparation), and among marginalized problem drug users (smoking crack). Uncontrolled obsessive use occurs more frequently in the crack-user group, although treatment demand data show that cocaine HCl users progressively experience more problems. Several outreach programs have been established to reach marginalized crack users, with the aim of reducing harm. Moreover, a study financed by the Dutch Research and Development Council (ZonMw) is investigating treatment needs of chronic crack users and the therapeutic efficacy of three medicines (rimonabant, modafinil, and dexamphetamine).

Treatment demand data showed that from 1994 to 2004 the total number of clients entering outpatient treatment for cocaine abuse as a primary problem increased from 2,468 to 9,999 nationwide (exhibit 2). However, between 2005 and 2007 treatment demand by cocaine users leveled off (9,981 clients in 2007). Thirty percent of all drug clients entering treatment in 2007 had

a primary cocaine problem. Of these clients, 17 percent were female and the average age was 35. Administration of cocaine by injection was rare, reported by 1 percent of the 2007 primary cocaine clients. However, cocaine use was often accompanied by problematic use of other substances, with alcohol the most frequently used other substance.

Cocaine abuse and cocaine dependence do not generally constitute the primary diagnosis at admission to general hospitals. Primary diagnoses are more likely to be attributed to injuries, respiratory disorders, poisonings, and diseases of the cardiovascular system. In 2007, there were 114 hospital admissions for cocaine abuse as the primary diagnosis, slightly more than the 90 admitted in 2006. The number of hospital admissions for cocaine as a secondary diagnosis generally showed an increasing trend: 607 admissions in 2007, compared with 514 in 2006 and 377 in 2000 (exhibit 3).

The number of acute cocaine deaths increased between 1996 and 2002, and decreased slightly since 2002. However, numbers remained low throughout this period (less than 34 cases annually; 23 in 2007).

In 2008, DIMS received 671 powders that were sold as cocaine. The majority (96 percent) actually contained cocaine, with an average concentration of 55 percent. In 2002, average purity was 69 percent, suggesting a decrease in purity, in spite of some fluctuations. Since 2002, the percentage of cocaine samples containing pharmacologically active adulterants or diluents strongly increased from 15 percent in 2002 to 55 percent in 2008. In 2008, 33 percent of the samples sold as cocaine contained phenacetin, which is less than in 2007 and 2006 (39 and 52 percent, respectively). Phenacetin is an analgesic withdrawn from the market because of serious kidney damage in chronic use with high doses. The proportion of cocaine samples containing levamisole (an antihelminthic and adjuvant in malignant disease) strongly increased from 1 percent in 2005 to 32 percent in 2008; in 2008, percentages increased from 24 percent in the first quarter to 42 percent in the fourth quarter. Hydroxyzine, an antihistaminic also used for

its anxiolytic effects, was found in 2 percent of the samples in 2008 and 4 percent of the cocaine samples in 2007. In 2008, 6 percent of the cocaine samples contained diltiazem, a calcium blocker used for cardiovascular disease (12 percent in 2007). Logistic regression analysis of data up to 2007 showed that adulterated cocaine was associated more frequently with self-reported adverse effects (hallucinations and cardiovascular effects) than unadulterated cocaine (Brunt et al., 2009). Prices tended to decrease (€ 45/gram in 2008).

In 2007, the National Police Force seized 10,500 kilograms of cocaine. As cocaine is increasingly smuggled through western Africa to Europe, and European Union (EU) countries may be more vulnerable to trafficking after cessation of the European internal borders, international cooperation has been intensified to combat drug trafficking over sea and by air (2007 treaty between the Netherlands, Spain, Italy, Portugal, France, and the United Kingdom [UK]).

Cannabis/Marijuana

The nationwide survey on substance use showed that in 2005 and prior years, cannabis was by far the most commonly consumed illicit drug in the Netherlands. In 2005, last-year prevalence of cannabis use was 5.4 percent, compared with the European (EU-15) average of 7.5 percent.

Data for 2009 is not yet available. Findings on cannabis from the Dutch National School Survey (students age 12–18) showed that last-month prevalence of cannabis use significantly decreased from 14 percent in 1996 to 10 percent in 2003, and further (but not significantly) dropped to 8 percent in 2007. This decrease was more apparent among boys than girls (exhibit 1).

The ESPAD survey in 2007 revealed a last-month prevalence of cannabis use of 15 percent among Dutch students age 15–16, which is in the same range as prevalence rates among French (15 percent), Swiss (15 percent), and American students (14 percent), which belonged to the highest prevalence countries in 2007. Compared with 2003, Dutch students moved upwards in the

rank order of EU countries. This is not explained by an increase in use in the Netherlands, but by overall (and sometimes strong) decreases in cannabis prevalence in various other countries. The ESPAD survey also showed that 42 percent of the Dutch students age 15 and 16 perceived cannabis to be very or fairly easily available (19 percent in Finland, 41 percent in Germany, 47 percent in France, 58 percent in the UK, and 75 percent in the United States). Note that minors are not allowed to enter coffee shops in the Netherlands, where cannabis is sold under strict conditions.

LADIS data showed a steady increase in the number of clients with a primary cannabis problem applying for treatment (exhibit 2). Their number increased from 3,432 in 2001 to 8,017 in 2007. From 2006 to 2007 an increase of 23 percent was recorded. The number of clients with a secondary cannabis problem also increased, from 3,300 in 2001 to 5,698 in 2007. In 2007, almost two-thirds of the primary cannabis clients were age 25 or older. The number of hospital admissions citing cannabis misuse and dependence as a primary diagnosis remained low (69 cases in 2007). However, hospital admissions for which cannabis use disorders were the secondary diagnosis increased, from 249 in 2001 to 399 in 2007 (up 6 percent from 2006 to 2007) (exhibit 3). The growing treatment demand related to cannabis use may be indicative of a rise in the number of problem cannabis users; however, it may equally reflect an improvement in treatment availability, change in referral policies, or growing awareness of the addictive properties of cannabis, leading users to seek help earlier.

Since 1999, the Trimbos Institute has monitored the tetrahydrocannabinol (THC) content of cannabis. Samples of different cannabis products (approximately 1 gram each) are regularly procured from a random sample of 50 coffee shops and then chemically analyzed. Between 2000 and 2004, the average percentage of THC in Dutch marijuana increased progressively from 9 to 20 percent (exhibit 4). This relatively high THC content is probably due to highly professional cultivation methods. However, a decrease in THC

content was reported since then, to 16 percent in 2007 and 2008. In 2009, average THC concentration further dropped to 11 percent, returning to the level measured at the start of this century. In 2008, the THC concentration of imported marijuana was 8 percent, and for imported hashish it was 16 percent.

At the same time, between 2006 and 2009 the average price of Dutch marijuana has slowly increased from € 6.2 per gram to € 8.1 per gram (exhibit 4).

These trends might be related in part to the intensified law enforcement in the area of marijuana cultivation, making it more difficult to obtain marijuana with a good quality standard in Dutch coffee shops.

Amphetamines

In 2005, the last-year prevalence of amphetamine use in the general population age 15–64 was 0.3 percent, which is below the European average (0.6 percent). The percentages of students reporting lifetime amphetamine use decreased from 5.3 percent in 1996 to 1.9 percent in 2007 (exhibit 1).

Among young people visiting clubs and parties, amphetamine use is more prevalent compared to the general population, but this stimulant is appreciably less popular than ecstasy and cocaine. However, qualitative studies point at an increasing use of amphetamine in some rural regions of the country, where it may function as a cheap substitute for cocaine, especially among young partygoers.

The number of amphetamine users seeking help from outpatient addiction care tripled from 482 in 2001 to 1,473 in 2007, but their share of all drug clients remained minor (5 percent) (exhibit 2). Approximately 24 percent of the amphetamine clients were female. The average age was 28.

Purity of amphetamine powders delivered by consumers to the DIMS decreased in the course of 2008 and the first quarter of 2009. In January–May, the average concentration was 35 percent, as in previous years. By the end of the year in December 2008, the average purity was 16

percent. Moreover, the concentration of caffeine (which was present in 80 percent of all speed powders) increased from 29 percent in January 2008 to 60 percent in December 2008. In the first quarter of 2009, 10 percent of the samples sold as amphetamine contained the noncontrolled substance 4-fluoramphetamine. Possibly the reduction in purity of amphetamine is related to the reduced availability of the precursor benzylmethylketon (BMK).

Regarding drug seizures in 2007, approximately 2,800 kilograms, 1,400 tablets, 240 liters of amphetamine oil, and 40 kilograms of amphetamine paste were seized in the Netherlands.

Ecstasy

The percentage of last-year users of ecstasy in the age 15–64 group increased between 1997 and 2001, and remained stable in 2005. Based on the Dutch National School Survey data, lifetime prevalence of ecstasy use among students of secondary schools peaked in 1996 (5.8 percent) and decreased to 2.4 percent in 2007. Last-month prevalence was 0.8 percent in 2007 (exhibit 1).

Treatment demand related to ecstasy use at addiction care centers remained low in the past decade (exhibit 2). In 2007, ecstasy clients accounted for less than 1 percent of all drug clients in treatment. The absolute number of primary clients was 239. The number of clients registered with a secondary ecstasy problem was higher, 663 in 2007. The proportion of drug clients who were female was higher among ecstasy clients (31 percent) than other drug categories.

Until 2008, seizures of ecstasy, low prices (average of €2.8 per pill), and high purity suggested a wide availability of ecstasy. In 2007, 79 percent of the pills sold as ecstasy contained only 3,4-methylenedioxymethamphetamine (MDMA) or a like substance, and 12 percent contained MDMA plus another substance. However, in the course of 2008, purity of ecstasy pills delivered by consumers and sent to the laboratory for chemical analysis strongly decreased. The average MDMA concentration decreased from 85 milligrams in

the first quarter to 69 milligrams in the last quarter of 2008. The proportion of pills sold as ecstasy which contained MDMA decreased in this period, from 89 to 66 percent. The proportion of “ecstasy pills” containing meta-Chlorophenylpiperazine (mCPP), a serotonergic agent (metabolite from the antidepressants trazodone and nefazodone) which may cause adverse effects, such as dizziness, nausea, and hallucinations, increased from 8 to 21 percent, with an average concentration of 25 milligrams (exhibit 5). This reported trend continued in the first quarter of 2009. As for amphetamine, these trends may be related to a decreased availability in the precursor piperonyl-methylketon (PMK), used for producing ecstasy.

In 2005, the National Police Force reported the seizure of 200 kilograms (about 1.9 million tablets, or about 10 liters) of ecstasy. Of drug samples delivered by consumers sent to the laboratory for chemical analysis, the total percentages of ecstasy tablets containing MDMA or an MDMA substitute (e.g., methylenedioxyethylamphetamine, or MDEA, and 3,4-methylenedioxyamphetamine, or MDA) increased over the years, while the percentages of tablets containing other psychoactive substances decreased.

Gamma Hydroxybutyrate (GHB)

The prevalence of GHB use in the general population in the Netherlands is low. In 2007, 1 percent of the students age 15–16 had ever used GHB.

There are, however, signs of an increased popularity of GHB in some regions and subpopulations. Local addiction care centres report an increasing number of young people seeking help because of GHB dependence. The Amsterdam Municipal Health Service of Amsterdam reported an increasing number of acute GHB emergencies (128 in 2008).

Heroin/Opiates

According to the 2005 National Prevalence Survey, the lifetime (0.6) and last-year prevalence rates (0.0) for heroin were the lowest for the drug

categories included in the survey. Based on data reported from the 2007 Dutch National School Survey, 0.8 percent of the students had ever used heroin, and 0.4 percent had used it in the past year (exhibit 1).

In Amsterdam, the number of opiate addicts has strongly decreased since the late 1980s (over 8,000) to 2,900 in 2007. Opiate clients remained the largest group of drug clients treated in the Netherlands addiction treatment facilities over the past 12 years (40 percent in 2007). However, the total number of primary opiate clients decreased from almost 18,000, to 13,180 in 2006, and 13,785 in 2008 (exhibit 2). Treatment demand by new opiate clients (first treatments) was low: 5 percent of all registered opiate clients in 2007. The opiate clients were also the oldest of all types of drug users entering treatment in 2007. Their average age was 43. Only 6 percent of the opiate clients were younger than 30. Approximately, 20 percent of the opiate clients were female. Most opiate users are somehow in contact with treatment services and/or social services. Most opiate addicts are polydrug users. In many cases they also use cocaine, mostly crack.

In 2007, a total of 99 acute drug-related deaths were reported in the Netherlands. This is 9.5 drug-related deaths per million inhabitants, which is quite low compared to many other EU member

states (exhibit 6). In 2007, 34 cases were recorded with opiates as the underlying cause. Two-thirds of the opiate overdose victims recorded between 2001 and 2007 were older than 34, compared with 22 percent, which is consistent with the overall aging trend among opiate users (exhibit 7).

The National Police Force reported that in 2007, approximately 520 kilograms of heroin were seized. In addition, about 10 kilograms methadone and 4,750 methadone tablets were seized.

ACKNOWLEDGEMENTS

The author is grateful to the DIMS team (Dr. Raymond Niesink, Tibor Brunt, Sander Rigter, a.o.) and Erik van Delden from Information Systems in Healthcare (SIVZ)/LADIS for courteously providing the requested data.

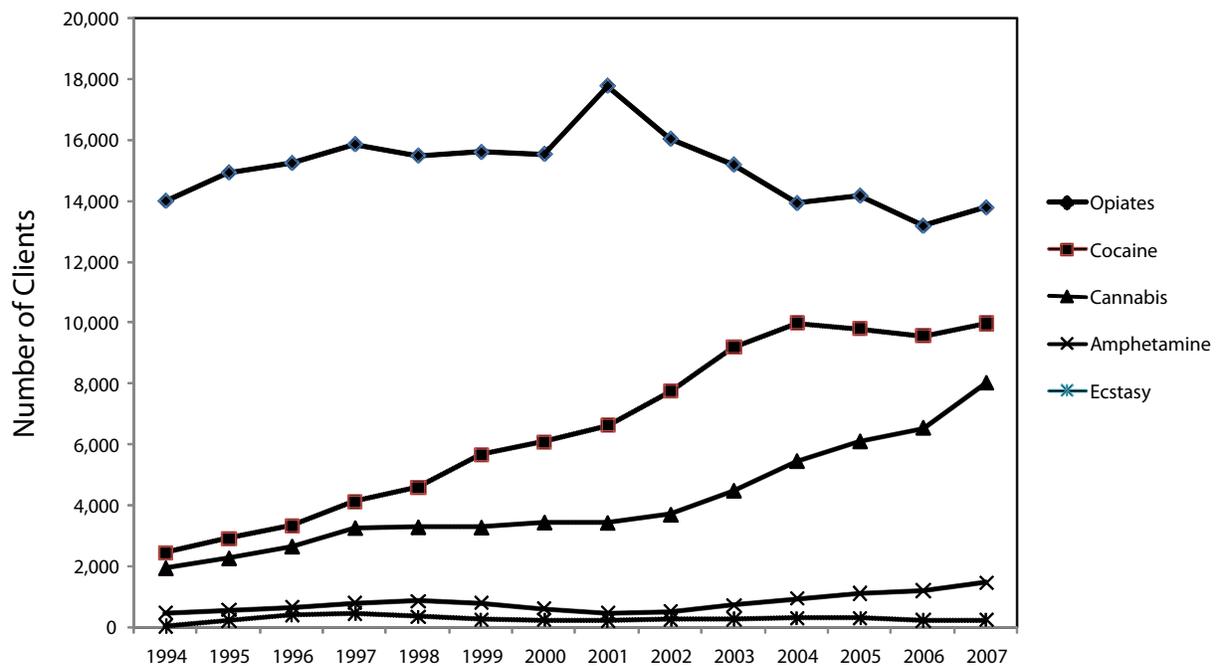
For inquiries regarding this report, contact Margriet van Laar, Ph.D., Program Director, Drug Monitoring Coordinator, National Drug Monitor/Focal Point, Trimbos Institute, Da Costakade 45, P.O. Box 725, 3500 AS Utrecht, The Netherlands, Phone: 31-30-297-11-00, Fax: 31-30-297-11-11, E-mail: mlaar@trimbos.nl.

Exhibit 1. Lifetime and Last-Month Prevalence of Drug Use Among Secondary School Students, by Drug (Age 12–18), the Netherlands: 2007

	Lifetime prevalence (%)			Last-month prevalence (%)		
	Males	Females	Total	Males	Females	Total
Cannabis	19	14	17	10	6	8
Cocaine	2.1	1.3	1.7	1.1	0.4	0.8
Ecstasy	2.7	2.0	2.4	1.2	0.4	0.8
Amphetamine	2.3	1.4	1.9	1.2	0.4	0.8
Hallucinogenic Mushrooms	3.4	1.2	2.3	0.9	0.3	0.6
Heroin	0.9	0.7	0.8	0.6	0.2	0.4

SOURCE: Dutch National School Survey, Trimbos Institute (Monshouwer et al., 2008)

Exhibit 2. Number of Drug Clients at Addiction Care Institutes by Primary Drug for Selected Drugs, the Netherlands: 1994–2007



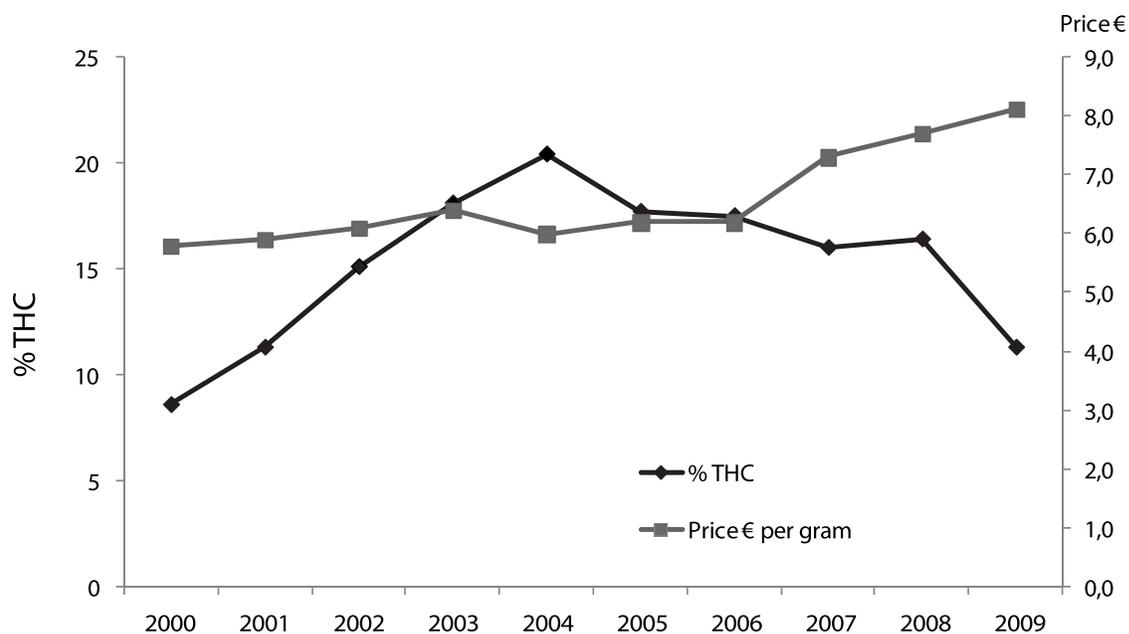
SOURCE: Information Systems in Healthcare (SIVZ), National Alcohol and Drugs Information System (LADIS)

Exhibit 3. Number of Hospital Admissions Related to Drug Abuse or Dependence as Primary or Secondary Diagnoses¹, the Netherlands: 1997 and 2007 By Year

Selected Drugs	Hospital Admissions by Primary Diagnosis By Year		Hospital Admissions by Secondary Diagnosis By Year	
	1997	2007	1997	2007
Cannabis	26	69	184	399
Amphetamine/ Ecstasy	33	56	80	136
Opiates	71	84	724	525
Cocaine	55	114	371	607

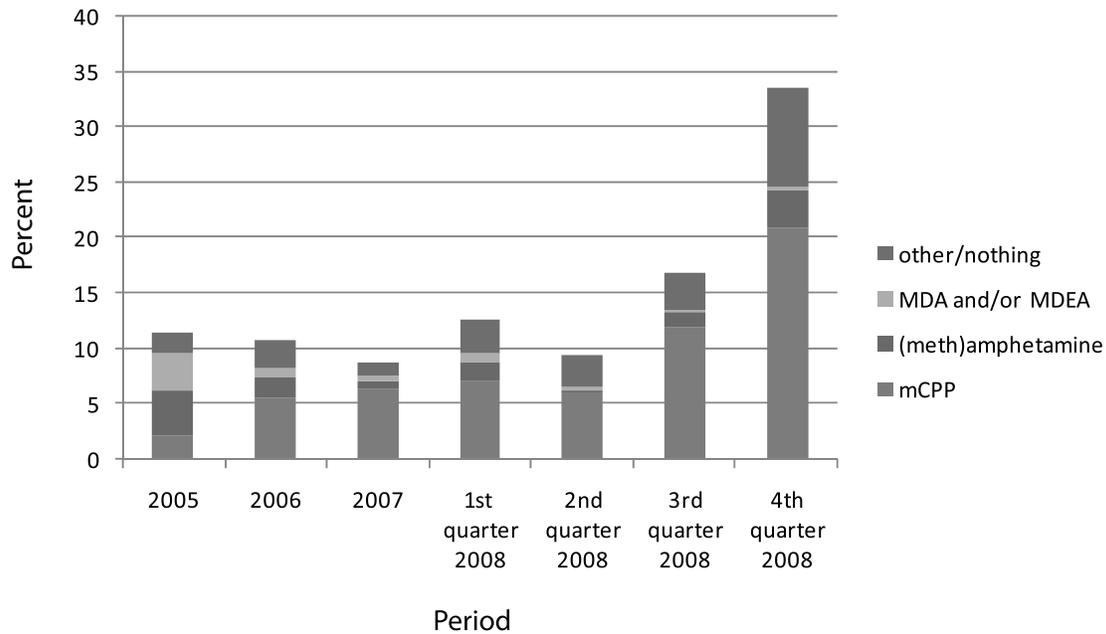
¹ICD-9 diagnoses.

SOURCE: National Medical Registration (LMR)

Exhibit 4. Trends in THC Content and Price (in €¹ per Gram) in Dutch Marijuana: 2000–2009¹Euro.

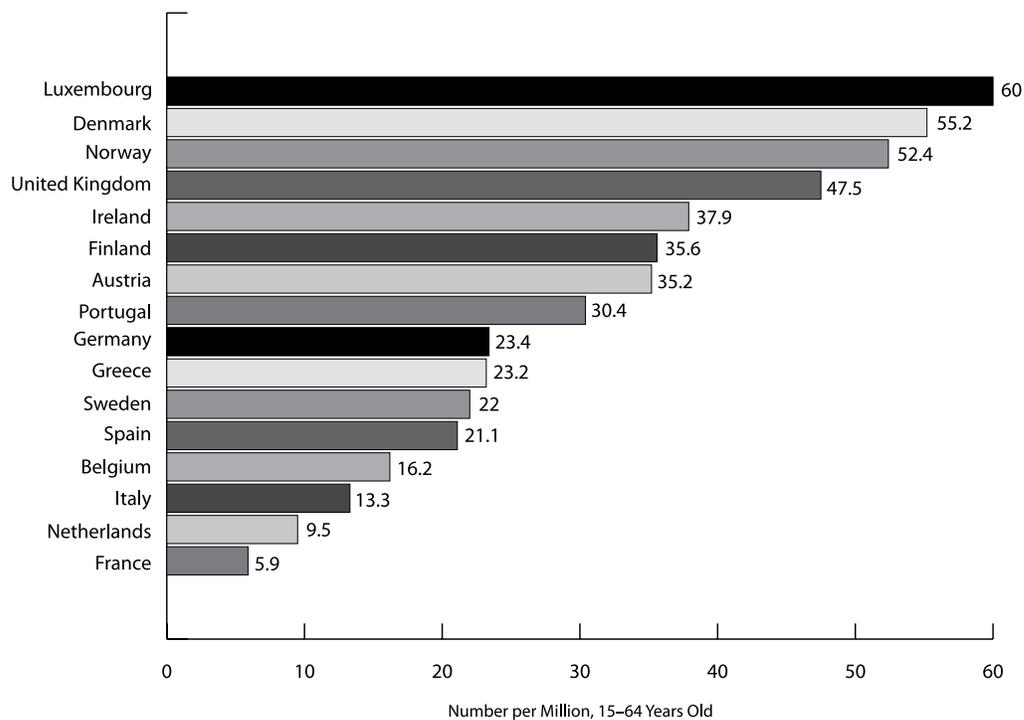
SOURCE: Drugs Information and Monitoring System (DIMS), Trimbos Institute

Exhibit 5. Percentage of Pills Sold as Ecstasy Without MDMA, the Netherlands: 2005–2008



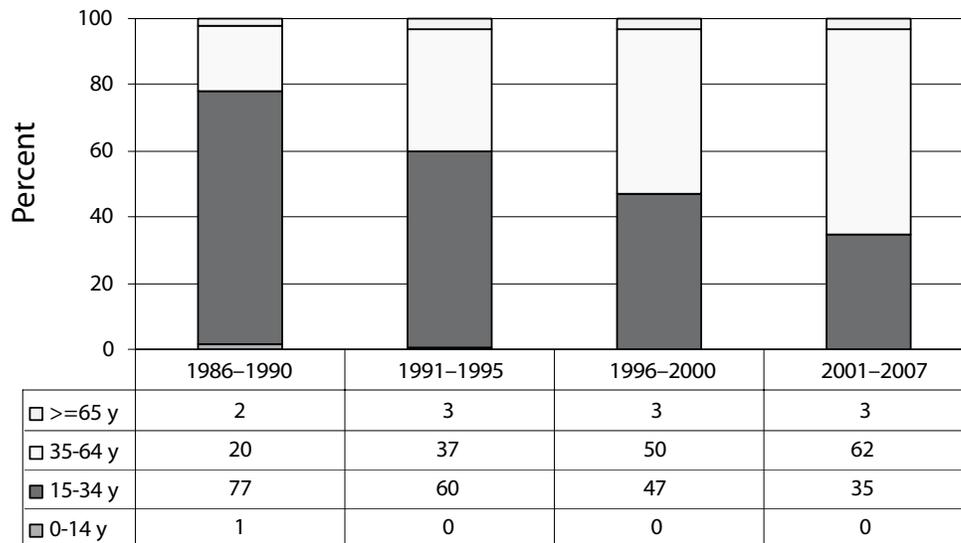
SOURCE: Drugs Information and Monitoring System (DIMS), Trimbos Institute

Exhibit 6. Number of Acute Drug-Related Deaths (Overdose)¹ per Million Inhabitants in Several Member States of the European Union: 2007



¹According to DRD protocol of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).
SOURCE: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)

Exhibit 7. Trends in Age Distribution of Cases of Acute Drug-Related Deaths (Overdose)¹, the Netherlands: 1986–2007



¹ICD-9 codes (1985–1995) and ICD-10 codes (1996–2007), according to DRD protocol of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

SOURCE: Statistics Netherlands

Drug Abuse and HIV/AIDS Issues in Chicago

Chyvette Williams, Ph.D.¹

ABSTRACT

Of all types of drug use, injection drug use contributes both directly to human immunodeficiency virus (HIV) transmission through sharing of injection equipment and indirectly through risky sexual behaviors. Continuing to monitor trends in injection drug use is important for understanding consequences of use, including HIV infection.

Studies conducted in Chicago used multiple data sources to examine long-term HIV prevalence and incidence trends among injection drug users (IDUs) in Chicago. Survey and serological data were collected from IDUs in three longitudinal studies and one cross-sectional study in Chicago: National AIDS Demonstration Research Projects (NADR), 1988–1992 (n=850); Collaborative Injection Drug User Study (CIDUS-I), 1994–1996 (n=794); Needle Exchange Program (NEP) Evaluation, 1997–2002 (n=901); and the cross-sectional Sexual Acquisition and Transmission of HIV-Cooperative Agreement Program (SATH-CAP), 2005–2007 (n=2,716, of whom 835 were IDUs). IDUs age 18 years and older were eligible for all but CIDUS-I, which had an upper age limit of 50. Participant recruitment for the longitudinal studies used street outreach and informal chain referral methods, while the cross-sectional study used respondent-driven sampling. HIV prevalence was calculated from each study's baseline serologic data. HIV incidence for the longitudinal studies was estimated as the number of seroconversions divided by the sum of follow-up time of study participants still at risk for

seroconversion. Seroconversion was estimated to have occurred at the midpoint between the most recent seronegative test and the first seropositive test. In the cross-sectional study, HIV incidence was estimated using the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS).

HIV prevalence for IDUs in the four studies was: NADR, 25 percent; CIDUS-I, 18 percent; NEP Evaluation, 15 percent; and SATH-CAP, 8 percent. HIV prevalence declined among all racial/ethnic groups included in the studies. HIV incidence early in NADR was 9.3/100 person-years, and it declined to about 2.4/100 person-years during the study's later years. HIV incidence was 1.1/100 person-years for CIDUS-I, and 0.62/100 person-years for the Needle Exchange Evaluation. No recent HIV infections were detected in SATH-CAP. Results from SATH-CAP comparing IDUs to individuals who never injected ("never-IDU") showed mixed results by sexual orientation and gender. Among gay and bisexual men, never-IDUs (gay: 51 percent; bisexual: 14 percent) have higher HIV prevalence than IDUs (gay: 31 percent; bisexual: 11 percent). Never-IDU bisexual women also have higher HIV prevalence than IDU bisexual women (4.6 percent versus 1.2 percent). Among heterosexual men and women, IDUs have higher HIV prevalence than never-IDUs (men: 6.9 percent versus 3.4 percent; women: 6.6 percent versus 4.1 percent).

HIV prevalence and incidence among IDUs in Chicago have declined. These declines likely are the products of high mortality rates early in the epidemic, behavioral changes in the wake of targeted risk reduction interventions, greater access to sterile syringes, and fewer African Americans initiating drug injection. Among gay and bisexual drug users, sexual behavior may be more prominent than drug behavior for HIV risk. Among heterosexuals, HIV prevalence among IDUs is higher

¹The author is affiliated with the Community Outreach Intervention Projects, School of Public Health, University of Illinois at Chicago.

than that of noninjecting users of the same drugs, but the two measures appear to be converging.

For inquiries regarding this report, contact Chyvette Williams, Ph.D., Assistant Professor, Health Policy and Administration, Associate Director, Community Outreach Intervention Projects, School of Public Health, University of Illinois at Chicago, 1603 West Taylor Street, MC923, Chicago, IL 60612, Phone: 312-355-5299, Fax: 312-996-5356, E-mail: chevy@uic.edu.

PARTICIPANTS

Participant List

National Institute on Drug Abuse Community Epidemiology Work Group Meeting

*Hotel Allegro
Chicago, Illinois
June 10–12, 2009*

Cynthia L. Arfken, Ph.D.

Associate Professor
Wayne State University
2761 East Jefferson Avenue
Detroit, MI 48207
Phone: 313-993-3490
Fax: 313-993-1370
E-mail: carfken@med.wayne.edu

Erin Artigiani, M.A.

Deputy Director for Policy
Center for Substance Abuse Research
University of Maryland
Suite 501
4321 Hartwick Road
College Park, MD 20740
Phone: 301-405-9794
Fax: 301-403-8342
E-mail: erin@cesar.umd.edu

Caleb Banta-Green, M.S.W., M.P.H., Ph.D.

Research Scientist
Alcohol and Drug Abuse Institute
University of Washington
Suite 120
1107 N.E. 45th Street
Seattle, WA 98105
Phone: 206-685-3919
Fax: 206-543-5473
E-mail: calebbg@u.washington.edu

Joyce Bernstein, M.Sc., Ph.D.

Epidemiologist
Toronto Public Health
125 Memorial Park Avenue
Toronto, Ontario M4J 4Y6
Canada
Phone: 416-338-7855
Fax: 416-338-0921
E-mail: jbernste@toronto.ca

Caroline L. Brakat

Intelligence Analyst Assistant
National Drug Intelligence Center
U.S. Department of Justice
319 Washington Street
Fifth Floor
Johnstown, PA 15901
Phone: 814-532-4073
Fax: 814-532-5858
E-mail: Caroline.l.brakat@usdoj.gov

Lynn Brecht, Ph.D.

Research Statistician
Integrated Substance Abuse Programs
University of California, Los Angeles
Suite 200
1640 South Sepulveda Boulevard
Los Angeles, CA 90025
Phone: 310-267-5275
Fax: 310-473-7885
E-mail: lbrecht@ucla.edu

Jane Buxton, M.B.B.S., M.H.Sc., F.R.C.P.C.

Physician Epidemiologist and
Assistant Professor
BC Centre for Disease Control
University of British Columbia
655 West 12th Avenue
Vancouver, British Columbia V5Z 4R4
Canada
Phone: 604-707-2573
Fax: 604-707-2516
E-mail: jane.buxton@bccdc.ca

M. Fe Caces, Ph.D.

Statistician/Demographer
Office of National Drug Control Policy
Executive Office of the President
Room 534
750 17th Street, N.W.
Washington, DC 20503
Phone: 202-395-3173
Fax: 202-395-6562
E-mail: mcaces@ondcp.eop.gov

Jennifer Choate

Facility Liaison
Drug Abuse Warning Network
48 Lawton Road, Apt. 3
Riverside, IL 60546
Phone: 708-442-7359
E-mail: jenniferchoate@westat.com

Karyn Bjornstad Collins, M.P.A.

Acting Technical Editor
Social Solutions International, Inc.
441 Keith Avenue
Missoula, MT 59801
Phone: 406-543-3481
E-mail: Kcollins@socialsolutions.biz

Elizabeth H. Crane, Ph.D., M.P.H.

Analyst
Office of Applied Studies
Drug Abuse Warning Network
Division of Facility Surveys, Office of
Applied Studies
Substance Abuse and Mental Health
Services Administration
U.S. Department of Health and Human
Services
Room 7-1044
1 Choke Cherry Road
Rockville, MD 20857
Phone: 240-276-1275
Fax: 240-276-1260
E-mail: elizabeth.crane@samhsa.hhs.gov

James K. Cunningham, Ph.D.

Social Epidemiologist
Department of Family and Community
Medicine

College of Medicine
University of Arizona
1450 North Cherry Avenue
Tucson, AZ 85719
Phone: 520-615-5080
Fax: 520-577-1864
E-mail: jkcunnin@email.arizona.edu

Samuel J. Cutler

Program Manager
Office of Addiction Services
Department of Behavioral Health/
Mental Retardation Services
City of Philadelphia
Suite 800
1101 Market Street
Philadelphia, PA 19107-2908
Phone: 215-685-5414
Fax: 215-685-4977
E-mail: sam.cutler@phila.gov

Damian Denson, M.P.H.

Doctoral Graduate Student
Community Health Sciences
School of Public Health
University of Illinois at Chicago
1603 West Taylor Street
Chicago, IL 60612
Phone: 312-355-3991
Fax: 312-996-1450
E-mail: damianjdenson@yahoo.com

Brian J. Dew, Ph.D.

Associate Professor
Department of Counseling and Psychological
Services
Georgia State University
1210 Beech Haven Road
Atlanta, GA 30324
Phone: 404-808-5436
Fax: 404-413-8013
E-mail: bdew@gsu.edu

Kristen Dixon, M.A., L.P.C.

Evaluation Researcher
Division of Behavioral Health
Data and Evaluation
State of Colorado

3824 West Princeton Circle
 Denver, CO 80236-3111
 Phone: 303-866-7407
 Fax: 303-866-7428
 E-mail: kristen.dixion@state.co.us

Daniel P. Dooley
 Senior Researcher
 Boston Public Health Commission
 Sixth Floor
 1010 Massachusetts Avenue
 Boston, MA 02118
 Phone: 617-534-2360
 Fax: 617-534-2422
 E-mail: ddooley@bphc.org

Marya Hynes Dowell, M.H.S.
 Drug Abuse Research Specialist
 Inter-American Drug Abuse Control
 Commission
 Observatory on Drugs
 1889 F. Street, N.W.
 Washington, DC 20006
 Phone: 202-458-6119
 Fax: 202-458-3658
 E-mail: mhynes@oas.or

Carol L. Falkowski
 Director
 Alcohol and Drug Abuse Division
 Minnesota Department of Human Services
 540 Cedar Street
 St. Paul, MN 55115
 Phone: 651-431-2457
 Fax: 651-431-7449
 E-mail: carol.falkowski@state.mn.us

James N. Hall
 Director
 Center for the Study and Prevention of
 Substance Abuse
 Nova Southeastern University
 c/o Up Front, Inc.
 13287 S.W. 124th Street
 Miami, FL 33186
 Phone: 786-242-8222
 Fax: 786-242-8759
 E-mail: upfrontin@aol.com

Robert Hanson, M.A.
 Manager, Surveillance
 Office of Research and Surveillance
 Drug Strategy and Controlled Substances
 Programme
 Healthy Environments and Consumer Safety
 Branch
 Health Canada
 Room D982, A.L. 3509C
 123 Slater Street
 Ottawa, ON K1A 1B9
 Canada
 Phone: 613-948-8954
 Fax: 613-948-7977
 E-mail: robert_hanson@hc-sc.gc.ca

Heidi Israel, Ph.D., F.N.P., R.N., L.C.S.W.
 Department of Orthopaedic Surgery
 St. Louis University
 School of Medicine
 3625 Vista, FDY7N
 St. Louis, MO 63104
 Phone: 314-577-8851
 Fax: 314-268-5121
 E-mail: israelha@slu.edu

Rozanne Marel, Ph.D.
 Assistant Chief of Epidemiology
 New York State Office of Alcoholism and
 Substance Abuse Services
 Ninth Floor
 501 Seventh Avenue
 New York, NY 10018
 Phone: 646-728-4605
 Fax: 646-728-4685
 E-mail: rozannemarel@oasas.state.ny.us

Jane C. Maxwell, Ph.D.
 Senior Research Scientist
 Gulf Coast Addiction Technology Transfer
 Center
 University of Texas at Austin
 Suite 335
 1717 West 6th Street
 Austin, TX 78703
 Phone: 512-232-0610
 Fax: 512-232-0617
 E-mail: jcmawell@sbcglobal.net

Erin E. McKenna, M.S.

Intelligence Research Specialist
Drug Enforcement Administration
U.S. Department of Justice
700 Army-Navy Drive
Arlington, VA 22202
Phone: 202-307-7932
E-mail: EEMcKenna@dea.usdoj.gov

Bruce Mendelson, M.P.A.

Senior Data Consultant
Office of Drug Strategy
Denver Department of Human Services
1200 Federal Boulevard
Denver, CO 80204
Phone: 720-944-2158
Fax: 720-944-3083
E-mail: bruce.mendelson@denvergov.org

Corinne P. Moody

Science Policy Analyst
Controlled Substance Staff
Center for Drug Evaluation and Research
Office of the Center Director
U.S. Food and Drug Administration
Building 51
Room 5144
10903 New Hampshire Avenue
Silver Spring, MD 20993
Phone: 301-796-3152
Fax: 301-847-8736
E-mail: corinne.moody@fda.hhs.gov

John A. Newmeyer, Ph.D.

Epidemiologist
Haight-Ashbury Free Clinics, Inc.
2004 Gough Street
San Francisco, CA 94109
Phone: 415-931-5420
Fax: 415-776-8823
E-mail: jnewmeyer@aol.com

Moira P. O'Brien, M.Phil.

Health Scientist Administrator
Epidemiology Research Branch
Division of Epidemiology, Services and
Prevention Research
National Institute on Drug Abuse
National Institutes of Health

Room 5153, MSC-9589
6001 Executive Boulevard
Bethesda, MD 20892-9589
Phone: 301-402-1881
Fax: 301-443-2636
E-mail: mobrien@nida.nih.gov

Lawrence Ouellet, Ph.D.

Research Associate Professor
Division of Epidemiology and Biostatistics
School of Public Health
University of Illinois at Chicago
MC-923
1603 West Taylor Street
Chicago, IL 60612-4394
Phone: 312-355-0145
Fax: 312-996-1450
E-mail: ljo@uic.edu

Artisha Polk, M.P.H.

Mathematical Statistician
Drug Enforcement Administration
U.S. Department of Justice
8701 Morrisette Drive
Springfield, VA 22152
Phone: 202-307-7180
Fax: 202-353-1263
E-mail: Artisha.R.Polk@usdoj.gov

Robin Pollini, Ph.D., M.P.H.

Assistant Professor
Division of Global Public Health
Institute of the Americas
MC 0507
10111 North Torrey Pines Road
La Jolla, CA 92093-0507
Phone: 858-534-0710
Fax: 858-534-7566
E-mail: rpollini@ucsd.edu

Cassandra Prioleau, Ph.D.

Pharmacologist
Drug and Chemical Evaluation Section
Office of Diversion Control
Drug Enforcement Administration
U.S. Department of Justice
8701 Morrisette Drive
Springfield, VA 22152-2490
Phone: 202-307-7294

Fax: 202-353-1263
E-mail: cassandra.prioleau@usdoj.gov

Sandra Putnam, Ph.D.

Project Director
Community Epidemiology Work Group
Social Solutions International, Inc.
1541 Stewartstown Road
Morgantown, WV 26505
Phone: 304-292-5148
Fax: 304-292-5149
E-mail: sputnam@socialsolutions.biz

Jan Scaglione, M.T., Pharm.D., DABAT

Clinical Toxicologist/Senior Specialist
Poison Information
Cincinnati Drug and Poison Information
Center
ML-9004
3333 Burnet Avenue
Cincinnati, OH 45229
Phone: 513-636-5060
Fax: 513-636-5072
E-mail: jan.scaglione@cchmc.org

Susan A. Seese, M.B.A.

Senior Intelligence Analyst
National Drug Intelligence Center
U.S. Department of Justice
Fifth Floor
319 Washington Street
Johnstown, PA 15901
Phone: 814-532-4093
Fax: 814-532-5858
E-mail: susan.seese@usdoj.gov

Marcella H. Sorg, Ph.D., R.N., D-ABFA

Director
Rural Drug and Alcohol Research Program
Margaret Chase Smith Policy Center
University of Maine
Building 4
5784 York Complex
Orono, ME 04469-5784
Phone: 207-581-2596
Fax: 207-581-1266
E-mail: marcella.sorg@umit.maine.edu

Margriet van Laar, Ph.D.

Program Director
Drug Monitoring
Coordinator, National Drug Monitor/Focal
Point
Trimbos Institute
Da Costakade 45
P.O. Box 725, 3500 AS Utrecht
The Netherlands
Phone: 31-30-297-11-00
Fax: 31-30-297-11-11
E-mail: mlaar@trimbos.nl

Michael G. Vrakatitsis, J.D.

Intelligence Research Specialist
Drug Enforcement Administration
U.S. Department of Justice
700 Army-Navy Drive
Arlington, VA 22202
Phone: 202-307-8430
E-mail: michael.g.vrakatitsis@usdoj.gov

Richard Weisskopf

State Opiate Treatment Authority
Illinois Department of Human Services
Suite 5-600
Division of Alcoholism and Substance Abuse
100 W. Randolph Street
Chicago, IL 60601
Phone: 312-814-6380
Fax: 312-814-2419
E-mail: richard.weisskopf@illinois.gov

Chyvette Williams, Ph.D.

Assistant Professor
Health Policy and Administration
Associate Director
Community Outreach Intervention Projects
School of Public Health
University of Illinois at Chicago
1603 West Taylor Street, MC923
Chicago, IL 60612
Phone: 312-355-5299
Fax: 312-996-5356
E-mail: chevy@uic.edu

D. William Wood, Ph.D., M.P.H.

Professor and Chair
Department of Sociology
University of Hawai'i at Manoa
Saunders Hall, Room 247
2424 Maile Way
Honolulu, HI 96822
Phone: 808-956-7693
Fax: 808-956-3707
E-mail: dwwood@hawaii.edu

Meeting Coordinator

Patricia Evans

Meeting Coordinator
MasiMax Resources, Inc.
Suite 175
1375 Piccard Drive
Rockville, MD 20850
Phone: 240-683-1756
Fax: 301-926-3156
E-mail: pevans@masimax.com

**U.S. Department of
Health and Human Services**

NATIONAL INSTITUTES OF HEALTH

NIDA NATIONAL INSTITUTE
ON DRUG ABUSE

NIH Publication No. 10-7422

May 2010