
SUBSTANCE ABUSE IN BOSTON

March 2007

Boston Public Health Commission

Prepared by

BOSTON PUBLIC HEALTH COMMISSION

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Acknowledgements

We would like to acknowledge the contribution of individuals and the organizations providing data and information for this report:

Andrew Hanchett, Massachusetts Department of Public Health Bureau of Substance Abuse Services

Lalita Pulavarti, Boston Police Department Office of Strategic Planning

Marjorie Bernadeau-Alexandre, Boston Police Department Office of Strategic Planning

Allan Stevenson, Massachusetts Department of Public Health Drug Analysis Laboratory in Amherst Massachusetts

Gary Lever, Massachusetts Medical Foundation's Substance Abuse Information and Education Helpline

Michelle Frate, Drug Enforcement Agency (DEA) New England Field Division

We, also, would like to acknowledge the contribution of individuals at the Boston Public Health Commission for producing this report: Lesley Covington, Nicole Daley, Eleni Digenis-Bury, Dan Dooley, Kristin Golden, Candis Joseph, Kavita Ketwaroo, Aleruchi Mpi, Phyllis Sims.

Drug photos included in this report were provided by the US Drug Enforcement Administration (DEA).

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Suggested Citation

Substance Abuse in Boston 2007

Boston Public Health Commission

Research Office

Boston, Massachusetts

Introduction

The use and abuse of alcohol and drugs affect both personal and public health, and may result in a range of negative outcomes that include addiction, lost productivity, crime, physical and mental illness, and premature death.¹ According to the National Survey on Drug Use and Health, in 2005 approximately 19.7 million Americans ages 12 years and over or 8.1% of the population in that age range, were current users of illicit drugs.² Slightly more than half (51.8%) of all Americans ages 12 years and over were current drinkers² Additionally, the National Household Survey on Drug Abuse found that an estimated 22.2 million persons ages 12 and over were dependent on or abused illicit drugs or alcohol.² This included 3.3 million who abused both alcohol and illicit drugs, 3.6 million who abused illicit drugs but not alcohol, and 15.4 million who abused alcohol but not illicit drugs.² Use of illicit substances and alcohol abuse remain significant burdens to the public health system and society.

In Boston, Mayor Thomas M. Menino and the Boston Public Health Commission have made the reduction of substance abuse a public health priority. The monitoring of substance abuse patterns and abuse-related outcomes is important in halting current and emerging drug use epidemics. Such monitoring helps increase the public's knowledge of the problem and supports the development of targeted and effective public health responses.

About this Report

This report is a product of the Boston Public Health Commission's effort to improve our understanding of Boston's collective substance abuse experience.

Utilizing a number of different data sources, the report presents measures of the number of Boston residents who have:

suffered a negative health consequence as a result of drug use and abuse (substance abuse mortality, substance abuse hospitalizations, EMS heroin overdose patient encounters)

accessed or have tried to access substance abuse addiction treatment services (Boston substance abuse treatment admissions, substance abuse Helpline calls)

¹ Harwood H, Fountain D, Livermore G. *The Economic Costs of Alcohol and Drug Abuse in the United States, 1992*. Rockville, MD: US Department of Health and Human Services, National Institute on Drug Abuse and National Institute on Alcohol and Alcoholism; 1998.

² Substance Abuse and Mental Health Services Administration. Available at <http://www.oas.samhsa.gov/oas/nsduh/2k5nsduh/2k5results.pdf>. Accessed March 5, 2007. Note: Current users are those who reported any past month drug use.

used specific drugs and/or alcohol (Boston Behavioral Risk Factor Survey, Youth Risk Behavior Survey, Boston substance abuse treatment admissions)

been arrested for a drug-related offenses (Boston Police drug arrests, drug lab samples)

Additionally, the federal Drug Enforcement Agency (DEA) has provided area drug price, purity and availability information.

Together, these sources offer valuable insight into current substance-specific patterns and trends of abuse, but these data and analysis present a partial picture at best. There are many factors that limit our ability to accurately measure absolute levels of drug abuse across a community. For example, stigma associated with addictive and/or illegal behavior may influence an individual's choice to seek treatment or reveal drug use behavior in a survey. Changes in treatment funding levels could cause changes in the availability of treatment services and ultimately, increase or decrease the number of treatment admissions - independent of the demand or need for those services. Also, because combinations of different drugs are often used together, substance-specific analysis could miss important implications resulting from poly-drug use. To what degree these and other factors influence observed totals and sub-population differences within a data source is often unknown. Conclusions drawn from these data are subject to these and other limitations.

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Highlights

- Heroin abuse remains at very high levels in Boston, but the most recent indicators are showing downward movement. In FY 2006, the proportion of heroin treatment admissions decreased for the first time in seven years. The proportion of heroin calls to the substance abuse Helpline decreased from 2004 to 2006. The 2005 levels of heroin drug arrests (Class A) and drug lab samples show decreasing numbers and proportions as well. Average purity of street-level purchases has declined from 50% in 2002 to below 30% in 2004 and 2005.
- Narcotic analgesics (non-heroin opiates) abuse indicators suggest that high levels of oxycodone abuse have stabilized after years of growth. Other Opiates/Synthetics treatment numbers and proportions have been fairly stable from FY 2004 through FY 2006. The proportion of Helpline calls in 2006 with mentions of non-heroin opiates remains similar to 2005 and 2004. The proportion of oxycodone drug lab samples in 2005 was similar to 2004.
- Cocaine indicators for Boston remain fairly stable at high levels. The number and proportion of treatment clients with past month powder cocaine or crack use has increased from FY 2004 to FY 2006. Though the number decreased, the proportion of cocaine/crack Helpline calls increased between 2004 and 2006. Though the proportion remained stable, the number of cocaine drug arrests (Class B) increased in 2005.
- Alcohol remains a major substance of abuse. Alcohol as a primary drug in treatment admissions accounted for 36% of total admissions, second only to heroin in FY 2006. Alcohol-only calls to the Helpline accounted for 34% of all Helpline calls in 2006.
- Recent marijuana indicators are mixed. The proportion of marijuana primary drug treatment admissions has been fairly stable over five years, FY 2002 - FY 2006. Marijuana drug arrests (Class D) and lab samples increased in 2005.
- Methamphetamine abuse numbers among available indicators remain very small. Accounting for less than 1% of all treatment admissions, the number of primary admissions for methamphetamine increased from 47 in FY 2004 to 71 in FY 2005 and 79 in FY 2006. Methamphetamine drug lab samples increased from 24 in 2004 to 44 in 2005.
- In 2005, there were 254 adult HIV/AIDS cases diagnosed in Boston. Primary transmission risk factor of these cases included 10% who were IDUs, 2% who had sex with IDUs, and 31% with an unknown/undetermined risk factor.

- Boston youth surveyed through the Youth Risk Behavior Survey report less use of drugs in many areas than their counterparts in Massachusetts and the United States.
- Because of small numbers, mortality rates tend to fluctuate somewhat from year to year. However since 2000, the mortality rates for Latinos have risen significantly.

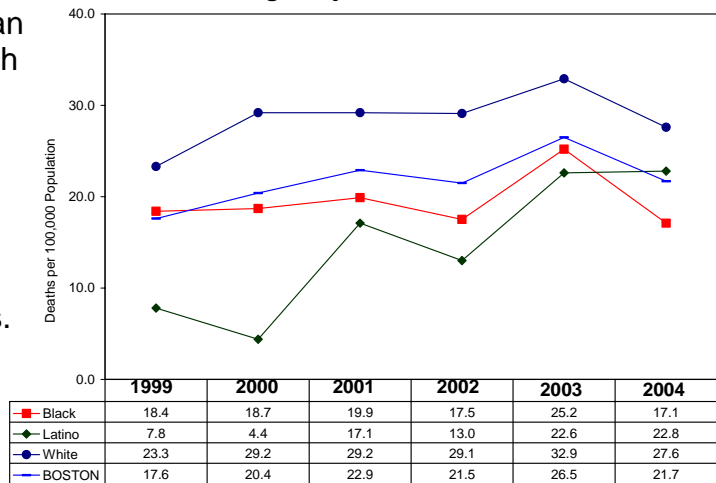
Overview

Mortality

For the six year period 1999-2004, an average of 119 Bostonians died each year as a direct result of alcohol or drug poisoning ("Substance Abuse Mortality"). Deaths where alcohol or drugs are a contributing factor -- such as in alcohol related motor vehicle crashes, suicides, or injuries -- are not included in these numbers.

In 2004, the substance abuse mortality rate for men was almost four times the rate for women (35.7 vs. 9.1 in 2004) and since 1999, Whites have consistently had a higher mortality rate than Latinos or Blacks.

Substance Abuse Mortality by Race/Ethnicity and Year: Counts and Age-Adjusted Rates, Boston, 1999-2004

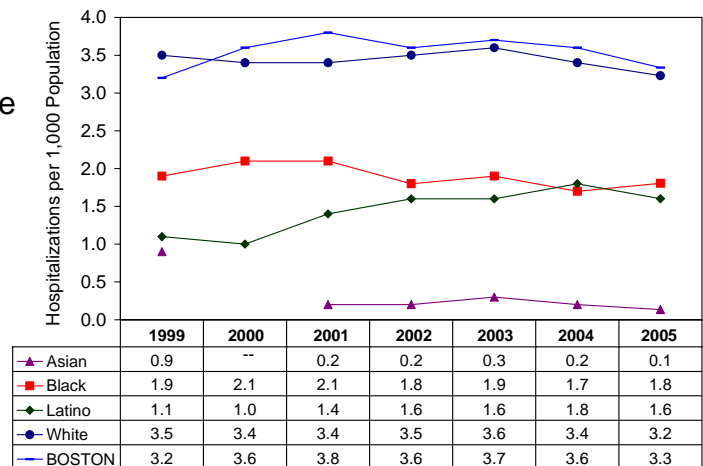


Even though Latino mortality rates have been lower than other races, Latino rates have sharply increased since 2000, with the 2004 rate of 22.8 more than five times higher than the 2000 rate of 4.4.

Hospitalizations

Hospitalizations for substance abuse have remained stable since 1999 with rates between 3.2 and 3.8 during those years. White residents have consistently had much higher rates than Latinos, Blacks or Asians.

Substance Abuse Hospitalizations by Race/Ethnicity and Year: Counts and Age-Adjusted Rates, Boston, 1999-2005

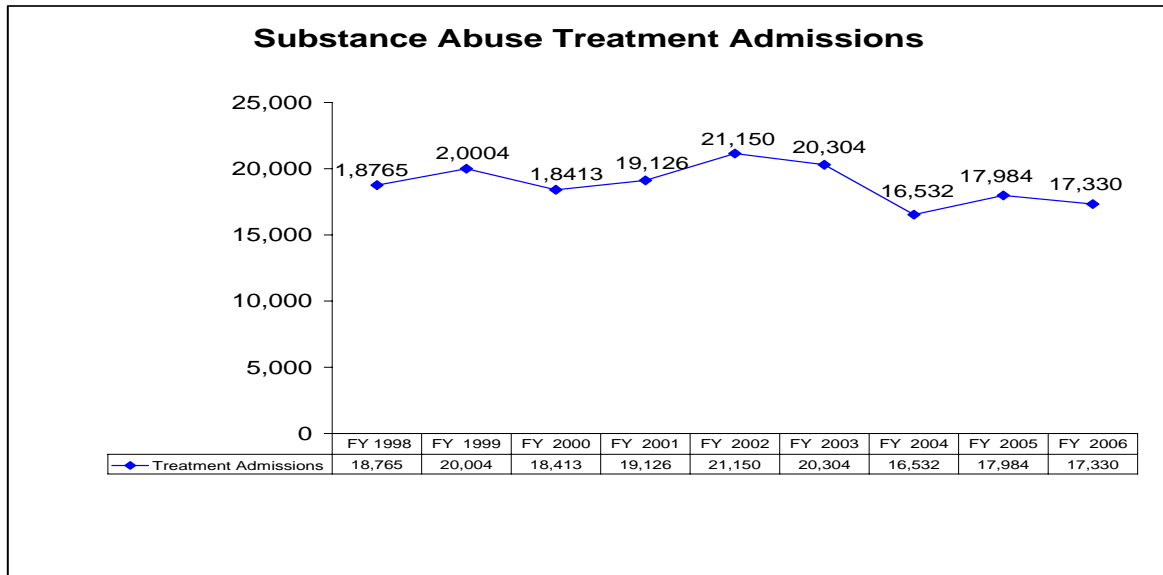


Treatment Admissions

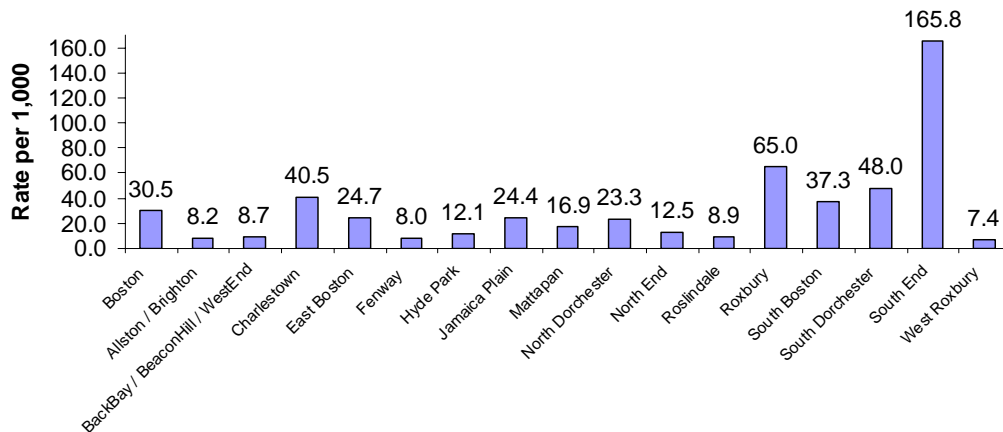
The number of Boston residents who get treatment has remained fairly stable until 2003, after which point treatment admissions varied with fluctuations in state funding.

Since 1998 the number of clients reporting injection drug use in the past year rose from a quarter of admissions (25%) in 1998 to more than a third of admissions (36%) in 2006. A greater proportion of homeless also seek treatment, increasing from 29% of admissions in 1998 to 44% in 2006 [Table 2].

In 2006, the primary drug for which clients sought treatment was heroin, accounting for 46% of admissions followed by alcohol with 36% of overall admissions.



Substance Abuse Treatment Admissions by neighborhood, FY 2005



Neighborhoods

The **South End** has the highest or among the highest rates in substance abuse mortality, hospitalization, and EMS responses for heroin-related calls. Likewise, treatment for South End residents accounts for a higher percentage than other neighborhoods. In FY 2005 a quarter of all admissions (25.2%) for Boston were

from the South End. In relation to other neighborhoods, the South End has maintained these higher rates for the last several years.

Charlestown has very high rates of substance abuse mortality, hospitalization and EMS responses for heroin-related calls. Treatment rates in this neighborhood are also higher than the Boston rate. For FY05 (the latest year for which neighborhood level data is available) Charlestown had the 4th highest rate at 40.5 per 1,000 population.

Roxbury has high rates of substance abuse treatment admissions (14.1% in FY04 and 12.5% in FY05) with average rates of mortality and EMS responses for heroin-related calls.

South Boston has had higher than average hospitalization and mortality rates, but those numbers have decreased over the last few years. For substance abuse hospitalizations, South Boston had higher rates than the Boston average in both 2004 (8.1 per 1,000) and 2005 (6.3 per 1,000), but has shown a downward trend since 2001 when its hospitalization rate was 8.6 per 1,000.

Those neighborhoods with lower overall rates for available substance abuse indicators compared to the rest of Boston are **Mattapan, Roslindale and West Roxbury**.

Youth Alcohol and Drug Use

The following data are reported from the Youth Risk Behavior Survey (YRBS). The YRBS is conducted every other year in Boston by the Boston Public Schools in collaboration with the Massachusetts Department of Education and the Centers for Disease Control and Prevention. For the YRBS data presented here, text that describes differences between two groups by using the terms 'higher' or 'lower' highlights comparisons that were found to be statistically significant. Comparisons that use the word 'similar' were not found to be statistically significant. For more information on statistical significance testing used in this report see the Technical Notes in Appendix II.

Overall, Boston high school students report having used alcohol and/or drugs at levels that are either similar to or lower than Massachusetts and the United States levels. See Table 11 in Appendix I for a listing of significant differences when comparing Boston to Massachusetts and the United States.

Alcohol Use

Lifetime Alcohol Use

In 2005, 69.5% of Boston public high school students reported having had at least one drink of alcohol on one or more days during their life. This percentage was lower than Massachusetts' percentage (76.4%), but similar to the United States' percentage (74.3%). Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime alcohol use was similar for male (70.3%) and female (71.2%) students. Prevalence was higher for White students (80.2%) than Black students (67.8%), Latino students (73.8%) and Asian students (54.4%).

Past Month Alcohol Use

In 2005, 35.7% of Boston public high school students reported having had at least one drink of alcohol on one or more of the past 30 days. This percentage was lower than Massachusetts' percentage (47.8%) and the United States' percentage (43.3%). Analysis of combined years 2001, 2003 and 2005 show prevalence of past 30 days alcohol use was similar for male and female students (38.5% and 38.2%, respectively). Prevalence of past 30 day alcohol use was higher for White students (57.0%) than Black students (33.7%), Latino students (38.3%) and Asian students (26.0%).

Past Month Binge Drinking

In 2005, 15.4% of Boston public high school students reported having had at least five drinks of alcohol in a row, within a couple of hours on one or more of the past 30 days. Drinking five drinks within two hours is sometimes referred to as binge drinking. The Boston percentage of binge drinking during the past 30 days was lower than Massachusetts' percentage (26.5%) and the United States' percentage (25.5%). Analysis of combined years 2001, 2003 and 2005 show prevalence of binge drinking during the past 30 days was higher for male

students (17.8%) than for female students (15.0%). Prevalence of past 30 day binge drinking was higher for White students (34.6%) than Black students (10.5%), Latino students (18.0%) and Asian students (7.9%).

Youth Drug Use

Lifetime Illicit Drug Use

In 2005, 42.3% of Boston public high school students reported having used drugs illicitly one or more times during their life. Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime illicit drug use was similar for male (44.0%) and female (41.2%) students. Prevalence was higher for White and Black students (49.1% and 45.4%, respectively) than Latino students (36.5%) and Asian students (28.9%).

Past Month Illicit Drug Use

In 2005, 23.7% of Boston public high school students reported having used drugs illicitly during the past 30 days. Analysis of combined years 2001, 2003 and 2005 show prevalence of past 30 days illicit drug use was higher for male students (27.3%) than female students (21.9%). Prevalence was highest for White students (32.4%) and Black students (25.4%) and lower Latino students (20.0%) and Asian students (16.4%).

Marijuana Use

Lifetime Marijuana Use

In 2005, 39.3% of Boston public high school students reported having used marijuana one or more times during their life. This percentage was lower than Massachusetts' percentage (45.2%), but similar to the United States' percentage (38.4%). Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime marijuana use was similar for male (40.1%) and female (37.7%) students. Prevalence was higher for White and Black students (46.1% and 42.2%, respectively) than Latino students (32.9%) and Asian students (19.6%).

Past Month Marijuana Use

In 2005, 21.2% of Boston public high school students reported having used marijuana during the past 30 days. This percentage was lower than Massachusetts' percentage (26.2%), but similar to the United States' percentage (20.2%). Analysis of combined years 2001, 2003 and 2005 show prevalence of past 30 days marijuana use was higher for male students (23.5%) than female students (18.3%). Prevalence was higher for White and Black students (27.9% and 22.2%, respectively) than Latino students (16.4%) and Asian students (10.7%).

Heroin Use

In 2005, 1.9% of Boston public high school students reported having used heroin one or more times during their life. This percentage was similar to the Massachusetts and the United States percentages. Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime heroin use was higher for males (2.6%) than females (1.0%). Prevalence was higher for Asian students (3.8%) than Black students (1.8%).

In 2005, 1.5% of Boston public high school students reported having injected drugs during their life. This percentage was similar to the Massachusetts and the United States percentages. Analysis of combined years 2001, 2003 and 2005 show a higher percentage of male students (2.4%) than female students (0.6%) reported having injected drugs during their life.

Cocaine Use

In 2005, 2.9% of Boston public high school students reported having used cocaine one or more times during their life. This percentage was lower than the Massachusetts (7.9%) and United States (7.6%) percentages. Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime cocaine use was higher for male students (4.2%) than female students (2.3%). Prevalence was higher for White and Asian students (5.1% and 4.9%, respectively) than Black students (2.6%).

Methamphetamine Use

In 2005, 1.8% of Boston public high school students reported having used methamphetamine one or more times during their life. This percentage was lower than the Massachusetts (4.4%) and the United States (6.2%) percentages. The percentage of lifetime MDMA use among Boston students decreased from 3.6% in 2003. Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime methamphetamine use was higher for males (4.0%) than females (1.7%). Prevalence was higher for White students (5.4%) and Asian students (5.1%) than Black students (2.3%) or Latino students (2.1%).

Methylenedioxymethamphetamine (MDMA, Ecstasy) Use

In 2005, 3.8% of Boston public high school students reported having used MDMA one or more times during their life. The percentage of lifetime MDMA use decreased from 7.0% in 2001. Analysis of combined years 2001, 2003 and 2005 show prevalence of lifetime MDMA use similar for males (6.5%) and females (4.9%). Prevalence was higher for White students (11.8%) and Asian students (9.6%) than Black students (3.6%) or Latino students (4.9%).

Inhalant Use

In 2005, 4.4% of Boston public high school students reported having used inhalants (inhaled glue, contents of aerosol cans, paints, sprays) to get high one or more times during the past month. Analysis of combined years 2001, 2003 and 2005 show prevalence of past month inhalant use was similar for males (5.8%) and females (4.5%). Prevalence was higher for White students (7.1%) than Black students (4.5%).

Alcohol

Alcohol Treatment Admissions

Alcohol accounts for the second largest proportion of primary drug admissions to treatment. In FY 2006, 6,292 treatment clients (36% of all admissions) reported alcohol as their primary drug (Table 1), and there were 8,124 mentions (47% of all admissions) of past month alcohol use among those admitted to State-funded treatment programs (Table 1).

The number of clients who reported alcohol as their primary drug has remained fairly stable during the past two years (from FY 2004), but has decreased 22% from FY 1998.

In FY 2006, the majority of alcohol primary drug clients were male (80%), White (50%), and age 40 and over (59%). Nearly half of the clients (47%) reported being homeless (Table 3).

Alcohol Helpline Calls

In 2006, alcohol was the only drug mentioned in 1,091 calls (34% of the total) to the Helpline (Table 7). The proportion of alcohol-only Helpline calls decreased from 38% in 2000 to 30% in 2003, then increased to 34% in 2005.

Adult Alcohol Use

The following data are reported from the Boston's Behavioral Risk Factor Survey. The BRFS is conducted in Boston by the Boston Public Health Commission. For the BRFS data presented here, text that describes differences between two groups by using the terms 'higher' or 'lower' highlights comparisons that were found to be statistically significant. Comparisons that use the word 'similar' were not found to be statistically significant. For more information on statistical significance testing used in this report see the Technical Notes in Appendix II.

Past Month Alcohol Use

According to the 2005 Boston Behavioral Risk Factor Survey 63.6% of Boston adults had at least one drink of alcohol on one or more days during the past month (30 days). The prevalence of past month alcohol use decreased from 2003. In 2005, a higher percentage of males (74.4%) than females (60.1%) reported past month alcohol use. A higher percentage of White adults (77.4%) than Black adults (49.2%) Latinos (48.0%) or Asians (58.0%) reported past month alcohol use.

Past Month Binge Drinking

Of those who reported drinking alcohol during the past month (30 days), 32.2% had binged (drank 5 or more drinks on a single occasion) one or more times during the past month. A higher percentage of males (42.8%) than females

(25.2%) reported having binged during the past month. Higher percentages of White adults (37.5%) Latinos (40.3%) and Asians (35.7%) than Black adults (16.6%) reported having binged during the past month.

Perceived Alcohol Problem

One in ten Boston adults reported they were thought to have a drinking problem by either someone else or themselves at some point in their life. A higher percentage of males (16.0%) than females (6.3%) reported a perceived alcohol problem. A higher percentage of White adults (13.6%) than Black adults (7.0%), Latinos (7.7%), or Asians (3.9%) reported a perceived alcohol problem.

Continuously Drunk For At Least Two Days

In 2005, 7.6% of Boston adults claimed to have been continuously drunk for at least two straight days at least once in their life. A higher percentage of males (11.9%) than females (3.2%) reported having been drunk for at least two straight days. A higher percentage of White adults (8.8%) than Black adults (4.2%) or Asian (2.9%) reported having been drunk for at least two straight days.

For information on youth alcohol use, please refer to the section titled Youth Alcohol and Drug Use.

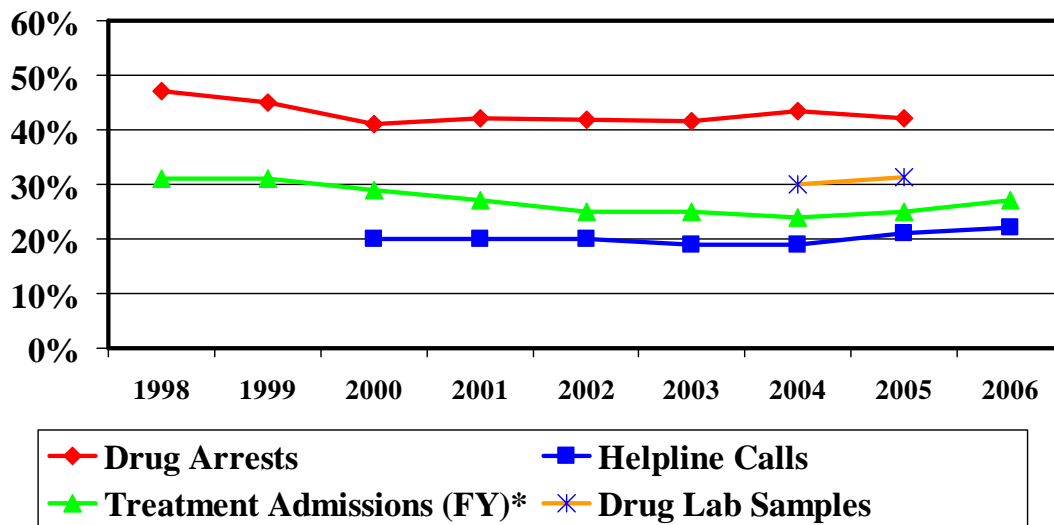
Cocaine/Crack

Type	stimulant
Form	snorted, smoked, or injected
Treatment	behavioral therapies
Street terms	Blow, Horn, Nose candy, Snowball,
Other	Highly addictive drug with limited medicinal uses; Schedule 2 Drug



Cocaine (including crack) is one of the most heavily abused drugs in Boston. Cocaine/crack indicators show high and mostly stable levels of use and abuse.

Cocaine/Crack As Proportion of Applicable Indicator Boston, 1998-2006



*Treatment Admissions based on past month drug use

Cocaine Treatment Admissions

In FY 2006, 1,632 treatment clients (9% of all admissions) reported cocaine or crack as their primary drug (Table 1), and close to three times as many clients (n=4,616) reported having used cocaine or crack in the past month (Table 1).

The number of clients who reported past month cocaine or crack use has increased 18% during the past two years (from FY 2004), but remains 20%

below the number for FY 1998. The number of clients who reported past month crack use increased 30% from 2004. The number reporting past month powder cocaine use increased 9% during the same period.

The majority of cocaine or crack primary drug clients were male (62%), Black (55%), and among ages 30-49 (73%). (Table 4)

The proportion of Black cocaine primary drug admissions has decreased fairly steadily from 67% in FY 1998 to 55% in FY 2006 (Table 4). Conversely, White and Latino proportions of cocaine primary drug admissions have increased during the same period.

From FY 2004 to FY 2006, the proportion of clients under age 30 has increased from 13% to 18%, potentially revealing the emergence of a new younger cocaine abusing cohort.

Close to one third (31%) of cocaine or crack primary drug clients reported being homeless in FY 2006, constituting a dramatic increase from 24% in FY 2004 (Table 4).

Cocaine Helpline Calls

In 2006, Cocaine or crack was indicated in 726 calls to the Substance Abuse Helpline (Table 7). Though the number of cocaine calls in 2006 is down 10% from 2004, the proportion of all Helpline calls with mentions of cocaine/crack has increased 17%.

Class B (Mainly Cocaine) Drug Arrests

Class B arrests accounted for the largest proportion of drug arrests (42%) in the city of Boston in 2005. There were 1,821 Class B (mainly cocaine and crack) drug arrests in 2005 (Table 8). The proportion of Class B arrests has remained fairly stable since 2000. However, the age distribution has shifted in the past year.

The proportion of Class B arrests of those younger than 20 years old increased 43% from 2004 to 2005. Arrests of those age 40 and older (24%) decreased 11% from 2004 but increased 48% from 1997. Class B arrests for those age 25–39 (42%) decreased 23% from 1997. The racial distribution of Class B arrests for 2005 remained similar to 2004. However, the proportion of White Class B arrests (32%) decreased 19% from 1997 to 2005 while the proportion of Black Class B arrests (67%) increased 11% during the same period.

Cocaine Lab Samples

There were 2,722 cocaine lab samples (31% of all drug samples) analyzed by the state lab in 2005 (Table 9). The number of cocaine/crack samples in 2005 increased 10% from 2,472 in 2004.

Cocaine Price, Purity, and Availability

The DEA reports that the cost of cocaine varies from \$25.00 to \$100.00 per gram. A rock of crack costs \$10– \$20. The purity of street level purchases varies from 25% to 95%.(Table 10). Cocaine is considered constant and “readily available at all levels” throughout Massachusetts.

For information on youth cocaine use, please refer to the section titled Youth Alcohol and Drug Use.

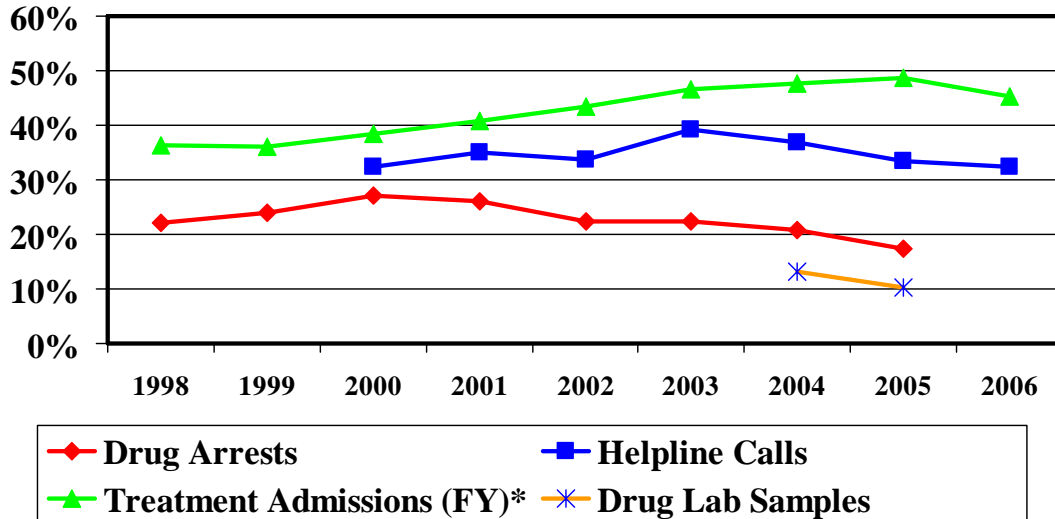
Heroin

Type Opiate
 Form: Injected, smoked, or sniffed/snorted
 Treatment Medications available include methadone, buprenorphine, and naloxone (for overdose prevention), behavioral therapies
 Street terms A-bomb, Big H, Dragon rock, Hell dust, Nose drops, Smack
 Other Highly addictive drug; Schedule 1 Drug



Heroin remains one of the most heavily abused drugs in Boston. After years of continued growth, recent heroin indicators are showing downward movement but remain at very high levels.

Heroin
 As Proportion of Applicable Indicator
 Boston, 1998- 2006



*Treatment Admissions based on primary drug

Heroin Treatment Admissions

Heroin accounts for the largest proportion of primary drug admissions to treatment. In FY 2006, 7,866 treatment clients reported heroin as their primary drug (Table 1), and there were 7,217 mentions (42% of all admissions) of past

month heroin use among those admitted to State-funded treatment programs (Table 1).

The number of clients who reported heroin as their primary drug decreased 11% from FY 2005, but is similar to the number in FY 2004. The proportion of all admissions that reported heroin as their primary drug decreased for the first time in seven years, from 49% in FY 2005 to 45% in FY 2006.

Heroin treatment demographic data are combined with other opiate treatment data. The majority of heroin or other opiate primary drug clients were male (75%), White (61%) and among ages 19-39 (69%). (Table 5)

The proportion of White heroin or other opiate primary drug admissions has increased steadily from 44% in FY 2001 to 61% in FY 2006 (Table 2). Conversely, Black and Latino proportions have decreased during the same period. From FY 2000 to FY 2006, the proportion of clients under age 30 has increased from 28% to 39%, revealing the emergence of a new younger heroin or other opiate treatment cohort.

During the same period, the proportion of homeless heroin or other opiate primary drug clients more than doubled, increasing from 21% in FY 2000 to 47% in FY 2006.

More than two thirds (68%) of heroin or other opiate clients reported past year injection drug use in FY 2006.

Heroin Helpline Calls

In 2006, heroin was indicated in 1,058 calls (33% of the total) to the Helpline (Table 7). Both the number and proportion of heroin calls in 2006 were down 32% and 12%, respectively from 2004.

Class A (Mainly Heroin) Drug Arrests

There were 752 Class A (mainly heroin) drug arrests in 2005 accounting for 17% of all drug arrests (Table 8). The number and proportion of Class A drug arrests have steadily decreased from 2000 by 26% and 35%, respectively.

In 2005 the majority of Class A arrestees were male (85%) White, including White-Latinos (65%) and over age 25 (78%).

The proportion of Class A Black arrestees including Black-Latinos in 2005 (34%) reflected a 13% decrease from 2004 and 16% decrease from 1997.

Heroin Lab Samples

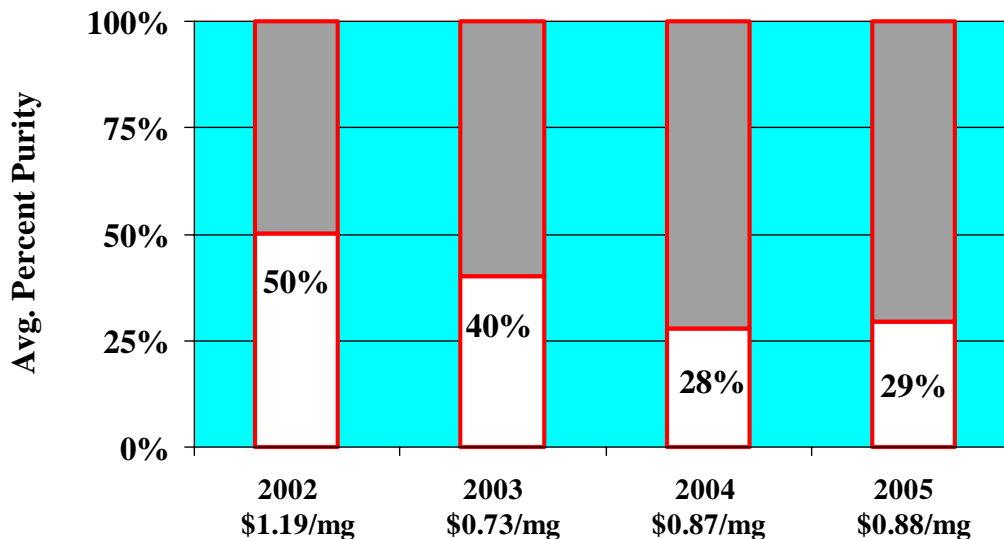
In 2006, 891 seized samples of heroin (10% of all drug samples) were analyzed. The number of heroin samples analyzed decreased 18% from 2005 (Table 9).

Heroin Price, Purity, and Availability

The DEA reports that in Boston, street heroin costs \$6–\$20 per bag (Table 10) or \$0.87 per pure milligram. Heroin purity ranges from 4% to 60%. Samples purchased by the Domestic Monitoring Program found the average purity has decreased from 50% in 2002 to below 30% in 2004 and 2005. Analyzed samples were predominantly South American in origin and distributed in wax or colored glassine packets. Heroin is considered “readily available throughout New England” and is available in all forms: bag, bundle, gram, ounce, kilogram, and cylinder shaped bullets/eggs.

Heroin Purity

Boston, 2002 – 2005



Note: Price reflects cost of a 100% pure milligram. Boston samples are predominantly South American in origin and distributed in clear or colored glassine or wax packets. Past documented supplying sources have routed through New York, Miami and Houston. Source: Domestic Monitoring Program, Drug Enforcement Agency. Graphics: Boston Public Health Commission Research Office.

Heroin Overdose Patient Encounters (EMS)

Boston Emergency Medical Services routinely responds to calls for medical attention in which heroin is a suspected catalyst of the precipitating health emergency. Heroin Overdose Patient Encounters are cases in which the patient requires at least two of the following: pinpoint pupils, nodding off, track marks, drug paraphernalia, patient heroin use admission, depressed respiratory effort, witness report of heroin use, effective Narcan administration.

Boston Emergency Medical Services (BEMS) reported 794 Heroin Overdose Patient Encounters in FY 2006. The number of heroin overdose encounters increased 23% from FY 2005 (n=646) which might be explained in part by new electronic recordkeeping adopted by BEMS in April 2005.

In FY 2006, 74% of the heroin overdose patients were male and 57% were between the ages of 25 and 44.

Boston's rate of Heroin Overdose Patient Encounters was 13.5 per 10,000 population. Among Boston's neighborhoods, the South End had the highest rate (53.7 per 10,000 population), which was four times the Boston overall rate.

For information on youth heroin use, please refer to the section titled **Youth Alcohol and Drug Use**.

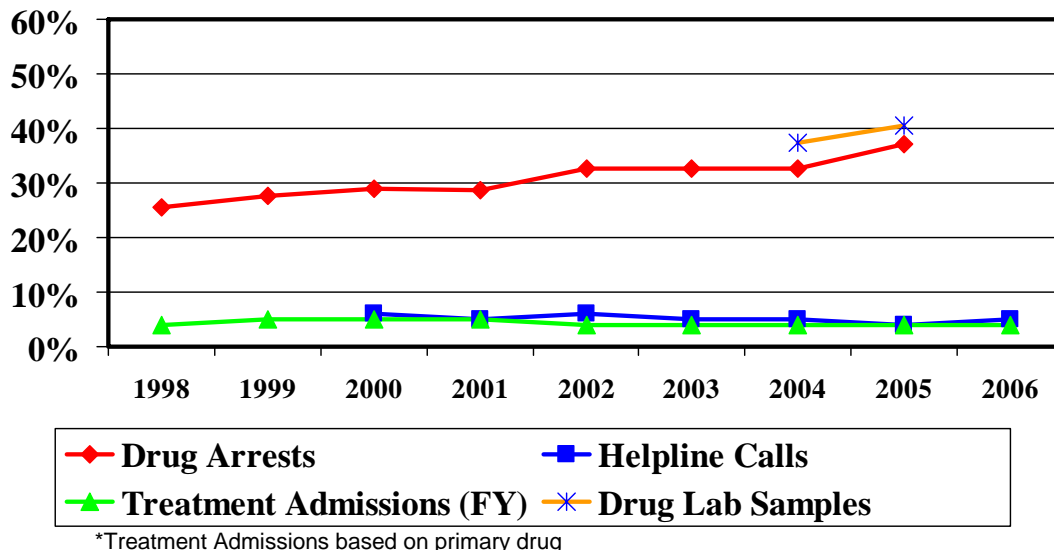
Marijuana

Form	Usually smoked as a cigarette (joint), pipe or bong
Treatment	Behavioral therapies
Street terms	Dope, grass, pot, and weed and countless others
Other	Most commonly used illegal drug in the US; Schedule 1 Drug



The most recent marijuana indicators for Boston are mixed at relatively high levels.

Marijuana As Proportion of Applicable Indicator Boston, 1998- 2006



Marijuana Treatment Admissions

In FY 2006, 767 treatment clients (4% of all admissions) reported marijuana as their primary drug (Table 1), and there were 1617 mentions (9% of all admissions) of past month marijuana use among those admitted to State-funded treatment programs (Table 1).

The number of clients who reported past month marijuana use has remained fairly stable during the past two years (from FY 2004), but has decreased 37% from FY 1998.

In FY 2006, the majority of marijuana primary drug clients were male (74%), Black (55%), and under age 30 (68%). More than half (58%) of marijuana clients were involved with criminal justice system, identified as being a prison, probation or parole client (Table 6).

Marijuana Helpline Calls

In 2006, marijuana was mentioned in 176 calls (5% of the total) to the Helpline (Table 7). The number and proportion of Helpline calls with marijuana mentions has remained fairly stable during the past four years.

Class D (Mainly Marijuana) Drug Arrests

There were 1,599 Class D (mainly marijuana) drug arrests in 2005 (Table 8). The proportion of Class D arrests among all drug arrests (37%) in the city of Boston in 2005 increased 13% from 2004 and 43% from 1997. (Data not shown)

The proportion of Black (including Latinos) Class D arrests (69%) in 2005 was similar to 2004 but increased 24% from 1997. The proportion of White (including Latinos) Class D arrests (29%) decreased 32% from 1997. (Data not shown)

Marijuana Drug Lab Samples

There were 2,722 seized samples of marijuana, more than any other drug, analyzed by the drug lab in 2006 (Table 9). The number and proportion of marijuana samples increased 10% and 8% respectively from 2005.

Marijuana Price, Purity and Availability

The latest DEA report shows marijuana is readily available in Massachusetts and sells for \$600–\$2,300 per pound depending on grade. A marijuana cigarette or ‘joint’ typically costs \$5 (Table 10). Commercial grade is said to be “readily available” and high potency hydroponic marijuana termed “Hydro” is said to be “available” throughout New England.

For information on youth marijuana use, please refer to the section titled **Youth Alcohol and Drug Use**.

Narcotic Analgesics

Narcotic analgesics typically are substances with an opiate base and are often prescribed by doctors to assist in pain management. Some examples of narcotic analgesics include codeine, methadone, morphine, oxycodone (incl. OxyContin), Percocet, Roxicet, and Vicodin.

After years of growing levels of narcotic analgesic abuse fueled primarily by the abuse of oxycodone (incl. OxyContin), the most recent indicators are mostly stable at historically high levels.



Narcotic Analgesic Treatment Admissions

In FY 2006, 496 treatment clients (3% of all admissions) reported other opiates/synthetics as their primary drug (Table 1), and there were 972 mentions (6% of all admissions) of past month other opiate/synthetics use among those admitted to State-funded treatment programs (Table 1).

The number and proportion of clients who reported other opiates/synthetics as their primary drug has remained fairly stable from FY 2002.

Demographic data for other opiates/synthetics primary treatment admissions are combined with the heroin demographic data and presented in the heroin section of this report.

Narcotic Analgesic Helpline Calls

In 2006, there were 500 calls (15% of the total) to the Helpline during which non-heroin opiates were mentioned (Table 7). The proportion of non-heroin opiate calls remained fairly stable from 2004 to 2006. The proportion of oxycodone calls decreased from 9% in 2004 to 8% in 2005 and 2006.

In 2006, there were 100 calls with methadone mentions, 82 calls with Percocet mentions and 20 calls with Vicodin mentions. (Data not shown)

Narcotic Analgesic Drug Arrests

[Note: Narcotic analgesic arrest data is included among the Class A arrest data presented in the heroin section.]

Narcotic Analgesic Drug Lab Samples

In 2005, 276 seized samples of oxycodone (3% of all drug samples) were analyzed (Table 9). The number of oxycodone samples increased 34% from 206 in 2004.

Narcotic Analgesic Price and Availability

The DEA reports that OxyContin is “widely available” on the street and typically costs between \$0.45 and \$1.25 per milligram (Table 10).

Narcotic Analgesic Abuse Among Youth (DEA)

The DEA report OxyContin is gaining popularity among high school students and young adults under 20 years old.

Other Substances of Abuse

Methamphetamine

Methamphetamine abuse numbers among available indicators remain very small.

Accounting for less than 1% of all treatment admissions, the number of primary admissions for methamphetamine increased from 47 in FY 2004 to 71 in FY 2005 and 79 in FY 2006.

There were 23 calls to the Helpline with methamphetamine mentions in 2006 and 22 calls in 2005 (Table 7).

Methamphetamine drug lab samples increased from 24 in 2004 to 44 in 2005 (Table 9).

The DEA reports that methamphetamine costs between \$100 and \$200 per gram and is available “in limited (user-level) quantities” in New England (Table 10). The purity level is unknown.

For information on youth methamphetamine use, please refer to the section titled Youth Alcohol and Drug Use.

Methylenedioxyamphetamine (MDMA, Ecstasy)

There were 17 calls to the Helpline with MDMA mentions in 2006 and 9 calls in 2005 (Table 7).

MDMA drug lab samples increased from 23 in 2004 to 45 in 2005 (Table 9).

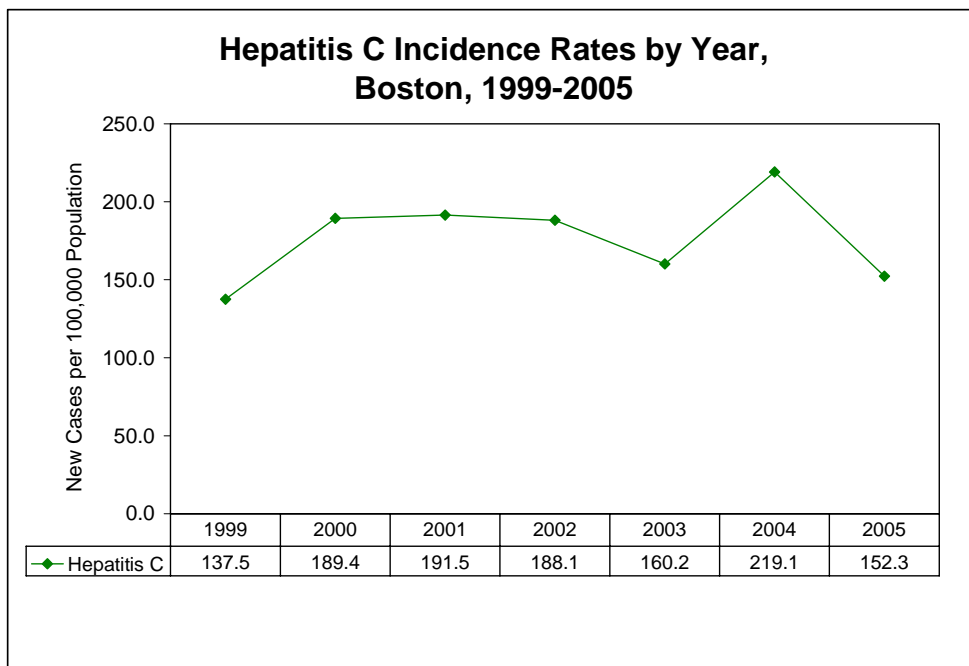
The latest DEA report indicates that one MDMA tablet costs between \$15 and \$40 retail (Table 10). Distributed at clubs and on college campuses, MDMA has remained “widely available”.

For information on youth MDMA use, please refer to the section titled Youth Alcohol and Drug Use.

Infectious Diseases

Hepatitis C

According to the Centers for Disease Control (CDC), Hepatitis C virus (HCV) infection is the most common blood borne infection in the United States. Injection drug use is the most commonly identified risk factor for infection. In 2005, there were 897 reported cases of hepatitis C in Boston. The increase shown in 2004 is largely believed to be a result of increased testing that year.

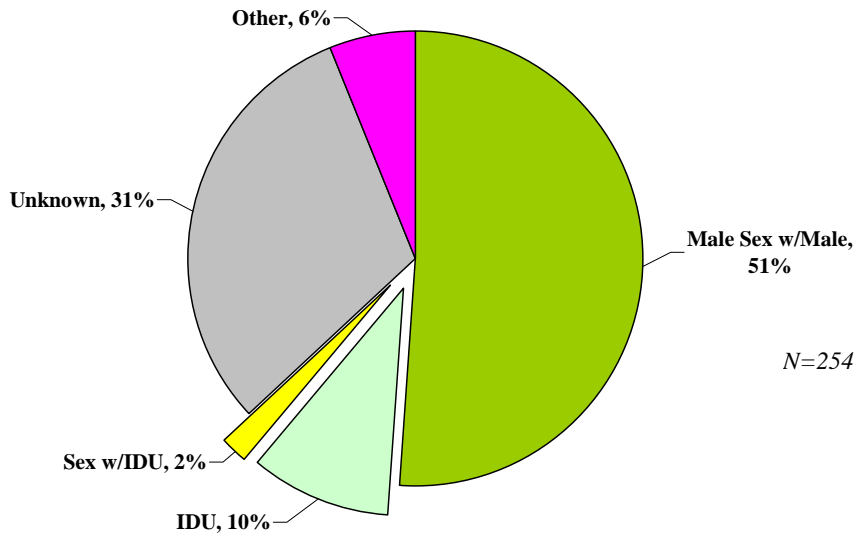


Injection Drug Use and HIV / AIDS

The Massachusetts Department of Public Health monitors the occurrence of HIV and AIDS in the state through mandatory reporting. In 2005, there were 254 adult HIV and AIDS cases diagnosed in Boston. The primary transmission risk factor for these cases included 10% who were injection drug users (IDUs), 2% who had sex with IDUs, and 31% with an unknown/undetermined transmission status.

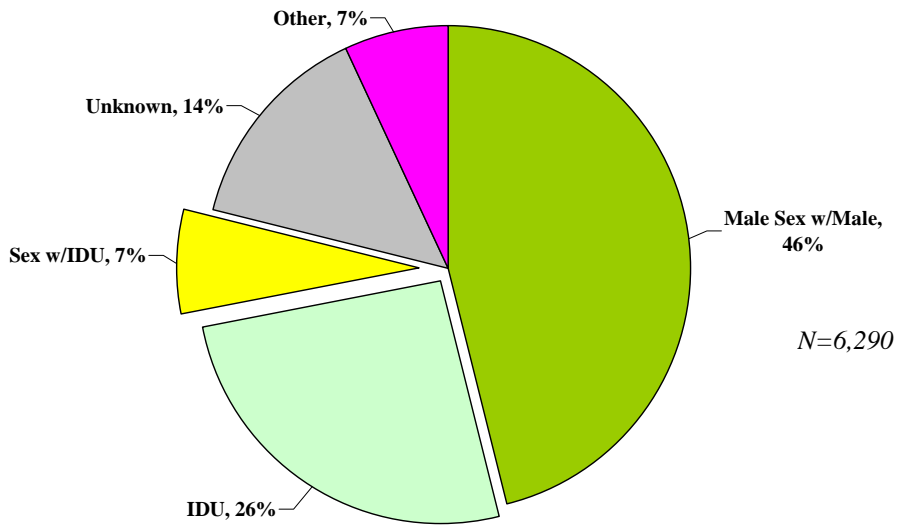
Adult HIV and AIDS Cases By Risk Factor Boston, 2005

As of 1/01/2007



As of January 1, 2007, cumulative adult AIDS cases numbered 6,290. By primary risk factor, these included 46% male sex with male, 26% who were IDUs, 7% who had sex with IDUs, 7% other, and 14% for whom the risk behavior was unknown/undetermined.

***Cummulative Adult AIDS Cases
Boston as of 1/01/2007***



APPENDIX I: Data Tables

Table 1. Primary Drug and Drug Used in the Past Month, Percent of Admissions to State-Funded Substance Abuse Treatment Programs¹ by Year, FY 1998–FY 2006²

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Primary Drug									
% Alcohol	43.0	43.1	40.8	40.5	39.2	36.5	35.7	34.7	36.3
% Heroin/Other Opiates	36.8	36.8	39.2	42.7	46.1	49.3	50.7	51.5	48.3
% Heroin	36.4	36.1	38.4	40.8	43.4	46.6	47.6	48.6	45.4
% Other Opiates	0.4	0.6	0.8	1.9	2.7	2.7	3.1	2.9	2.9
% Cocaine or Crack	15.2	14.3	13.8	10.8	9.5	8.7	8.1	8.5	9.4
% Cocaine (pwdr)	7.6	7.2	6.3	4.8	3.9	3.5	3.2	3.2	3.5
% Crack	7.7	7.1	7.6	6.0	5.6	5.2	4.9	5.3	5.9
% Marijuana	4.0	4.8	5.1	5.0	4.3	4.3	4.3	3.7	4.4
% Other ³	1.0	1.1	1.0	1.0	0.9	1.2	1.1	1.6	1.6
Total Number of Admissions (N)	18,765	20,004	18,413	19,126	21,150	20,304	16,532	17,984	17,330
Drug Used Past Month									
% Alcohol	56.6	57.1	54.5	52.3	51.7	50.3	47.0	45.7	47.0
% Heroin and/or Other Opiates	34.9	35.2	38.0	41.3	44.3	46.7	47.5	47.8	44.6
% Heroin	34.1	34.3	36.8	39.2	41.6	44.0	44.7	45.1	41.7
% Other Opiates	2.0	2.4	2.8	4.0	5.1	4.9	5.6	5.4	5.6
% Cocaine and/or Crack	30.9	31.2	29.3	26.6	24.8	25.1	23.7	24.8	26.7
% Cocaine (pwdr)	20.9	21.5	21.2	18.8	17.5	18.0	16.1	15.1	16.8
% Crack	15.8	16.1	14.5	12.6	11.9	12.0	12.1	13.9	15.1
% Marijuana	13.8	13.9	13.6	13.6	11.7	11.0	10.2	9.1	9.4
Total Number of Admissions (N)	18,765	20,004	18,413	19,126	21,150	20,304	16,532	17,984	17,330

¹ Excluding prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Includes barbiturates, other sedatives, tranquilizers, hallucinogens, amphetamines, “over-the-counter,” and other drugs.

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

Table 2. Overall Treatment Admissions Demographic Characteristics, Percent by Year, Boston Resident Clients of State-Funded Substance Abuse Treatment Programs¹, FY 1998–FY 2006²

Characteristic	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gender									
% Male	75	73	74	76	77	74	73	75	75
% Female	25	27	26	24	23	26	27	25	25
Race									
% White	43	42	41	40	44	46	49	52	52
% Black	36	37	38	36	32	32	30	28	27
% Hispanic	16	17	18	20	19	18	18	16	17
% Other	4	4	4	4	4	4	3	4	4
Age at Admission									
% 18 and younger	2	2	1	2	2	2	1	1	1
% 19–29	24	22	23	23	24	24	25	26	27
% 30–39	43	42	41	39	37	34	32	32	30
% 40–49	23	26	27	28	28	30	30	30	30
% 50 and older	7	8	8	8	9	10	11	11	11
Marital Status									
% Married	10	10	11	10	10	9	8	9	8
% Separated/divorced	21	20	18	17	18	17	17	16	15
% Never married	69	70	71	72	72	74	74	76	76
Annual Income ³									
% \$0–\$999	61	58	64	66	71	71	67	72	75
% \$1,000–\$9,999	23	26	18	16	13	14	18	15	12
% \$10,000+	16	16	18	19	16	15	15	13	13
% Homeless (including shelters)	29	28	22	26	36	37	38	40	44
% Criminal Justice System Involvement ⁴	24	26	26	25	24	21	22	21	25
% Prior Mental Health Treatment (counseling or hospitalization)	18	20	20	19	19	20	22	20	20
% Past Year Injection Drug Use	25	25	27	26	32	37	37	37	36
Total Number of Admissions (N) ⁵	(18,765)	(20,004)	(18,413)	(19,126)	(21,143)	(20,299)	(16,532)	(17,984)	(17,330)

¹ Excludes prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Annual Income reflects client's self-report income for past year, not household income.

⁴ Criminal Justice Involved: Client was identified as being a prison, probation or parole client.

⁵ For FY 2002 and FY 2003, demographic totals do not equal overall treatment totals due to missing data

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

Table 3. Alcohol Primary Drug Admissions Demographic Characteristics, Percent by Year, Boston Resident Clients of State-Funded Substance Abuse Treatment Programs¹, FY 1998–FY 2006²

Characteristic	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gender									
% Male	82	79	80	79	81	78	79	80	80
% Female	18	21	20	21	19	22	21	20	20
Race									
% White	52	48	45	42	46	45	47	49	50
% Black	33	35	38	39	37	38	37	36	34
% Hispanic	11	13	13	15	13	13	13	11	12
% Other	3	3	3	4	4	4	3	3	4
Age at Admission									
% 18 and younger	1	1	1	1	1	2	1	0	1
% 19–29	18	16	16	16	13	14	14	13	13
% 30–39	42	40	39	38	36	31	29	31	28
% 40–49	27	31	31	33	35	37	39	38	40
% 50 and older	12	13	12	12	15	16	17	18	19
Marital Status									
% Married	10	10	11	11	11	10	10	10	10
% Separated/divorced	24	23	21	20	22	20	20	21	21
% Never married	66	66	69	69	67	69	69	69	70
Annual Income ³									
% \$0–\$999	56	51	57	60	67	64	60	65	70
% \$1,000–\$9,999	23	28	19	15	13	14	17	14	11
% \$10,000+	21	21	24	24	20	22	23	20	19
% Homeless (including shelters)	36	35	27	32	42	40	40	44	47
% Criminal Justice System Involvement ⁴	27	27	28	25	24	22	26	23	26
% Prior Mental Health Treatment (counseling or hospitalization)	17	19	20	20	19	20	23	20	20
% Past Year Injection Drug Use	3	4	5	4	6	5	5	5	5
Total Number of Primary Drug Admissions (N)	(8,060)	(8,613)	(7,508)	(7,742)	(8,287)	(7,408)	(5,897)	(6,240)	(6,292)

¹ Excludes prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Annual Income reflects client's self-report income for past year, not household income.

⁴ Criminal Justice Involved: Client was identified as being a prison, probation or parole client.

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

Table 4. Cocaine (including crack) Primary Drug Admissions Demographic Characteristics, Percent by Year, Boston Resident Clients of State-Funded Substance Abuse Treatment Programs¹, FY 1998–FY 2006²

Characteristic	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gender									
% Male	59	58	57	62	63	56	56	63	62
% Female	41	42	43	38	37	44	44	37	38
Race									
% White	20	19	19	22	22	23	23	25	27
% Black	67	66	68	64	64	62	62	57	55
% Hispanic	10	11	11	12	11	11	12	16	15
% Other	2	3	3	3	3	4	3	3	3
Age at Admission									
% 18 and younger	1	1	0	1	0	1	0	0	1
% 19–29	27	19	18	15	15	15	13	16	17
% 30–39	54	57	56	55	51	49	44	41	36
% 40–49	16	20	22	26	29	31	35	35	37
% 50 and older	2	4	4	3	5	5	7	9	8
Marital Status									
% Married	10	11	10	11	11	12	10	12	10
% Separated/divorced	18	18	16	16	19	19	21	17	18
% Never married	71	71	74	73	69	69	69	71	72
Annual Income ³									
% \$0–\$999	58	54	47	58	51	42	55	62	67
% \$1,000–\$9,999	26	28	23	22	23	26	29	24	18
% \$10,000+	16	16	17	20	17	17	16	14	15
% Homeless (including shelters)	23	22	19	23	28	24	24	30	31
% Criminal Justice System Involvement ⁴	26	30	29	30	34	31	31	30	32
% Prior Mental Health Treatment (counseling or hospitalization)	21	25	27	28	30	34	36	35	34
% Past Year Injection Drug Use	5	6	5	7	7	8	7	9	9
Total Number of Primary Drug Admissions (N)	(2,861)	(2,864)	(2,548)	(2,063)	(2,011)	(1,762)	(1,344)	(1,534)	(1,632)

¹ Excludes prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Annual Income reflects client's self-report income for past year, not household income.

⁴ Criminal Justice Involved: Client was identified as being a prison, probation or parole client.

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

Table 5. Heroin or Other Opiates/Synthetics Primary Drug Admissions
Demographic Characteristics, Percent by Year, Boston Resident Clients
of State-Funded Substance Abuse Treatment Programs¹, FY 1998–FY
2006²

Characteristic	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gender									
% Male	73	72	75	76	77	74	72	73	75
% Female	27	28	25	24	23	26	28	27	25
Race									
% White	44	44	45	44	49	52	56	59	61
% Black	27	27	26	24	20	20	18	17	15
% Hispanic	23	23	25	27	26	23	23	20	20
% Other	6	6	5	5	4	5	3	4	4
Age at Admission									
% 18 and younger	1	1	1	1	1	1	1	1	1
% 19–29	28	27	27	29	32	30	32	35	38
% 30–39	43	42	40	39	37	36	32	33	31
% 40–49	25	25	27	26	24	26	26	24	23
% 50 and older	4	5	5	6	6	7	9	7	7
Marital Status									
% Married	11	11	11	10	10	8	7	7	7
% Separated/divorced	20	19	18	17	15	15	15	13	12
% Never married	69	70	71	73	75	76	78	80	81
Annual Income ³									
% \$0–\$999	70	67	73	74	78	79	76	79	83
% \$1,000–\$9,999	20	23	15	13	11	12	15	13	10
% \$10,000+	10	10	11	12	11	9	9	8	8
% Homeless (including shelters)	26	26	21	24	34	41	41	41	47
% Criminal Justice System Involvement ⁴	18	20	20	20	20	16	16	16	19
% Prior Mental Health Treatment (counseling or hospitalization)	16	17	16	16	15	15	18	17	16
% Past Year Injection Drug Use	61	61	61	55	62	69	69	66	68
Total Number of Primary Drug Admissions (N)	(6,907)	(7,353)	(7,227)	(8,165)	(9,748)	(10,004)	(8,389)	(9,263)	(8,362)

¹ Excludes prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Annual Income reflects client's self-report income for past year, not household income.

⁴ Criminal Justice Involved: Client was identified as being a prison, probation or parole client.

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

Table 6. Marijuana Primary Drug Admissions Demographic Characteristics, Percent by Year, Boston Resident Clients of State-Funded Substance Abuse Treatment Programs¹, by Percent, FY 1998–FY 2006²

Characteristic	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gender									
% Male	79	76	73	78	77	77	71	75	74
% Female	21	24	27	22	23	23	29	25	26
Race									
% White	26	22	24	23	23	21	24	19	19
% Black	48	50	54	53	55	56	53	55	55
% Hispanic	22	23	18	21	18	20	19	22	20
% Other	4	5	4	2	5	4	4	4	6
Age at Admission									
% 18 and younger	24	24	16	25	23	21	14	11	14
% 19–29	51	52	58	52	51	53	53	55	54
% 30–39	19	16	19	16	19	18	23	24	22
% 40–49	5	6	5	5	6	7	8	9	8
% 50 and older	1	2	2	1	1	2	2	2	2
Marital Status									
% Married	6	3	5	5	4	5	5	8	9
% Separated/divorced	6	6	7	5	7	6	6	6	4
% Never married	9	91	88	90	89	89	89	86	87
Annual Income ³									
% \$0–\$999	51	62	56	58	62	63	52	56	58
% \$1,000–\$9,999	31	25	28	22	21	21	30	26	26
% \$10,000+	18	13	17	20	17	16	18	18	16
% Homeless (including shelters)	9	10	11	12	14	10	12	14	13
% Criminal Justice System Involvement ⁴	47	53	45	48	51	41	43	49	58
% Prior Mental Health Treatment (counseling or hospitalization)	29	19	23	24	26	27	32	29	28
% Past Year Injection Drug Use	1	2	2	2	2	2	2	2	2
Total Number of Primary Drug Admissions (N)	(755)	(959)	(944)	(961)	(916)	(883)	(719)	(666)	(767)

¹ Excludes prisoners and out-of-State admissions.

² Fiscal years (FYs) run July 1–June 30, with the year named for the January–June portion of the year.

³ Annual Income reflects client's self-report income for past year, not household income.

⁴ Criminal Justice Involved: Client was identified as being a prison, probation or parole client.

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

Table 7. Substance-Related Calls, by Number, Percent and Year, Boston Substance Abuse Helpline Calls, 2000–2006

Drug	2000		2001		2002		2003		2004		2005		2006	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Alcohol – only	1,817	(38)	1,843	(35)	1,553	(34)	1,261	(30)	1,324	(31)	1,155	(34)	1,091	(34)
Heroin	1,536	(33)	1,819	(35)	1,527	(34)	1,660	(39)	1,552	(37)	1,140	(33)	1,058	(33)
Cocaine/ Crack	930	(20)	1,014	(20)	896	(20)	823	(19)	805	(19)	709	(21)	726	(22)
Marijuana	261	(6)	283	(5)	269	(6)	193	(5)	199	(5)	148	(4)	176	(5)
Narcotic Analgesics ¹	280	(6)	606	(12)	622	(14)	600	(14)	690	(16)	508	(15)	500	(15)
Benzodiazepines ²	116	(2)	146	(3)	139	(3)	134	(3)	163	(4)	112	(3)	139	(4)
Methamphetamine	8	(0)	6	(0)	8	(0)	15	(0)	11	(0)	22	(1)	23	(1)
MDMA	31	(1)	36	(1)	33	(1)	19	(0)	15	(0)	9	(0)	17	(1)
Hallucinogens ³	22	(0)	10	(0)	10	(0)	8	(0)	5	(0)	5	(0)	3	(0)
Inhalants ⁴	77	(2)	34	(1)	19	(0)	19	(0)	15	(0)	11	(0)	10	(0)
Total Number of Calls	4,720		5,197		4,540		4,247		4,217		3,409		3,252	

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

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

³Hallucinogens include LSD, PCP, psilocybin, mescaline.

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

SOURCE: Massachusetts Substance Abuse Information and Education Helpline.

Table 8. Drug Class Arrests by Number, Percent, and Year, Boston Police Department Drug Arrests¹, 1997–2005

Drug Class	1997	1998	1999	2000	2001	2002	2003	2004	2005
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
A (Mostly Heroin)	1,392 (22.7)	1,061 (22.5)	984 (24.0)	1,022 (27.1)	905 (26.4)	947 (22.5)	939 (22.5)	791 (20.8)	752 (17.4)
B (Mostly Cocaine)	2,918 (47.5)	2,225 (47.1)	1,847 (45.1)	1,532 (40.6)	1,428 (41.7)	1,762 (41.9)	1,736 (41.6)	1,650 (43.3)	1,821 (42.2)
D (Mostly Marijuana)	1,617 (26.3)	1,211 (25.6)	1,133 (27.7)	1,093 (29.0)	982 (28.7)	1,375 (32.7)	1,366 (32.7)	1,247 (32.8)	1,599 (37.1)
Other	216 (3.5)	226 (4.8)	133 (3.3)	123 (3.3)	111 (3.2)	125 (3.0)	133 (3.2)	119 (3.1)	141 (3.3)
Total Drug Arrests	6,143	4,723	4,097	3,770	3,426	4,209	4,174	3,807	4,313
Total Arrests	27,843	25,481	23,592	22,216	20,470	21,025	20,686	19,577	23,035
Drug Percent of Total Arrests	(23.7)	(18.5)	(17.4)	(17.0)	(16.7)	(20.0)	(20.2)	(19.4)	(18.7)

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

Table 9. Seized Drug Samples from Boston Drug Arrests, by Number, Percent, and Year, Massachusetts Drug Lab, 2004-2005

Drug	2004		2005	
	No.	(%)	No.	(%)
Heroin	1,084	(13.1)	891	(10.3)
Oxycodone	206	(2.5)	276	(3.2)
Cocaine/ Crack	2,472	(29.9)	2,722	(31.4)
Crack only	1,114	(13.5)	1,875	(21.7)
Marijuana	3088	(37.3)	3500	(40.4)
Methamphetamine	24	(0.3)	44	(0.5)
MDMA	23	(0.3)	45	(0.5)

SOURCE: MA DPH Drug Analysis Lab, Western MA Public Health Center, Amherst, MA.

Table 10. Drug Street Price, Purity, and Availability in Greater Boston, February 2007

Drug	Price	Purity	Availability
Heroin	\$65-\$70 per gram \$60-\$100 per bundle \$6-\$20 per bag	High (bag-4%-60%)	readily available
Cocaine (powder)	\$25-\$100 per gram retail	Gram:20%-90%	steady, available
Crack	\$10-\$20 per rock		
Marijuana	\$5 per joint, \$50-\$250 per ounce	Commercial Grade	readily available
Methamphetamine	\$100-\$200 per gram	N/A	limited quantities
MDMA (Ecstasy)	\$15-\$40 per single tablet \$6.50 per for 50-200 tablets	N/A	widely available
OxyContin	\$0.45-\$1.25 per milligram \$30-\$65 per 80 mg dose	N/A	widely available
LSD	\$5 per dose		
Ketamine	\$55-\$120 per vial	N/A	available
GHB	\$5 per capful, \$150 per ounce retail	N/A	available

SOURCES: New England Field Division, Drug Enforcement Administration (DEA) as of February 2007 and the Domestic Monitoring Program, DEA, June 2006.

Table 11. Youth Alcohol and Drug Use – Boston vs. Massachusetts and the United States, Youth Risk Behavior Survey, 2005

Question	2005 Boston Results		2005 Massachusetts Results		2005 United States Results	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Percentage of students who had at least one drink of alcohol on one or more days during their life	69.5	±3.5	76.4	±2.4	***	***
Percentage of students who had their first drink of alcohol other than a few sips before age 13	26.2	±3.2	22.0	±2.0	***	***
Percentage of students who had at least one drink of alcohol on one or more of the past 30 days	35.7	±3.3	47.8	±2.7	43.3	±2.7
Percentage of students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days	15.4	±2.2	26.5	±2.9	25.5	±2.2
Percentage of students who used marijuana one or more times during their life	39.3	±3.7	45.2	±3.4	***	***
Percentage of students who used marijuana one or more times during the past 30 days	21.2	±2.4	26.2	±2.4	***	***
Percentage of students who used any form of cocaine, including powder, crack, or freebase one or more times during their life	2.9	±0.9	7.9	±1.0	7.6	±1.0
Percentage of students who used methamphetamines one or more times during their life	1.8	±0.8	4.4	±0.9	6.2	±0.9
Percentage of students who took steroid pills or shots without a doctor's prescription or more times during their life	2.3	±1.0	4.0	±0.8	4.0	±0.5

Note: Only significant differences (non-overlapping 95% confidence intervals) are presented.

***** Data excluded because percentage is similar to Boston percentage (difference is not statistically significant)**

SOURCE: CDC National Center for Chronic Disease Prevention and Health Promotion.
Available at <http://apps.nccd.cdc.gov/yrbss/> Accessed March 5, 2007

APPENDIX II: Technical Notes

The Technical Notes provide more detailed discussion of technical terms and concepts used in this report.

A. Data Interpretation

Prevalence

Prevalence pertains to the health status of a population such as the number of people having a particular disease, condition or type of behavior.

Proportion/Percent

A proportion is a measure in which the numerator is included in the denominator (for example, males as a proportion of the total population). A percent is another way of reporting a proportion and is calculated by multiplying a proportion by 100.

In this report, *Substance Abuse in Boston March 2007*, when the term proportion is used, especially when talking about changes over time, the data are expressed as percents.

Rates

A *rate* is a measure of some event, disease, or condition in relation to a unit of population, in relation to a unit of time (typically one year). Three types of rates are presented in this report: crude rates, age-specific rates (ASRs), and age-adjusted rates (AARs).

Crude rates are used to present data pertaining to the entire population, such as all of Boston, or to present data pertaining to an entire group within a population, such as all males or females. A crude rate is calculated by dividing the number of events for the entire population by the total population. It is usually calculated on the basis of every 100,000 people or, but can be presented, for example, as every 10,000 persons or every 1,000 persons. in the case of birth rates, every 1,000 persons.

Age-adjusted rates are used to present data for comparison among several populations, such as Boston neighborhoods, or racial/ethnic groups, in which distribution of age can differ considerably. The calculation for AARs takes into account the differences in age distribution and adjusts for them.

The AAR is calculated by applying the age-specific rate in a population for a specific event such as death to a standard population (typically, the 2000 U.S. standard population). AARs are used in this report for substance abuse, alcohol abuse, and drug abuse mortality data and substance abuse hospitalization data for Boston residents.

Confidence Intervals

A confidence interval is a range of values around a data point used to characterize its likely stability such as an age-adjusted mortality rate. Confidence intervals are a measure of variability in the data.

A confidence interval is based on a stated probability (usually 95%) that the confidence interval includes the “real” value of a data point estimate. In an example using an age-adjusted mortality rate, a 95% confidence interval would be described as having a 95% probability of including the real age-adjusted mortality rate. Generally, if confidence intervals around age-adjusted alcohol mortality rates of different race/ethnicity groups, for example, overlap, the rates would not be considered significantly different. If the confidence intervals *do not* overlap, then the rates would be considered significantly different. The finding would then be called “statistically significant.”

Confidence intervals provide a way of reporting the reliability of a rate or proportion. They also account for the difference between a sample from a population and the population itself.

Statistical Significance

A number of statistical tools are available to determine whether findings, typically differences observed between groups or within a group over a period of time, are large enough that they are not likely to have been due to chance. Essentially, statistical significance testing provides an assessment of how reasonable it would be to conclude that an observed difference is real. It is not capable of overcoming other issues such as non-comparable samples or too few cases in a sample, but is a valuable guide to the interpretation of rates, proportions, and similar measures.

Statistical significance is only one measure of significance. There may be findings that have other important relevance clinically or for public health programs, regardless of statistical significance. An absence of statistical significance should not be used to imply an absence of other significance or to lessen the importance of any particular health care problem affecting Boston residents. In this report 95% confidence intervals are used to assess the statistical significance of findings.

B. Population

Population statistics are drawn from a count of the population taken every ten years by the federal government and called the Census. These data provide the best actual count of the U.S. population. It presents data to the level of small areas called census tracts, each of which has only a few thousand residents to larger areas such as zip codes. Census tracts or zip codes can be combined to produce Boston neighborhood-level analyses.

To provide data on people of Latino ethnicity, who may be of any race, this report uses the 2000 U.S. Census and Massachusetts Department of Public Health population estimates. This avoids the double-counting that would result if Latinos were included in the White, Black, and Asian racial categories as well as in a Latino ethnicity category. However, in hospitalization data, Latinos are reported in the White, Black, Latino, or Asian category, depending on the individual hospital’s practices. This produces unreliability in data reporting, and readers must interpret hospitalization data by race/ethnicity with considerable caution.

Zip-code based populations from the 2000 U.S. Census were used in calculating the rates and percents presented in this report based on treatment admissions and hospitalizations.

C. Racial and Ethnic Designations

The classification of race/ethnicity used in this report varies by data source. Racial and ethnic designations are either self-reported or assigned by the institutions collecting the data. Several cautions should be kept in mind when using data reported by race/ethnicity.

Race and ethnicity are social constructions, not biological facts. There is often more genetic variation between members of the same race than between members of different races. In addition, the meanings of these designations are highly subject to historical, cultural, and political forces. Not only do these designations change over time, but there is also a very subjective element that influences who is considered a member of one group or another. And the concept of race can be notably vague: the term “Black,” for example, includes people describing themselves as African American, African, or Caribbean, groups with distinct histories and differing health risks.

Nevertheless, racial designations are useful in that they are nearly universally used by people in the United States to describe themselves, and they permit us to identify and address the often huge disparities in health that exist across race/ethnicity groups. Race is often a proxy for such factors as socioeconomic status, inadequate access to health care, and racial discrimination.

Boston-specific data in this report are presented for racial/ethnic subgroups when data are available in numbers large enough to allow calculation of percentages or reliable rates.

Since Latinos can be of any race, federal data sources often report Latino persons within the race categories Black or White. However, in this report, Latinos are presented as a separate category. Exceptions are the hospitalization data, for which race/ethnicity reporting practices vary by hospital and drug arrest data that includes Latinos among White and Black racial designations.

APPENDIX III: Data Source Descriptions

- **State-funded substance abuse treatment admissions data** for Boston, for fiscal years (FY) 1998 through FY 2006 (July 1, 1997, through June 30, 2006) were provided by the Massachusetts Department of Public Health (DPH), Bureau of Substance Abuse Services. These data include Boston resident admissions to publicly funded substance abuse treatment facilities in Massachusetts. Admissions data do not represent numbers of unique individuals because an individual may participate in multiple treatment sessions in a given year. For purposes of this report, the number of clients equals the number of admissions (a unique individual may present as multiple clients in the data).
- **Substance abuse hospital discharge data** for Boston for 1999 through 2005 were provided by the Massachusetts Division of Health Care Finance and Policy, Acute Care Hospital Case Mix Files.
- **Substance-related death data** for Boston for 1999 through 2004 were provided by Massachusetts Department of Public Health, Boston resident deaths. These data present Boston resident deaths with drugs or alcohol mentioned as the primary cause.
- **Drug mentions in Helpline calls** for the city of Boston for 2000 through 2006 were provided by the Massachusetts Medical Foundation and Massachusetts Department of Public Health Substance Abuse Information and Education Helpline. Though calls to the Helpline may include inquiries for educational information, the overwhelming majority of calls represent attempts to access the substance abuse treatment system.
- **Drug arrests data** for the city of Boston for 1998 through 2005 were provided by the Boston Police Department, Drug Control Unit and Office of Research and Evaluation. Drug arrest data are presented by drug class and includes 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. Class A includes heroin and other narcotics. Class B includes cocaine, crack and other stimulants. Class D includes marijuana and other psycho-therapeutic drugs. For arrest data only, Black and White racial designations include those who identify themselves as Latino.
- **Seized drug samples** for the city of Boston for 2004 and 2005 were provided by the Massachusetts Department of Public Health Drug Analysis Laboratory in Amherst Massachusetts. The Boston drug sample counts do not include samples analyzed at the Worcester County or State Police laboratories.

- **Drug price, purity, and availability data** for Massachusetts were provided by the Drug Enforcement Administration (DEA), New England Field Division Intelligence Group, February 2007 and the DEA Domestic Monitoring Program, June 2006.
- **Youth alcohol and drug use data** were provided by Youth Risk Behavior Survey (YRBS) data were provided by the Boston Public School Department and included self-reported drug use prevalence among Boston public high school students for 2005. Gender and racial/ethnic comparisons were generated from a sample of combined years from 2001, 2003 and 2005. Boston comparisons to Massachusetts and the USA were generated from data provided by CDC National Center for Chronic Disease Prevention and Health Promotion. And are available at <http://apps.nccd.cdc.gov/yrbss/> Accessed March 5, 2007.
- **Adult Acquired Immunodeficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) data** for 2005, and cumulative data through January 1, 2007, were provided by the Massachusetts Department of Public Health AIDS Surveillance Program.
- **Adult alcohol use data** for Boston for 2001, 2003, and 2005 were provided by Boston Public Health Commission's Boston Behavioral Risk Factor Survey (BBRFS).
- **Heroin Overdose Patient Encounters** data were provided by the Boston Emergency Medical Services (BEMS), Boston Public Health Commission for 2005 and 2006. Heroin Overdose Patient Encounters require at least two of the following: pinpoint pupils, nodding off, track marks, drug paraphernalia, patient admission, depressed respiratory effort, witness report, effective Narcan administration.