

## Recent Drug Abuse Trends in the Seattle-King County Area

*Caleb Banta-Green<sup>1</sup>, T. Ron Jackson<sup>2</sup>, Steve Freng<sup>3</sup>, Michael Hanrahan<sup>4</sup>, David H. Albert<sup>5</sup>, Richard Harruff<sup>6</sup>, Susan Kingston<sup>4</sup>, Ann Forbes<sup>7</sup>, Sara Miller<sup>1</sup>, Richard Burt<sup>8</sup>, and Hanne Thiede<sup>8</sup>*

### Abstract

Morbidity and mortality associated with drug abuse continues to increase. Compared to 1997, the rate of drug caused overdose deaths has increased 56% to 14.0 per 100,000 in 2006. Cocaine continues to be associated with substantial morbidity and mortality. The most common drug in emergency department reports is cocaine. Cocaine involved deaths are at their highest level in at least a decade with 111 drug caused deaths in 2006: 43 of these deaths had no other drug detected, with 30 of these 43 among African Americans. Prescription-type-opiate involved drug-caused deaths continue to steadily increase, totaling 148, with 88% of these deaths involving multiple drugs. Treatment admissions with prescription-type-opiates as the primary drug also continue to increase. Treatment admissions and drug overdose deaths involving heroin dropped slightly in 2006, however treatment admissions are second only to cocaine among the illegal drugs. Methamphetamine indicators appear to be plateauing at moderate levels in King County with about 12% of adults entering drug treatment indicating methamphetamine as primary, 18 related drug caused deaths, and fewer ED reports than the other major drugs of abuse. Manufacturing of methamphetamine continues to decline rapidly throughout Washington. MDMA use continues at modest levels, with some morbidity and mortality. However, seizures of MDMA entering the US from Canada via Washington are at record high levels and the number of pieces of evidence submitted by local law enforcement throughout the State testing positive for MDMA more than doubled from 2005. Marijuana use continues at high levels. Research conducted by the county health department indicates a decrease in the prevalence of hepatitis B and C and a continued low prevalence of HIV among 18 - 30 year old Seattle-area injection drug users.

<sup>1</sup>Alcohol and Drug Abuse Institute, University of Washington

<sup>2</sup>Evergreen Treatment Services

<sup>3</sup>Northwest High Intensity Drug Trafficking Area

<sup>4</sup>HIV/AIDS Program, Public Health – Seattle & King County Area

<sup>5</sup>Division of Alcohol and Substance Abuse, Washington State Department of Social and Health Services

<sup>6</sup>Medical Examiner's Office, Public Health – Seattle & King County

<sup>7</sup>Washington State Alcohol and Drug Help Line

<sup>8</sup>HIV/AIDS Epidemiology, Public Health – Seattle & King County

## INTRODUCTION

### Area Description

Located on Puget Sound in western Washington, King County spans 2,126 square miles, of which the city of Seattle occupies 84 square miles. The combined ports of Seattle and nearby Tacoma make Puget Sound the second largest combined cargo loading center in the United States. Seattle-Tacoma International Airport, located in King County, is the largest airport in the Pacific Northwest. The Interstate 5 corridor runs from Tijuana, Mexico, in the south, passes through King County, and continues northward to Canada. Interstate 90's western terminus is in Seattle; it runs east over the Cascade Mountain range, through Spokane, and across the U.S. to Boston.

The estimated 2006 population of King County is 1,826,732. King County's population was the 12th largest in the United States in 2000. Of Washington's 6.4 million residents, 29 percent live in King County. The city of Seattle's population was 569,101 as of 2003; the suburban population of King County is growing at a faster rate than Seattle itself.

The county's population is 76.2 percent White, 12.9 percent Asian/Pacific Islander, 6.7 percent Hispanic, 5.9 percent African-American, 1.0 percent Native American or Alaska Native, 0.6 percent Native Hawaiian and Other Pacific Islander. Those reporting two or more races constitute 3.4 percent of the population. Income statistics show that 10 percent of persons in the county live below the Federal poverty level, lower than the state average of 11.6 percent.

### Data Sources

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

- **Treatment data** were extracted from the Washington State Department of Social and Health Services, Division of Alcohol and Substance Abuse's Treatment and Assessment Report Generation Tool (TARGET) via the Treatment Analyzer system. TARGET is the department's statewide alcohol/drug treatment activity database system. Data were compiled for King County residents from January 1, 1999, through December 31, 2006. Data are included for all treatment admissions that had any public funding. Department of

Corrections (DOC) and private pay clients (at methadone treatment programs) are also included. Small numbers are suppressed for youth treatment admissions.

- **Emergency department (ED) drug data** were obtained from the Drug Abuse Warning Network (DAWN) *Live!* system administered by the Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA). Preliminary, unweighted data for 2006 are presented. Eligible hospitals in the area totaled 23; hospitals in the DAWN sample totaled 23. A total of 25 emergency departments have been selected for inclusion in the sample (some hospitals have more than 1 ED). During 2006, between 8 and 12 hospitals reported data each month. Data were incomplete, with less than 50 percent complete data for 0–3 of these hospitals in each month. These data are preliminary, meaning that they may change. Data represent drug reports, are unweighted, and are not estimates for the reporting area. Data are utilized for descriptive purposes only. Available data are for King and neighboring Snohomish Counties combined; Pierce County is part of the statistical sample, but no EDs in Pierce were reporting during 2006. The most relevant case type presented here is the “other” case type, which includes “all ED visits related to recreational use, drug abuse, drug dependence, withdrawal, and any misuse” not classified in other categories, such as overmedication and seeking detox/treatment. For the sake of clarity, “other” will be referred to as “drug abuse/other” in this report.
- **Emergency department (ED) drug data** were also obtained from the Washington State Screening, Brief Intervention and Treatment Project (WASBIRT) for October 2005 through September 2006. Data presented here are just from Harborview Medical Center which is immediately adjacent to downtown Seattle, is the major trauma center for the pacific northwest, is where drug overdoses for most of Seattle are brought by medics and serves primarily a low-income population. WASBIRT data were also collected in five other ED’s throughout WA (data not shown). The numbers shown are among those screened at the ED presenting for any reason and who agreed to be interviewed. The source of these data is: S. Estee, L. He, S. Yang, J. Doane, N. Ellsworth and T. Carter. “Substance Use Patterns, All WASBIRT Sites, October 2005 - September 2006.” In Stephen O’Neil and Sharon Estee. Washington State Screening, Brief Intervention, Referral and Treatment Project: Preliminary Results. Washington State Department of Social and Health Services, Division of Alcohol and Substance Abuse and Research and Data Analysis Division, May 2007.
- **Drug-related mortality data** were provided by the King County Medical Examiner (ME). Data for 2006 are preliminary. The data include deaths directly caused by licit or illicit drug overdose and exclude deaths caused by antidepressants and other non-abuseable drugs in isolation. Totals may differ slightly from drug death reports published by the King County ME’s office, which include fatal poisonings. Because more than one drug is often identified per individual drug overdose death, the total number of drugs identified exceeds the number of actual deaths.
- **Drug-related Help Line data** are from the Washington State Alcohol/Drug Help Line (ADHL), which provides confidential 24-hour telephone-based treatment referral and assistance for Washington State. Data are presented for 2001 to 2006 for calls originating within King County. Data presented are for drugs mentioned. A caller may refer to multiple drugs; therefore, there are more drug mentions than there are calls. The data exclude information on alcohol and nicotine, which account for more than one-half of the calls. The youth category includes person ages 19 and younger. Proportions are shown for 2004 through 2006 as the drug categories remained consistent for these years. The relatively large proportion of ‘unknown’ drug types may obscure some trends.
- **WA State Healthy Youth Survey** was administered in October 2006 to students in grades 6, 8, 10, and 12 with estimates available at the state level as well as for King County. The survey is a collaborative effort of the Office of the Superintendent of Public Instruction, the Department of Health, the Department of Social and Health Service’s Division of Alcohol and Substance Abuse, the Community Trade and Economic Development and the Family Policy Council.
- **Forensic drug analysis data** are from the Washington State Patrol’s Toxicology Laboratories solid state chemistry unit and represent drug test results on local law enforcement seizures. Data are presented for all of Washington State for calendar years 2002 through 2006.

- **Law enforcement data** were provided by the Northwest High Intensity Drug Trafficking Area (HIDTA) officials and include the Federal-wide Drug Seizure System (FDSS), which tallies all Federal law enforcement drug seizures in the State of Washington (e.g., Drug Enforcement Administration and U.S. Customs) for calendar years 2001–2006 as well as the NW HIDTA’s survey of local law enforcement seizures.
- **Methamphetamine production data** are from the Washington State Department of Ecology (DOE), which is mandated to respond to and document all “Methamphetamine Incidents,” including operating labs, dump sites, and other sites associated with the manufacture of methamphetamine.
- **Data on infectious diseases related to drug use and injection drug use**, including the human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDS), and hepatitis, were provided by Public Health-Seattle & King County (PHSKC). Data on HIV cases (including exposure related to injection drug use) in Seattle-King County (2001 through 2006) were obtained from the “HIV/AIDS Epidemiology Report.” Additional information on infectious disease trends is utilized from a recently published article: Burt RD, Hagan H, Garfein RS, Sabin K, Weinbaum C, Thiede H. “Trends in Hepatitis B Virus, Hepatitis C Virus, and Human Immunodeficiency Virus Prevalence, Risk Behaviors, and Preventive Measures among Seattle Injection Drug Users Aged 18-30 Years, 1994-2004.” *J Urban Health*. 2007 May;84:436-54.
- **Findings of a Centers for Disease Control tuberculosis outbreak investigation** *Tuberculosis outbreak among people using methamphetamines in Snohomish County, Washington, 2005–2006* were originally presented by Eric Pevzner, with the CDC’s Epidemic Intelligence Service, at the American Public Health Association Annual Meeting November 7, 2006.
- **Key informant data** are obtained from discussions with treatment center staff, street outreach workers, and drug users.

### Cocaine/Crack

Drug caused deaths involving cocaine totaled 111 in 2006, the highest number and rate in at least the past decade (Exhibits 1 and 2). Of particular note, 43 of these deaths involved only

cocaine of which 30 were African American, most were over the age of 50 and most were male. The reason for this substantial increase in cocaine-only deaths is unknown, though it may be in part due to an aging cohort of users for whom the cumulative physiological effects of cocaine are taking their toll. The impression of the medical examiner is that most of these deaths involved crack cocaine. Poly drug deaths involving cocaine totaled 68 in 2006, similar to recent years and somewhat higher than opiate/heroin, alcohol and benzodiazepine involved deaths.

Drug treatment admissions for youth with cocaine as primary remained low and steady (Exhibit 4). Adult admissions for cocaine totaled 1,935 in 2006, similar to 2005, but a substantial increase from prior years (Exhibit 5). For adults, one in four calls to the Helpline were related to cocaine (Exhibit 8), a constant level in recent years and the most common illegal or prescription drug mentioned. About one in eight youth related calls to the Helpline were for cocaine over the past 3 years (Exhibit 9).

Both emergency department data sources indicate that cocaine is a major drug reported by patients. WASBIRT data for all types of ED visits screened at Seattle’s Harborview Medical Center indicates cocaine is the second most common drug reported after marijuana (Exhibit 10). Relative to five other ED’s in the WASBIRT project across the State, Harborview had by far the highest proportion of cocaine cases, 25 percent, out of all intakes conducted. DAWN Live! data indicate that cocaine is the most common drug associated with drug related ED visits, with unweighted 2006 numbers totaling 5,080 for King and Snohomish County ED’s in the sample (Exhibit 12).

Cocaine seizures by local and federal law enforcement totaled 1,577 kilograms in 2006, up from recent years (Exhibit 15 and 16). Much of the cocaine seized by federal law enforcement is at the Canadian border, where cocaine from Central America is smuggled into Canada in cars and trucks. Local law enforcement evidence tested by the State Toxicology Lab totaled nearly 4,000 positive submissions, similar to recent years and second only to methamphetamine (Exhibit 17). In 2006, as in past years, the Seattle area has had a higher proportion of cocaine positive submissions than the rest of the State (data not shown).

## Heroin

Drug caused deaths in which heroin was definitely involved totaled 56 in 2006 (data not shown). Beginning in mid-2005 the King County Medical Examiner's office began regular coding of a 'heroin related' variable. The classification of heroin-involved deaths is complicated by the fact that the definitive metabolite of heroin (6-monoacetylmorphine) is present in only a minority of cases in which heroin is ingested. Further complicating matters, morphine is the major metabolite of heroin and routinely present in heroin involved cases: However, the source of morphine could also be a prescription form of morphine. Prescriptions for morphine have increased 223 percent in Washington State from 1997 to 2005 according to the DEA ARCOS system. Data presented in Exhibits 1 and 2 are for 'opiate' which includes references to opiate, morphine and/or heroin. In the late 1990's this opiate category was a reasonable proxy for heroin. However, given the increase in morphine prescribing and prescription-type opiate misuse, it is clear that this category somewhat over-represents heroin-likely cases in recent years. Despite changes over time, it is clear that heroin-involved drug caused deaths have declined from their peak in 1998, but remain an ongoing issue (Exhibits 1 and 2). The majority of drug caused deaths involving heroin continue to be poly-drug.

The number of drug treatment admissions to all modalities of care for which heroin was primary totaled 1,589 in 2006, a drop from the two most recent years for adults (Exhibit 5). The proportion of publicly funded admissions to opiate treatment programs (using opiate replacement medications) for heroin as primary decreased from 95 percent to 80 from 1999 to 2006, while the change among private pay was from 94 to 51 percent (number of admissions shown in Exhibit 6). A greater proportional decrease in heroin primary admissions was seen outside of King County among public pay clients. Youth treatment admissions rarely involve heroin, with a total of 71 admitted to all treatment modalities from 1999 to 2006 with no discernable trends and data suppressed due to small numbers.

Adult Helpline calls for heroin totaled 594 in 2006, higher than in 2005, and similar to earlier years (Exhibit 8). Heroin was infrequently mentioned for youth related calls (Exhibit 9).

ED visits for heroin are common. WASBIRT data for an ED adjacent to downtown Seattle

indicate that heroin was mentioned in 442 intakes, 9% of all intakes, more than double the proportion of any of the 5 other ED's from around the State (Exhibit 10). DAWN Live! data for heroin indicate 2,310 reports, second only to cocaine among the illegal drugs (Exhibit 12).

Compared to the volume of other drugs seized by law enforcement, heroin remains at a relatively low level with 42 kilograms seized by federal and local law enforcement in 2006, a level generally similar to previous years (Exhibits 15 and 16). Very little heroin is believed to move across the U.S.- Canadian border, as opposed to drugs such as MDMA, cocaine and marijuana. Testing of local law enforcement evidence indicated 868 positive samples, similar to prior years and well below that for methamphetamine, cocaine and marijuana (Exhibit 17).

The dominant source of heroin is reportedly Mexican, mostly black tar or brown powder. Injecting is by far the most common route of ingestion for the low purity heroin available throughout Washington.

### Other Opiates/Prescription-Type Opiates

For the purposes of this report, "other opiates/prescription-type opiates" include codeine, fentanyl, hydrocodone (e.g., Vicodin), methadone, oxycodone (e.g., Percocet and OxyContin), propoxyphene (e.g., Darvon), sufentanil, tramadol (e.g., Ultram), hydromorphone (e.g., Dilaudid), meperidine (e.g., Demerol), pharmaceutical morphine, acetylmethadol, and the "narcotic analgesics/combinations" reported in the DAWN ED data. Codeine is excluded from medical examiner data reports because it is usually present as a result of heroin use and is rarely detected at fatal levels. Information on buprenorphine is virtually unavailable: almost all treatment admissions are privately funded, with no data available, and buprenorphine cannot be detected by the State Toxicology Laboratory. Source information for methadone, whether pain medication, opiate treatment program or street/acquaintance, is rarely available.

Drug caused deaths with prescription-type opiates detected continue to increase totaling 148 overall, making them the most common substance type detected in 2006 (Exhibits 1 and 2). There were 18 single drug deaths, second only to cocaine, and 130 poly-drug deaths, more than double the number for cocaine—the next most common drug detected. The 130 poly drug caused deaths involving prescription-type opiates exceeds the peak of 117 opiate/heroin poly drug deaths in 1998. An enhanced death investigation

conducted in 2005 by the King County Medical Examiner's office of prescription-opiate-involved-drug-caused-accidental-deaths indicated a mixture of sources for prescription-type-opiates including prescriptions to the decedent, street, unknown and a small minority with methadone from opiate treatment programs. Virtually all deaths involved multiple drugs, with an average of 5 CNS-active drugs present. The majority of cases had overt indications of a history of drug abuse with about one in five with both a pain condition and a history of drug abuse.

Youth treatment admissions for prescription-type-opiates are infrequent, totaling 42 admissions where these drugs were primary and 69 where they were secondary from 1999-2006. Adult treatment admissions for prescription-type-opiates have increased substantially, with differential patterns by geography and funding source. Across all treatment modalities prescription-type-opiates as the primary drug increased from 87 to 452 admissions from 1999-2006 (Exhibit 5). The majority of these admissions have been to opiate treatment programs (OTP) utilizing opiate substitute medications, primarily methadone. Publicly funded admissions to OTP increased from 24 to 177 from 1999 to 2006, while privately funded admissions increased from 16 to 149. Figure 6 shows the number of admissions by funding source to OTP's, the proportion of prescription-type-opiates is much higher among privately funded admissions than publicly funded, 44 percent versus 18 percent respectively in 2006. OTP programs outside of King County report the same trend and even higher proportions of prescription-type-opiates as primary (data not shown).

Helpline calls for prescription-type-opiates (OxyContin and Rx Pain Pills) indicate a relatively high proportion of calls for both youth and adults, though categorization changes in recent years limit trend analysis. A total of 934 adult calls were in regard to prescription-type-opiates in 2006, representing 16% of calls, similar to the proportion for methamphetamine (Exhibit 8). The number and proportion of calls for prescription-type-opiates have both increased consistently since 2004, the first full year in which these new categories were utilized. An additional 199 adult calls were regarding methadone in 2006, an unknown proportion of which were inquiries about obtaining methadone maintenance drug treatment or misuse of methadone. A similar pattern for prescription-type-opiates is evident for youth related calls

which totaled 72 in 2006, 12 percent of calls (Exhibit 9).

DAWN Live! ED reports involving prescription-type opiates totaled 3,529 (Exhibit 12) of which 54 percent were drug abuse/other case types, followed by adverse reaction, overmedication, seeking detox/treatment and suicide attempts (Exhibit 13). This compares to a total of 2,310 reports for heroin for all case types. WASBIRT intakes at Harborview Medical Center in Seattle totaled 367 for prescription-type-opiates, less than the 422 for heroin (Exhibit 10). The difference in ranking for heroin and prescription-type-opiates in these two data sources is logical given the broader geographic region covered by DAWN Live! and the high level of heroin use near downtown Seattle and Harborview Medical Center where these WASBIRT data were obtained.

According to the Healthy Youth Survey, 7.2 percent (+/- 2.0 percent) of 12<sup>th</sup> graders had used "a pain killer to get high, like Vicodin, OxyContin (sometimes called Oxy or OC) or Percocet (sometimes called Percs)" in the past 30 days (Exhibit 14). This proportion was lower than the State estimate of 11.6 percent (+/- 2.0 percent). This was the first year this question was asked on the survey.

Local law enforcement agencies report that prescription-type-opiate possession, diversion and distribution cases are at low levels, but that they are increasing staffing to investigate such cases. NW HIDTA's 2006 Threat Assessment survey indicates that approximately four out of five law enforcement jurisdictions throughout Washington report that diverted pharmaceuticals are available at moderate to high levels and that a total of 15,253 dosage units were seized (historical data are unavailable). Testing of local law enforcement seizures for all of Washington indicates 440 submissions were positive for Oxycodone in 2006 up from prior years (Exhibit 17). In past years, hydrocodone cases exceeded oxycodone, with methadone and morphine positives each lower than for oxycodone (data not shown).

### **Stimulants Including Methamphetamine/Amphetamine**

Stimulants include a range of drugs, such as methamphetamine, which is used and abused primarily in its non-pharmaceutical form. Amphetamines are primarily prescription drugs: dextroamphetamine (e.g., Dexedrine) for weight control and dl amphetamine (e.g., Adderall) for

ADD/ADHD. Another prescription medication for ADD/ADHD is methylphenidate (e.g., Ritalin). MDMA (3,4-methylenedioxy-methamphetamine) is a type of methylated amphetamine: however its typical patterns of use led it to be included in the behaviorally based category of drugs discussed below as Club Drugs.

Methamphetamine drug caused deaths totaled 18 in 2006, similar to the prior two years and a substantial increase from a decade ago (Exhibits 1 and 2). Eight of these drug caused deaths in 2006 were single drug, a relatively high proportion compared to other substances.

Methamphetamine primary treatment admissions for youth appear to have declined in 2006 to 36, about half the number seen in recent years (Exhibit 4). Adult treatment admissions totaled 1,304 in 2006, similar to the prior year but up substantially from earlier years (Exhibit 5). Among the illegal drugs, methamphetamine admits rank behind cocaine and heroin, but above marijuana.

Methamphetamine incidents reported to the state Department of Ecology totaled 63 in 2006, half the number in the prior year and down from a peak of 271 in 2001 (Exhibit 7). Pierce County, to the south of King County, also saw a decline, though it continues to have much higher numbers of methamphetamine incidents despite its smaller population. Overall, State numbers have declined continuously since 2001. Super labs are rare in Washington State, and local production overall is reportedly down. The supply of methamphetamine from Mexico is reportedly up in recent years according to federal law enforcement sources.

Methamphetamine continues to be commonly mentioned by adult callers to the Helpline with about 16 percent of calls involving methamphetamine in recent years (Exhibit 8). Methamphetamine constitutes a somewhat smaller proportion of youth calls with 12% in 2006 (Exhibit 9). Amphetamines are mentioned in less than one percent of youth and adult calls.

Seattle/Harborview ED data from WASBIRT show that 9 percent of intakes (Exhibit 10) mentioned methamphetamine, similar to the rest of the state. The percentage of methamphetamine mentions is similar to that of heroin and much lower than cocaine. DAWN Live! data indicate 1,388 reports of methamphetamine, lower than the 2,310 reports for heroin and much lower than the 5,080 reports for cocaine (Exhibit 12).

A survey of 12<sup>th</sup> graders showed higher levels of use of Ritalin “without a doctor’s order” at 4.1 percent (+/- 1.4 percent) than use of methamphetamine 1.9 percent (+/- 1.0 percent) in the past 30 days (Exhibit 14). Both estimates were similar to the State average.

Methamphetamine seizures by local and federal law enforcement totaled 82 kilograms, down from previous years (Exhibit 15 and 16). The number of submissions testing positive for methamphetamine totaled 8,421 in 2006, up from recent years and the most common drug detected statewide (Exhibit 17). The proportion of submissions testing positive for methamphetamine has been lower in the Seattle area laboratory compared to the rest of the state for the past 5 years (data not shown).

### **Marijuana**

Youth treatment admissions continued to decline in 2006 (Exhibit 4), though they remain the most prevalent primary drug of abuse with 707 admissions (61 percent). Marijuana has consistently been the most common secondary drug with about one in five youth mentioning marijuana. Adult primary marijuana have been steady the past 3 years at about 11 percent, though the number of admissions is nearly double the level in 1999 (Exhibit 5). Adults have consistently mentioned marijuana as their secondary drug about 20 percent of the time.

Fifteen percent of adult Helpline calls involved marijuana in 2006, similar to prior years (Exhibit 8). Marijuana is by far the most common drug mentioned during youth related Helpline calls with 41 percent of calls in 2006 (Exhibit 9).

Marijuana is the most common illegal drug mentioned at the Seattle/Harborview ED, with 1,359 reports at intake in the WASBIRT project (Exhibit 10). However, DAWN Live! ED reports totaled just 1,775 for King and Snohomish Counties combined and it ranks below cocaine, heroin, prescription-type opiates and benzodiazepines/sedatives (Exhibit 12). This difference in ranking is likely due to the fact that DAWN Live! ED data only include cases where substance use was part of the reason for the ED visit, while WASBIRT data are for all willing participants entering the ED regardless of reason. Acute medical reactions to marijuana are less common than the other major drugs of abuse, though the prevalence of use is higher.

Marijuana remains the most common illegal drug reported by high school seniors, with 20 percent reporting past month use (+/- 4.1 percent) (Exhibit 14). A substantial proportion, 6.4 percent (+/- 1.8 percent) reported using marijuana 10 or more days in the past month. More high school seniors reported any use of marijuana than cigarettes, 16.6 percent (+/- 2.9 percent). All of these estimates were not significantly different than state averages.

Law enforcement seizure data for marijuana are inconsistently available over time: however, seizures are common with 12,110 kilograms (Exhibit 15 and 16) and well over 100,000 plants seized in 2006 by local and federal law enforcement. Marijuana is often seized at the Canadian border where it is brought into the U.S.. Local growing, in and outdoors is common as well. Marijuana is the third most common drug detected in local law enforcement evidence submitted to the State toxicology laboratory with 2,967 positive submissions in 2006 (Exhibit 17).

#### **Club Drugs—LSD, Psychedelic Mushrooms (Psilocybin), MDMA/Ecstasy**

MDMA is reported infrequently in mortality data, with a total of 15 drug caused deaths positive for MDMA from 1999 to 2006, with 2 MDMA in 2006 both of which involved other drugs as well (data not shown).

Treatment data do not list specific club drugs as distinct categories. The category ‘hallucinogens’ includes MDMA, LSD, and mushrooms (psilocybin). As a primary drug type, this category is rarely cited, with just 1.1 percent ( $n=119$ ) of youth admitted to treatment from 1999 to 2006 citing hallucinogens as their primary drug. However, it was more commonly cited as a secondary drug, with another 238 youth mentioning such from 1999 to 2006. An even smaller proportion of adults reported hallucinogens as their primary drug (0.2 percent) or secondary drug (0.5 percent) from 1999 to 2006. No trends are evident over time for youth, though adult admissions appear to be increasing slightly.

Adult Helpline calls specifically involving MDMA totaled 62 in 2006, half the number in 2001 (Exhibit 8). Mentions of PCP and LSD are even less frequent. Youth calls were also at their peak in 2001 with 101 calls, the number has declined to 43 in 2006 which constituted seven percent of youth calls (Exhibit 9).

Mentions of hallucinogens at Seattle’s Harborview Medical Center ED totaled 233 or 5 percent of intakes (Exhibit 10). A similar proportion of intakes for the WASBIRT project involved hallucinogens in several other ED’s throughout the State, though levels varied (data not shown). DAWN Live! ED data, for the larger King and Snohomish county regions, but just for those ED visits directly related to alcohol or drug use, indicate 162 reports for MDMA, 52 for LSD and 56 for miscellaneous hallucinogens (including psychedelic mushrooms) (Exhibit 12).

Local and federal law enforcement seizures for MDMA are at an all time high with 5,331,191 dosage units seized in 2006 (Exhibit 15 and 16). A substantial proportion of these seizures are made at the Canadian border where MDMA is being brought into the U.S.. Washington State had the highest level of seizures of MDMA in the U.S. from 2004 through 2006. It is believed that Washington is a major trans-shipment point through which MDMA flows. Submissions testing positive for MDMA from local law enforcement totaled 394 in 2006, more than double the previous year (Exhibit 17). Local law enforcement indicates that MDMA continues to be used in the Seattle area and is generally more available in urban areas.

#### **Benzodiazepines/Barbiturates**

Benzodiazepines (e.g. alprazolam/Xanax and diazepam/Valium) and barbiturates (e.g. secobarbital/Seconal and Phenobarbital/Luminal) appear to usually be secondary drugs of abuse.

Benzodiazepines are rarely the only drug present in drug-caused deaths with a total of just three single-drug deaths over the past decade. Conversely, benzodiazepines are the drug with the highest proportion of involvement in poly-drug deaths, totaling 52 in 2006, the highest number to date (Exhibits 1 and 2). Benzodiazepines are commonly detected in combination with prescription-type-opiates.

Benzodiazepines and barbiturates are rarely mentioned as primary or secondary drugs by youth entering treatment with less than half a dozen mentions in any year. These classes of drugs are also rarely mentioned as primary for adults, with benzodiazepines the most common class of these drugs mentioned with 20 mentions in 2006 and no apparent trend over time. However, benzodiazepines in particular are somewhat more common secondarily, with 121 admissions involving benzodiazepines as the secondary drug in 2006, about 1 percent of

admissions, similar to prior years. A larger proportion, about 4 percent, mentioned benzodiazepines as their second drug of choice when entering opiate treatment programs in 2006.

Adult Helpline callers mentioned benzodiazepines about 2 percent of the time in recent years (Exhibit 8). Only a handful of youth callers mention benzodiazepines in any given year (Exhibit 9). Harborview/Seattle ED data indicate that the category of tranquilizers totaled 235 mentions (5 percent) somewhat higher than the State average and similar to hallucinogens, but much less than for marijuana or cocaine (Exhibit 10). The combined category of benzodiazepine/sedatives was mentioned in 2,266 drug reports from DAWN Live! ED data for King and Snohomish counties, similar to the number of reports for heroin, less than for cocaine and prescription-type-opiates (Exhibit 12).

Benzodiazepines and barbiturates are rarely mentioned in law enforcement data sources.

**INFECTIOUS DISEASES RELATED TO DRUG ABUSE AND INJECTION DRUG USE TRENDS**

The proportion of HIV infections among those with IDU as an exposure risk totaled 14 percent for the period from 2004 through 2006, statistically unchanged since the emergence of HIV in 1981 (Exhibit 18). The Seattle area has several syringe exchanges located throughout the city, numerous syringe drop boxes and state law permits pharmacy based sales of syringes to drug-injectors.

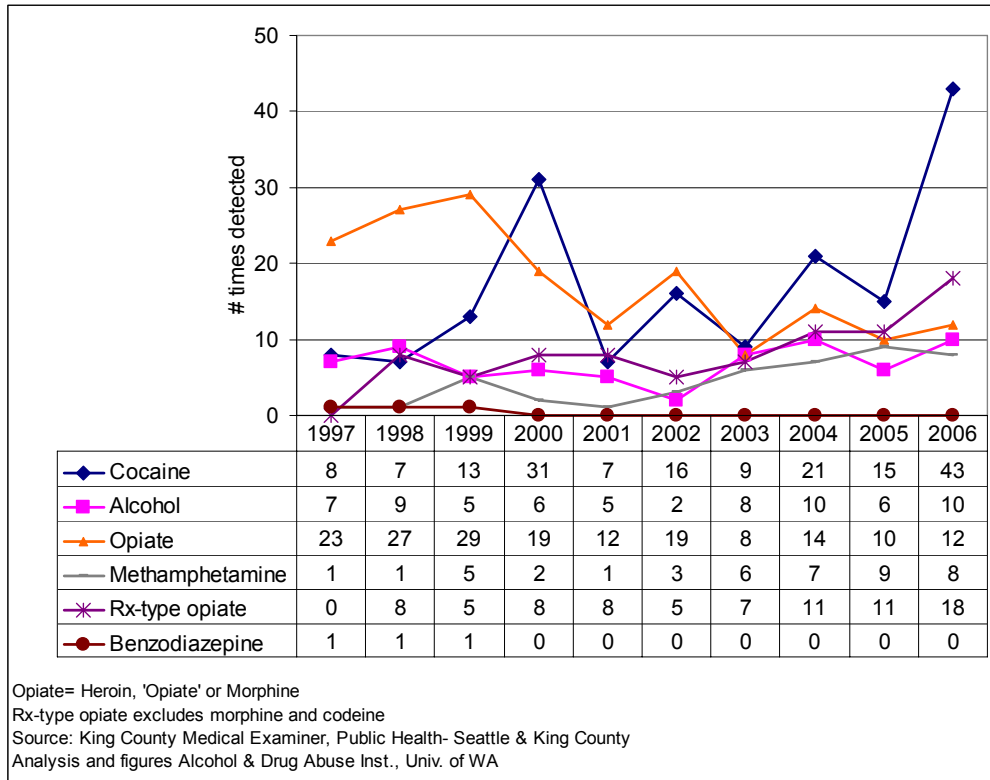
A recent article in the Journal of Urban Health co-authored by PHSKC HIV/AIDS epidemiology staff (Burt et al., 2007) reports a statistically significant decrease in the prevalence of hepatitis B and C and a continued low prevalence of HIV among 18 - 30 year old Seattle-area injection drug users. Findings did not show a significant decrease in risky drug injection behaviors. However, there were increases in measures taken to prevent the transmission of these viruses, including use of needle exchange and hepatitis B vaccinations. The authors emphasize the importance of continuing prevention programs for this population to further reduce the impact of these infections.

In 2006, Epidemic Intelligence Service officers from the Centers for Disease Control investigated a tuberculosis outbreak that began in 2005 in Snohomish County (immediately north of King County). Active disease and latent TB infections were strongly associated with both methamphetamine use and a known drug house.

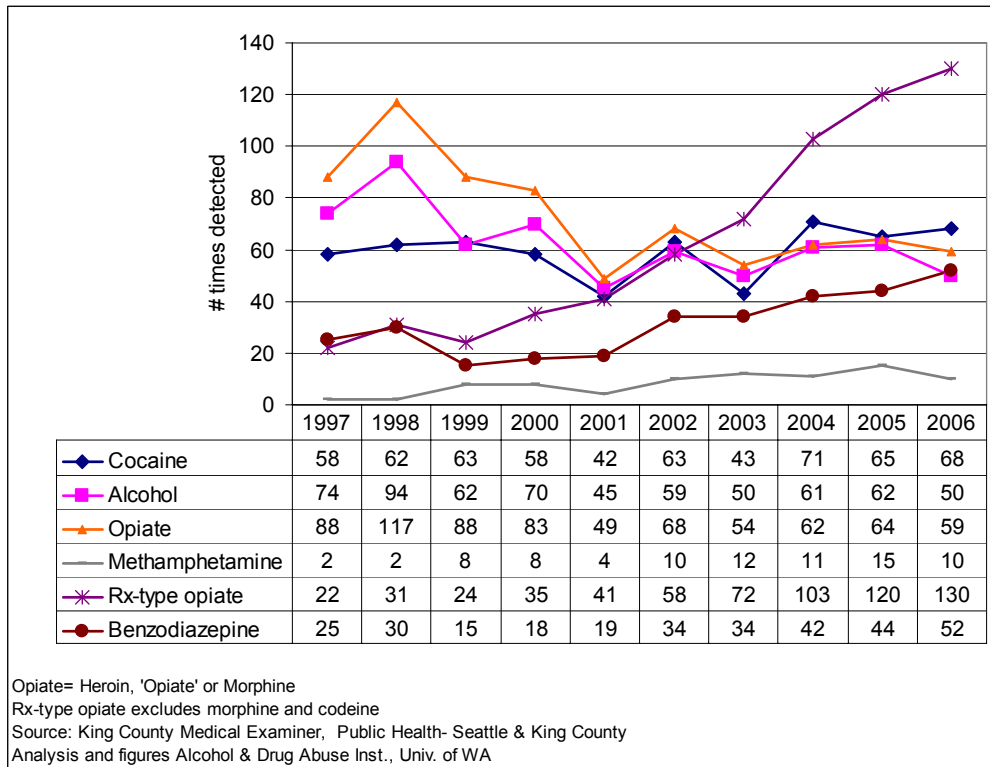
*For inquiries concerning this report, please contact Caleb Banta-Green, MPH, MSW, Alcohol and Drug Abuse Institute, University of Washington, 1107 NE 45th St, Suite 120; Seattle, WA 98105, Phone: (206) 685-3919, Fax: (206) 543-5473, E-mail: <calebbg@u.washington.edu>, Web: <http://adai.washington.edu> or Ron Jackson, MSW, Evergreen Treatment Services, Phone (206) 223-3644, E-mail: <ronjack@u.washington.edu>.*



**Exhibit 1. Drug Caused Deaths, Single Drug King County, WA**



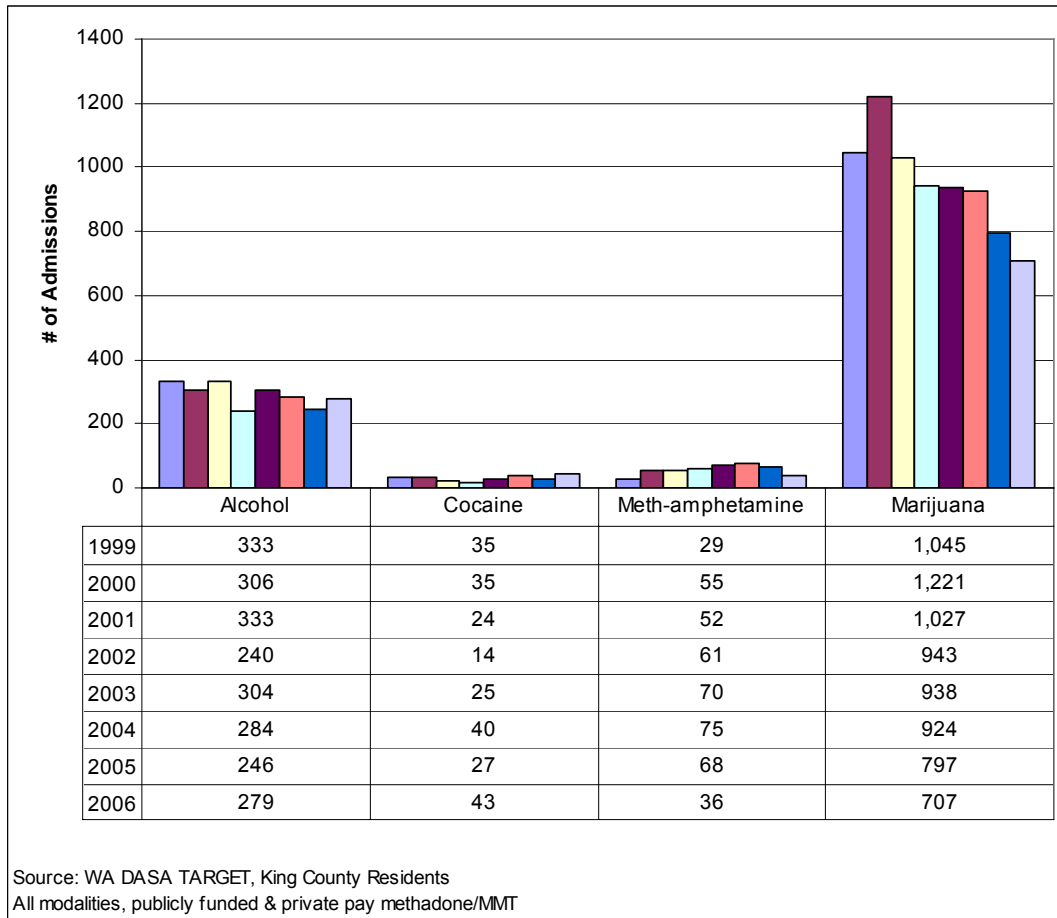
**Exhibit 2. Drug Caused Deaths, Multiple Drugs Involved King County, WA**



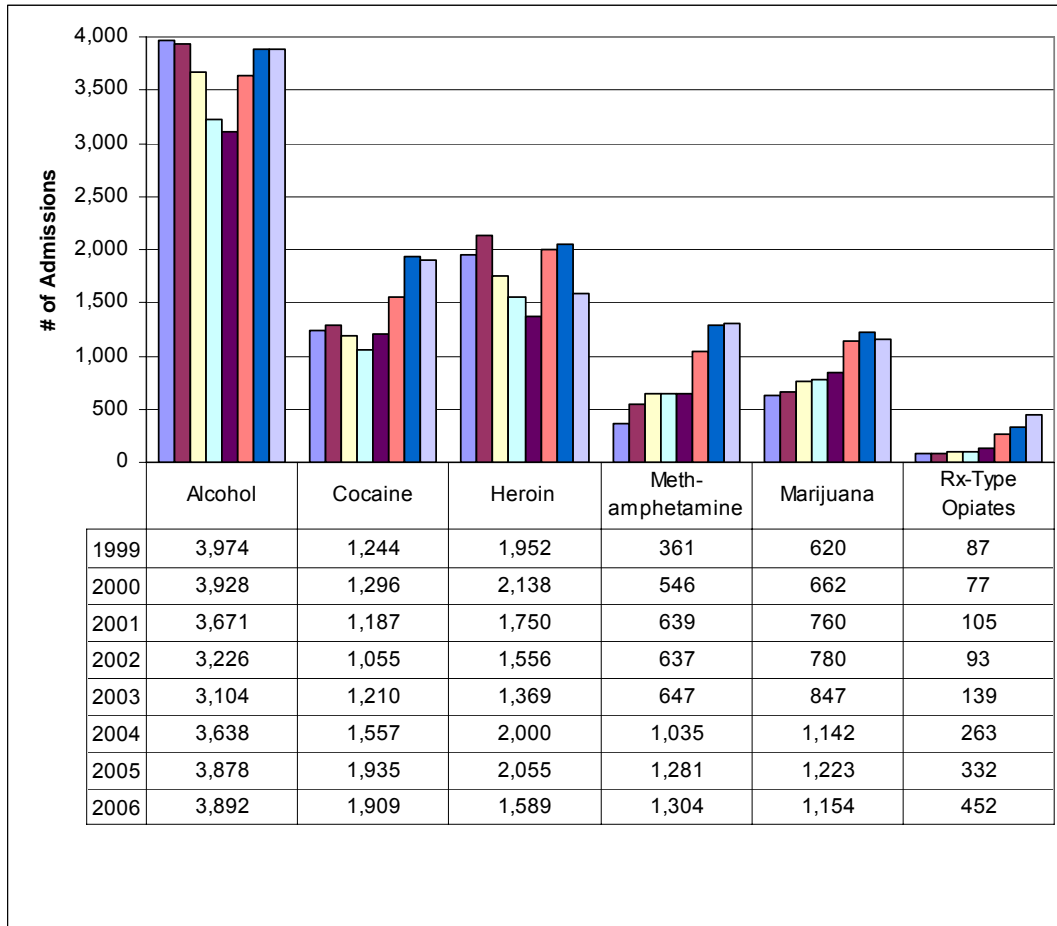
**Exhibit 3. Drug Caused Deaths- Number, Rate and Manner King County, WA**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total # Drug Caused Deaths	179	222	205	220	152	195	186	253	240	286
Drug Caused Death Rate (per 100,000)	10.6	13.0	11.9	12.7	8.7	11.1	10.5	14.2	13.4	15.7
Manner of Death Among Drug Caused Deaths Rate (per 100,000)										
Accident	9.0	9.8	9.3	9.8	6.5	9.3	8.2	11.6	11.4	14.0
Suicide	1.2	1.4	1.9	1.3	1.1	0.9	1.1	1.5	1.5	1.3
Undetermined	0.1	1.6	0.6	1.5	1.1	0.9	1.3	1.1	0.5	0.4

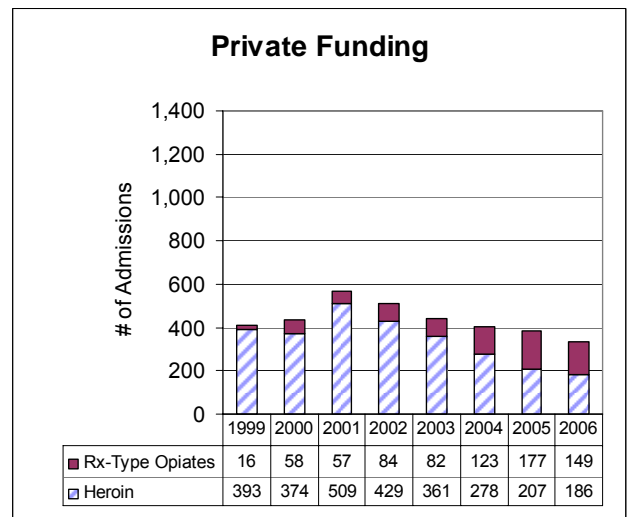
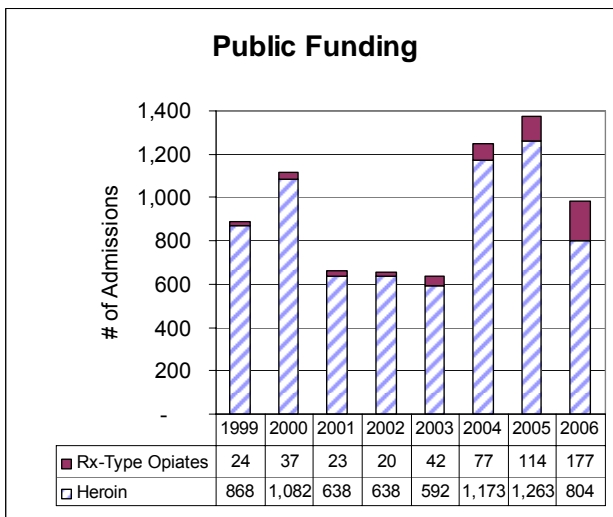
**Exhibit 4. Youth Treatment Admissions King County WA 1999-2006 Primary Drug**



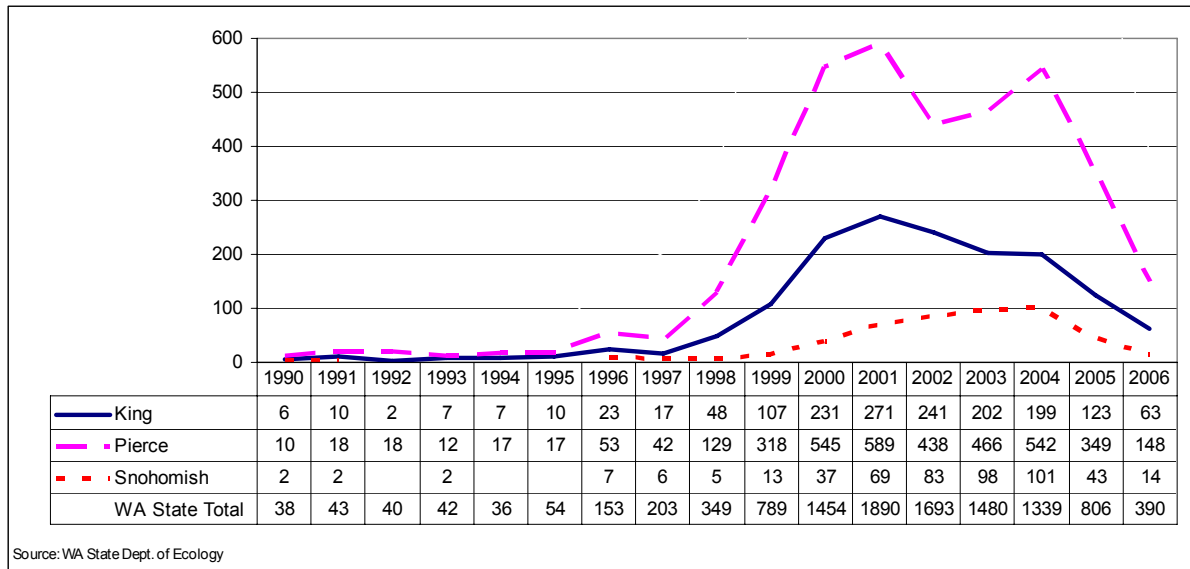
**Exhibit 5. Adult Treatment Admissions, All modalities King County WA 1999-2006 Primary Drug**



**Exhibit 6. Opiate Treatment Program Admissions in King County**



**Exhibit 7. Methamphetamine Incidents, Labs and Dump Sites**



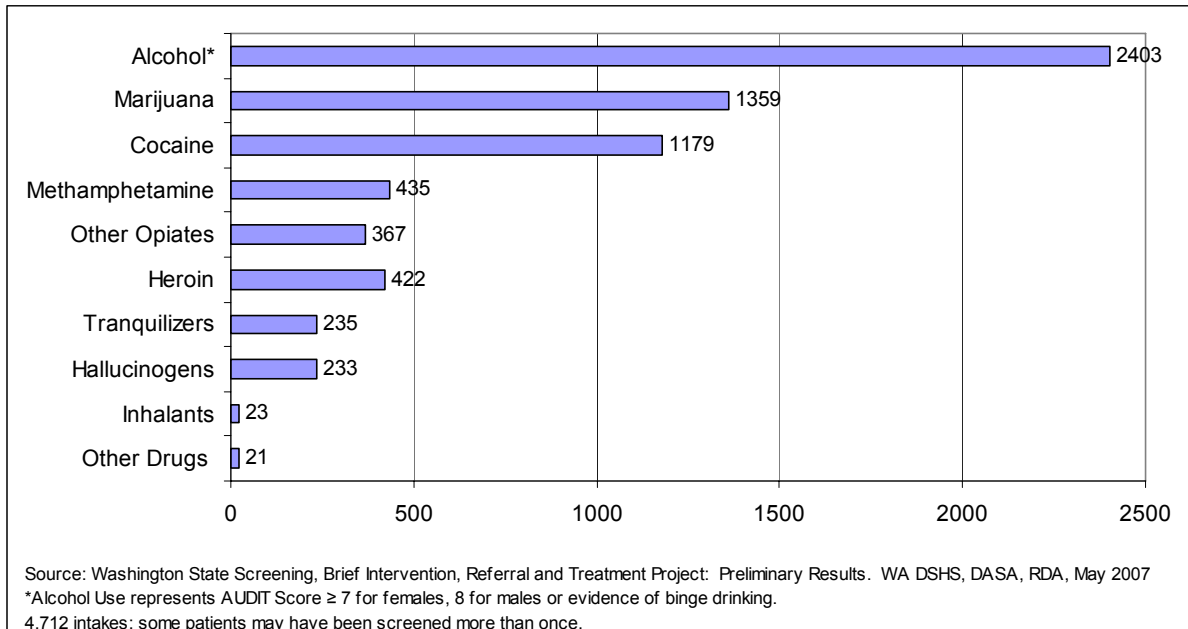
**Exhibit 8. Adult Related Calls Helpline King County, WA**

	2001		2002		2003		2004		2005		2006	
	#	%	#	%	#	%	#	%	#	%	#	%
Cocaine	1,088		1124		1142		1259	27%	1095	25%	1426	24%
Methamphetamine	842		743		627		732	16%	745	17%	942	16%
Marijuana	972		967		637		814	17%	608	14%	907	15%
Heroin	521		584		561		588	13%	470	11%	594	10%
Unknown	424		531		89		82	2%	174	4%	346	6%
RX	442		523		190		175	4%	184	4%	219	4%
Methadone	94		93		112		157	3%	149	3%	199	3%
Other	55		63		76		64	1%	64	1%	137	2%
Ecstasy	117		69		34		47	1%	44	1%	62	1%
Hallucinogens	29		30		21		30	1%	10	0%	21	0%
LSD	22		4		4		5	0%	2	0%	11	0%
OTC	19		9		10		9	0%	9	0%	10	0%
Inhalant	9		15		2		5	0%	9	0%	9	0%
PCP	5		5		3		11	0%	4	0%	4	0%
<b>Newer Drug Categories</b>												
OxyContin					20		198	4%	228	5%	401	7%
Rx Pain Pills					366		397	8%	492	11%	533	9%
Amphetamine					31		18	0%	39	1%	25	0%
Benzodiazepine					59		81	2%	102	2%	121	2%
<b>Total</b>	<b>4,639</b>	<b>-</b>	<b>4,760</b>	<b>-</b>	<b>3,984</b>	<b>-</b>	<b>4,672</b>	<b>100%</b>	<b>4,428</b>	<b>100%</b>	<b>5,967</b>	<b>100%</b>

**Exhibit 9. Youth Related Calls Helpline King County, WA**

	2001		2002		2003		2004		2005		2006	
	#	%	#	%	#	%	#	%	#	%	#	%
Marijuana	491		353		302		277	49%	202	39%	250	41%
Cocaine	91		69		56		64	11%	64	12%	74	12%
Methamphetamine	198		110		99		97	17%	75	14%	74	12%
Ecstasy	101		35		19		24	4%	38	7%	43	7%
Heroin	22		12		14		21	4%	19	4%	29	5%
Unknown	131		78		21		21	4%	12	2%	21	3%
RX	48		22		17		13	2%	8	2%	17	3%
Other	11		14		14		9	2%	15	3%	7	1%
Hallucinogens	44		7		14		9	2%	12	2%	7	1%
Inhalant	12		7		4		1	0%	11	2%	6	1%
Methadone	6		0		2		0	0%	3	1%	4	1%
LSD	-		0		0		3	1%	2	0%	3	0%
OTC	7		4		7		5	1%	2	0%	2	0%
PCP	-		0		2		3	1%	1	0%	0	0%
<b>Newer Drug Categories</b>												
OxyContin					16		9	2%	29	6%	49	8%
Rx Pain Pills					16		6	1%	20	4%	23	4%
Amphetamine					2		0	0%	1	0%	3	0%
Benzodiazepine					1		1	0%	5	1%	1	0%
Total	1,162	-	711	-	606	-	563	100%	519	100%	613	100%

**Exhibit 10. Drugs Mentioned at Harborview ED in Seattle, WA Among all ED visit types WASBIRT Project October 2005-September 2006**



**Exhibit 11. DAWN Live! ED Sample and Reporting Information for King and Snohomish Counties: January– December 2006**

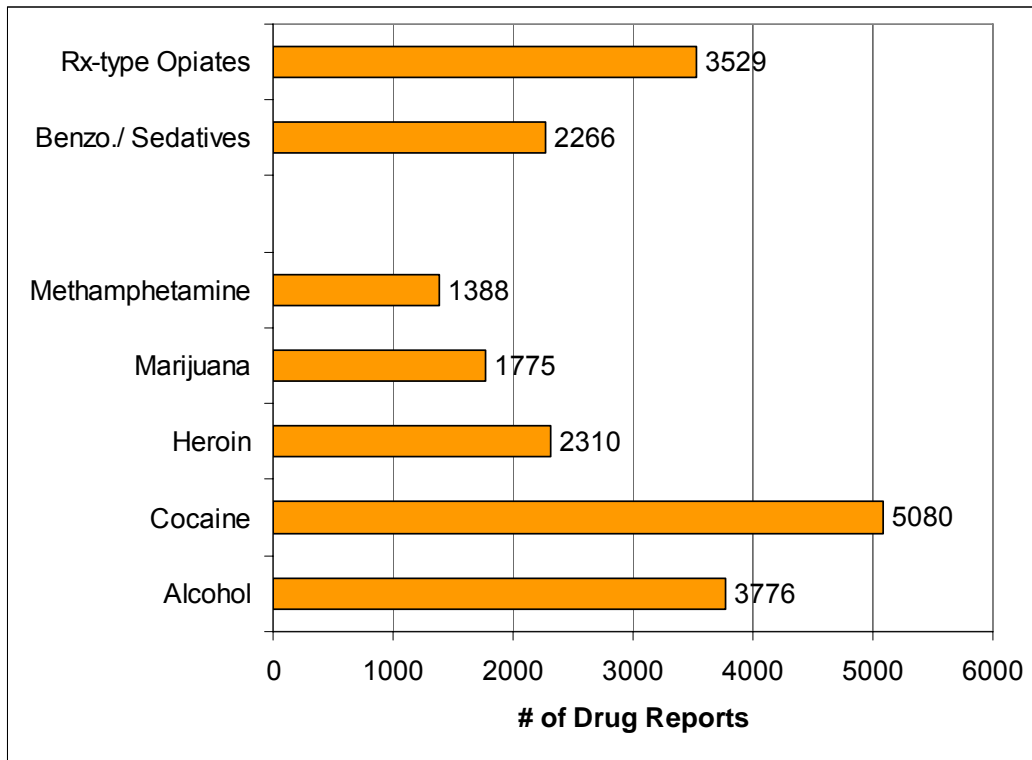
CEWG Area	Total Eligible Hosp.	# of Hosp in DAWN sample	Total ED in DAWN samples	90-100%	50-89%	<50%	# of ED not reporting
Seattle	23	23	25	5-12	0-2	0-3	13-17

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

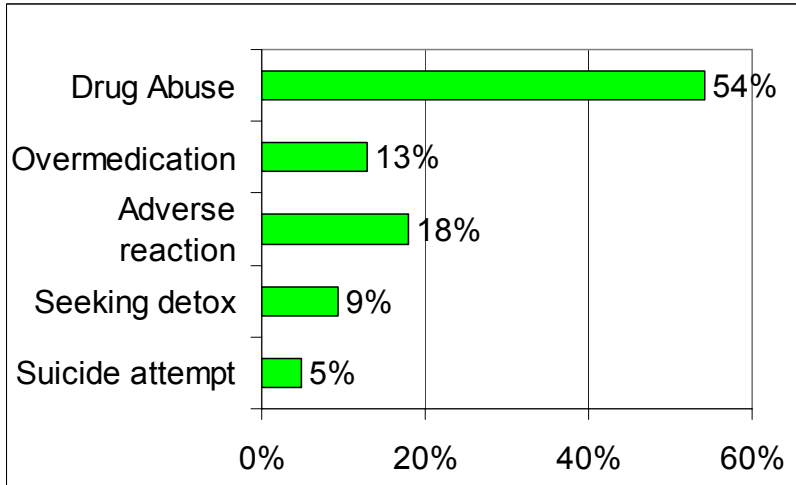
<sup>2</sup>Some hospitals have more than one emergency department.

SOURCE: DAWN Live!, OAS, SAMHSA, updated 3/13/2007

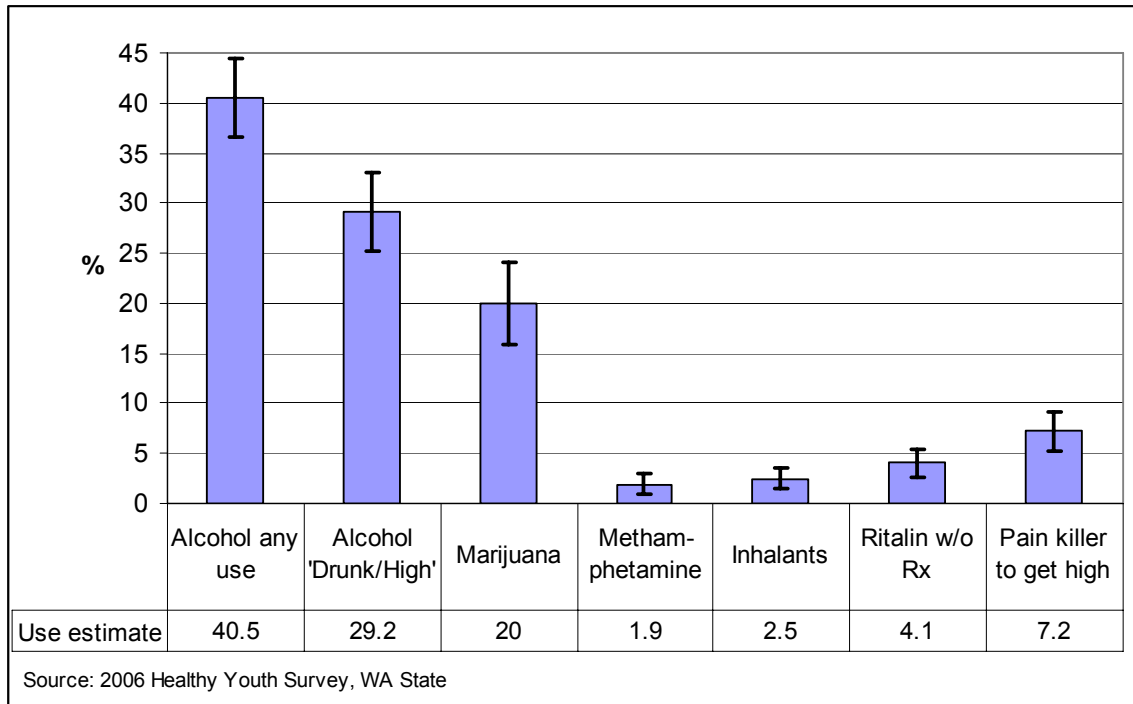
**Exhibit 12. Types of Substances DAWN Live! E.D. Reports Among Drug Related Visits King & Snohomish Counties, WA (2006)**



**Exhibit 13. Rx-type Opiates Case Types DAWN Live! E.D. Reports King & Snohomish Counties, WA (2006)**



**Exhibit 14. School survey- 12th Grade Past 30 day use estimates, King County WA**



**Exhibit 15. WA State, Local Law Enforcement Drug Seizures**

	2001	2002	2003	2004	2005	2006
Heroin (KG)				39	20	30
Metham. (KG)	86	223	200	112	68	18
Coke (KG)					729	952
Marijuana (KG)					13,214	7,753
MDMA (Dosage Units)			23,835	461,444	1,267,296	2,866,935

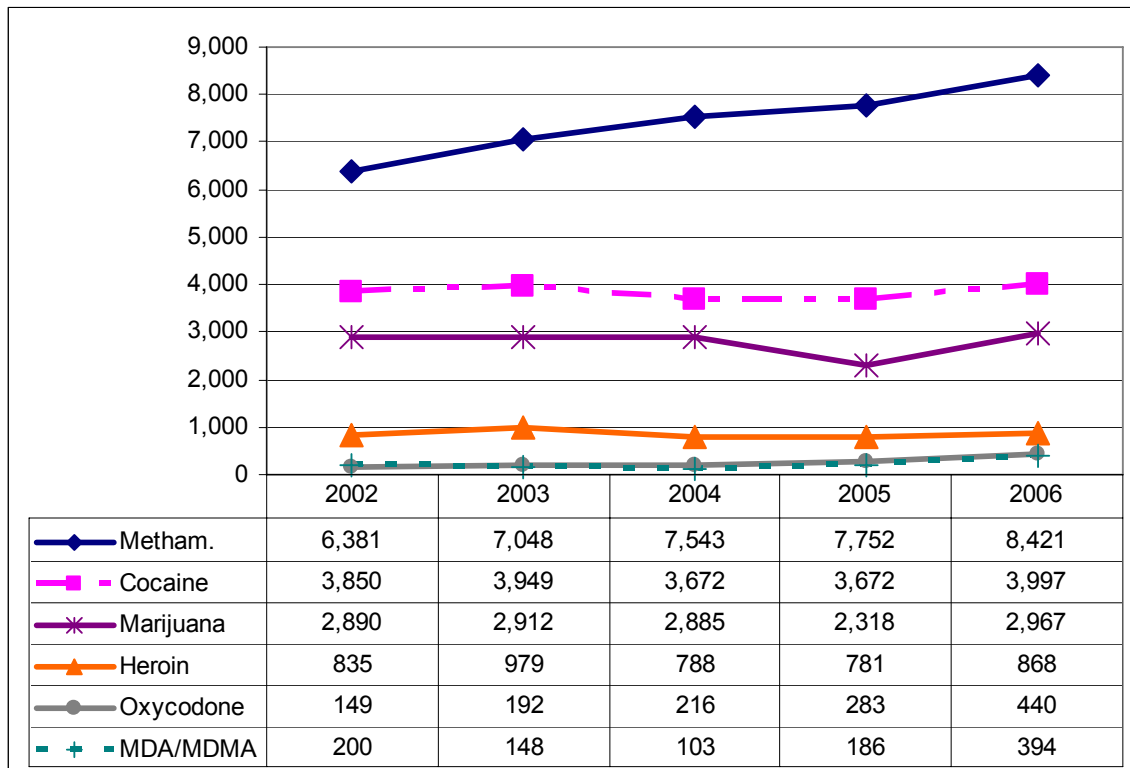
Source: NW HIDTA 2006 Threat Assessment

**Exhibit 16. WA State, Federal Drug Drug Seizure System (FDSS)**

	2001	2002	2003	2004	2005	2006
Heroin (KG)	15	82	15	36	8	12
Metham. (KG)	47	41	206	83	76	64
Coke (KG)	123	263	475	318	522	625
Marijuana (KG)	4,070	5,527	10,004	11,580	9,875	4,357
MDMA (Dosage Units)	30,711	79,751	6,641	510,374	1,745,096	2,464,256

Source: Federal Drug Seizure System, cited in NW HIDTA 2006 Threat Assessment

**Exhibit 17. Local law enforcement evidence testing, WA State Number of submissions positive for substance.**



Source: WA State Patrol, Forensic laboratory services bureau, Solid state chemistry



**Exhibit 18. Demographic characteristics of King County residents diagnosed 1981-2006 and reported through 12/31/2006, by date of HIV diagnosis**

	1981-1997		1998-2000		2001-2003		2004-2006 <sup>1</sup>		Trend <sup>2</sup> 1998-2006
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
<b>TOTAL</b>	<b>7,040</b>	<b>(100)</b>	<b>1,175</b>	<b>(100)</b>	<b>1,092</b>	<b>(100)</b>	<b>966</b>	<b>(100)</b>	
<b>HIV Exposure Category</b>									
Men who have sex with men (MSM)	5,324	(76)	786	(67)	709	(65)	594	(61)	down
Injection drug user (IDU)	391	(6)	79	(7)	69	(6)	58	(6)	
MSM-IDU	740	(11)	92	(8)	85	(8)	80	(8)	
Heterosexual contact	256	(4)	106	(9)	124	(11)	74	(8)	
Blood product exposure	91	(1)	6	(1)	5	(0)	4	(0)	
Perinatal exposure	22	(0)	5	(0)	0	(0)	0	(0)	
<i>SUBTOTAL- known risk</i>	<i>6,824</i>		<i>1,074</i>		<i>992</i>		<i>810</i>		
Undetermined/other <sup>3</sup>	216	(3)	101	(9)	100	(9)	156	(16)	up
<b>Sex &amp; Race/Ethnicity</b>									
<b>Male</b>									
White Male <sup>4</sup>	5,463	(78)	709	(60)	648	(59)	528	(55)	down
Black Male <sup>4</sup>	605	(9)	163	(14)	150	(14)	150	(16)	
Hispanic Male	373	(5)	108	(9)	113	(10)	104	(11)	
Other Male <sup>4</sup>	205	(3)	56	(5)	57	(5)	77	(8)	up
<b>Female</b>									
White Female <sup>4</sup>	394	(6)	139	(12)	124	(11)	107	(11)	
Black Female <sup>4</sup>	210	(3)	55	(5)	31	(3)	31	(3)	
Hispanic Female	125	(2)	64	(5)	70	(6)	59	(6)	
Other Female <sup>4</sup>	25	(0)	12	(1)	10	(1)	7	(1)	
Other Female <sup>4</sup>	34	(0)	8	(1)	13	(1)	10	(1)	
<b>Race/Ethnicity</b>									
White <sup>4</sup>	5,673	(81)	764	(65)	679	(62)	559	(58)	down
Black <sup>4</sup>	730	(10)	227	(19)	220	(20)	209	(22)	
Hispanic	398	(6)	120	(10)	123	(11)	111	(11)	
Asian & Pacific Islander <sup>4</sup>	111	(2)	35	(3)	34	(3)	45	(5)	up
Native American or Alaskan Native <sup>4</sup>	98	(1)	17	(1)	20	(2)	10	(1)	
Multiple Race <sup>4</sup>	26	(0)	6	(1)	13	(1)	19	(2)	up
Unknown Race <sup>4</sup>	4	(0)	6	(1)	3	(0)	13	(1)	up
<b>Place of Birth</b>									
Born in U.S. or Territories	6,455	(92)	922	(78)	849	(78)	708	(73)	down
Born outside U.S.	429	(6)	178	(15)	221	(20)	194	(20)	up
Birthplace unknown	156	(2)	75	(6)	22	(2)	64	(7)	
<b>Age at diagnosis of HIV</b>									
0-19 years	129	(2)	24	(2)	14	(1)	7	(1)	down
20-24 years	556	(8)	82	(7)	91	(8)	87	(9)	
25-29 years	1,414	(20)	179	(15)	143	(13)	140	(14)	
30-34 years	1,684	(24)	263	(22)	250	(23)	170	(18)	down
35-39 years	1,440	(20)	262	(22)	269	(25)	200	(21)	
40-44 years	867	(12)	187	(16)	163	(15)	166	(17)	
45-49 years	496	(7)	95	(8)	78	(7)	106	(11)	up
50-54 years	231	(3)	52	(4)	51	(5)	43	(4)	
55-59 years	136	(2)	19	(2)	18	(2)	30	(3)	up
60-64 years	48	(1)	5	(0)	9	(1)	10	(1)	
65+ years	39	(1)	7	(1)	6	(1)	7	(1)	
<b>Residence</b>									
Seattle residence	6,101	(87)	985	(84)	862	(79)	729	(75)	down
King Co. residence outside Seattle	939	(13)	190	(16)	230	(21)	237	(25)	up

Source: Public Health- Seattle & King County

1. Due to delays in reporting, data from recent years are incomplete.

2. Statistical trends (p < .05) were identified from the chi-square test for trend, calculated for the periods 1998-2000, 2001-03, and 2004-06.

3. Includes persons 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 of the sexual partner(s) was (were) undetermined, persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.

4. And not Hispanic. The groups Asian, Native Hawaiian, & other Pacific Islanders were grouped due to small cell sizes. All race and ethnicity categories are mutually exclusive.