2015 Drug Use Trends in King County Washington

ADAI | ALCOHOL & DRUG ABUSE INSTITUTE

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Summary

- Heroin continues to increase as a drug of abuse and is associated with substantial morbidity and mortality. Heroin has been the most common drug identified in overdose deaths for the past two years. Half of young adults 18 to 29 years of age entering treatment for the first time for heroin report smoking and half report injecting heroin, a substantial increase in smoking compared to 2009. Total drug treatment admissions for heroin surpassed alcohol for the first time in 2015.
- Pharmaceutical opioid problem indicators have declined somewhat, but remain high.
- Illicitly manufactured, synthetic opioids, such as acetyl fentanyl have begun to be detected in some deaths as well as police evidence.
- Methamphetamine problem indicators persist and recently users have begun combining methamphetamine with heroin and this combination in deaths has increased substantially.
- Cocaine persists as a drug of abuse associated with morbidity and mortality with modest declines in recent years. Injectors' use of cocaine and heroin together has declined as use of methamphetamine and heroin together have increased.
- Marijuana is a major drug used, is legal for adults in Washington State, and treatment admissions have declined.
- Interventions including syringe and naloxone (opioid overdose antidote) distribution continue to increase.

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1. Drug Specific Synopses for Primary and Emerging Drug Problems

Marijuana use is common in King County. Recovery Helpline data indicate approximately 700 marijuana related calls per year from 2012 through 2015, with marijuana being the fourth most common drug mentioned in 2015 (Figure 1). Marijuana/THC exposure calls to the poison center totaled 112 in 2015, a similar number as prior years, but a higher percentage of total calls compared to five years prior, and lower than opioids, benzodiazepines and dextromethorphan. King County police evidence testing for marijuana peaked at 729 cases in 2005 and in 2015 there were 79 cases, similar to lower levels seen from 2010 onwards (Figure 2a). There are multiple factors underlying declines in police evidence testing including court cases impacting police procedures for obtaining evidence and changes in law enforcement priorities and practices. In 2012 Washington State legalized retail marijuana, though the declines in these crime cases were apparent in 2010. Publicly funded treatment admissions for which marijuana was the primary drug were at their lowest number and proportion (13%) of treatment admissions in 2015 with higher proportions admitted for alcohol and heroin (Figure 3). In 2015 those admitted to treatment with marijuana as their primary were mostly male (71%), 29% were white and 28% African American, 45% were under 18, 97% smoked the drug and half reported alcohol as their secondary drug.

Cocaine use persists in King County, though most indicators show lower levels from 2010 onwards. Recovery Helpline calls about cocaine have averaged 400 per year from 2012 to 2015, the lowest number among the major drugs of abuse. Cocaine positive police evidence cases totaled 168 in 2015, the lowest number since at least 2002 and below the peak of 1,578 in 2005 (these numbers are likely substantially impacted by court cases impacting police procedures for obtaining evidence). Testing of municipal wastewater entering the treatment plant that serves most of Seattle indicated that the cocaine metabolite benzoylecgonine was present on each day of a two-week period in Spring of 2015, with the measured per capita load moderate compared to 66 cities in 26 other countries, no other location in the United States participated in this project (data not shown). Measured loads of benzoylecgonine in wastewater appeared to be somewhat higher on weekends suggesting most use is regular or habitual with some additional recreational use on weekends.

Treatment admissions for cocaine totaled 432 in 2015 (5% of all admissions), the lowest number since at least 1999, and well below the peak of 1,957 in 2008. In 2015, two-thirds of cocaine primary treatment admissions were male, 49% were African American, 54% were ages 26-49 and 38% age 50 and older, 82% reported smoking cocaine, and 38% reported alcohol as their secondary drug of choice. Among drug injectors surveyed at Public Health-Seattle King County syringe exchanges there was a significant decline in the proportion reporting using powder cocaine by itself from 31% in 2011 to 16% in 2015, while the proportion reporting using crack cocaine itself was statistically unchanged at about a third of respondents, while speedballs (heroin and cocaine used together) declined significantly from 38% to 21% of respondents (Figure 4). Cocaine involved deaths totaled 56 in 2015, down somewhat from the prior two years (Figure 5).

Methamphetamine indicators are increasing, particularly deaths. Calls to the Helpline regarding methamphetamine totaled 1,216 in 2015, double the number in 2012, and now the second most common drug mentioned after heroin. A steady increase in police cases positive for methamphetamine was seen from 2011 to 2014, with a plateauing in 2015 at 336 cases, just barely second to heroin; heroin and methamphetamine have been increasing in parallel in recent years even as cases for other drugs have been declining. Methamphetamine numbers remain well below the 902 police evidence cases in 2005. Seattle wastewater testing indicate that methamphetamine was present on all 14 days sampled and that the average load per capita was among the highest among all international cities tested. Measured loads appear to have been somewhat higher on weekends suggesting that most use is habitual/regular.

Treatment admissions involving methamphetamine have been in the range of 800 to 1000 per year since 2004. Among those entering treatment for the first time with methamphetamine as their primary drug, the

ratio of those smoking to injecting has been relatively consistent at 3 to 1 for the past decade. The use of methamphetamine by itself among injectors responding to the syringe exchange survey increased significantly from 32% to 58% from 2011 to 2015 and use of goofballs (methamphetamine and heroin together) more than doubled from 14% to 37%. Methamphetamine involved deaths totaled 86 in 2015, the highest number recorded after a relatively constant number of deaths, approximately 20 per year, from 2003-2011. In 2014 and 2015 half of methamphetamine deaths also involved heroin. As described below, HIV prevalence is higher among methamphetamine men who have sex with men (MSM) injectors than among other injectors.

Heroin indicators remain elevated, particularly overdose deaths (132 in 2015) and treatment admissions for heroin peaked in 2015 surpassing alcohol for the first time. Heroin is by far the most commonly mentioned drug among callers to the Helpline, totaling 2,100 in 2015 almost double the number in 2012. Callers interested in opioid use disorder treatment with buprenorphine have increased from 147 in 2013 to 363 in 2015. Heroin is the most common drug detected in police evidence, with 348 cases in 2015 following a steady increase since 2011. The unique metabolite of heroin, 6-monoacetylmorphine (6-MAM), was detectable in wastewater samples on each of the 14 days sampled, the measured concentrations were low as is typical of this metabolite; concentrations were too low to assess variability by day of week. Many cities in other countries did not detect 6-MAM on any days, and among those that did the levels in Seattle were comparably moderate. Little is known about the sensitivity, reliability or validity of using wastewater to detect 6-MAM, the levels detected generally in municipal wastewater are relatively low and often near or below the level of quantification.

Heroin treatment admissions surpassed alcohol for the first time in 2015 with a steady increase since 2010. The county has been increasing public funding and capacity for methadone maintenance in recent years. In 2015, among those entering treatment for the first time and reporting heroin as their primary drug, the majority were ages 18-29 (Figure 3b) and among this age group half reported injecting and half smoking heroin a pattern that began slowly emerging in 2009 (data not shown). In 2015, 58% of treatment admissions were for males, 66% were white, and 30% reported their secondary drug was methamphetamine compared to 12% for cocaine. Among those surveyed at syringe exchange, 89% reported using heroin by itself in 2015, statistically unchanged from 2011 and 2013 and 21% reported using with cocaine, a significant decline, and 37% with methamphetamine a significant increase. Heroin involved deaths totaled 132 in 2015, compared to the peak of 156 in 2014, when heroin surpassed deaths involve pharmaceutical opioids for the first time since 2003.

Pharmaceutical and non-pharmaceutical synthetic opioids had mixed indicators with pharmaceutical products declining somewhat and a few signs of non-pharmaceutical synthetic opioids e.g. illicitly manufactured acetyl fentanyl. Pharmaceutical opioid calls to the Helpline have been relatively steady in recent years, the third most common drug class mentioned in 2015. Pharmaceutical opioid exposure calls to the Poison Center have represented the most common class of drugs over the past decade with oxycodone and hydrocodone products the most common types of opioids. Overall crime lab cases positive for pharmaceutical opioids are down substantially with 43 cases in 2015 compared to 241 in 2007 (Figure 2b). The most common opioid detected remains oxycodone. No fentanyl analogues were detected in 2015, though there were two cases in 2014 and 1 in 2013. Treatment admissions involving pharmaceutical opioids have been declining and represented 4% of admissions in 2015. Among 2015 treatment admissions, 61% were female, the only major drug for which the majority of admissions were female, 61% were white, 29% were ages 26-49 and the most common secondary drug was heroin reported by 19%. Among those surveyed at syringe exchange 41% reported using pharmaceutical opioids in 2015 a significant increase from 30% in 2011 (note that pharmaceutical refers to the type of opioid, not the source from which the user obtained the substance). The proportion of syringe exchange clients who reported they were “hooked on prescription-type opiates prior to using heroin” was 53% in 2015 a significant increase from 38% in 2011. Pharmaceutical opioid involved deaths totaled 97 in 2015 similar to 2014 and down from 164 in 2009. The first documented overdose involving acetyl-fentanyl occurred in King County in 2015 and preliminary data indicate two deaths involving acetyl- fentanyl in May of 2016.

Benzodiazepines are a common secondary drug among opioid users, but rarely misused in isolation. Benzodiazepines are the second most common class of drugs reported to the Poison Center. Crime lab data for depressant drugs, which include benzodiazepines, remained low in 2015 when there were 29 cases. Benzodiazepines are rare as a primary drug at treatment entry with the 21 admissions (0.2%) in 2015 similar to prior years. Benzodiazepine use was reported by 35% of syringe exchange clients in 2015, unchanged from prior years. Benzodiazepines were detected in 61 overdose deaths in 2015 similar to the prior decade, virtually all cases involving benzodiazepines involved at least one other substance.

Other drugs are less commonly identified although some new drugs have emerged recently. MDMA persists at low levels in drug caused deaths with 2 in 2015 among the 23 MDMA deaths since 1997. Poison center calls for "hallucinogenic amphetamines" totaled 15 in 2015, ranking relatively low compared to other drugs. MDMA was detectable in Seattle wastewater on 14 consecutive days, levels were much higher on weekends and levels were moderate when compared internationally. Mitragynine, known as kratom, a botanically derived psychoactive drug reported to be used to attempt to self-treat opioid addiction was first identified in a death in 2015 in combination with oxycodone. A cannbimimetic, 5F-AMB, and a methcathinone, alpha-PVP, were each involved in a drug overdose in 2015.

2. New Drug-Related Legislation/Changes in Drug-Related Legislation

In 2015 an updated naloxone (opioid overdose antidote) law took effect that explicitly allowed prescribers in Washington State to issue standing orders so that a non-licensed person (e.g. syringe exchange or social services staff or volunteer) could dispense naloxone. The law also allowed prescribing naloxone to an entity, such as a police department, to expand beyond prescribing to individuals. The intent of the law was to decrease barriers to naloxone distribution. State legislation passed in 2015 changes the tax structure on retail marijuana and integrates the medical market with the current regulated market in July of 2016. In 2015 the Washington State Interagency Opioid Workplan was created which is available at http://www.stopoverdose.org. Washington State's pain management guidelines were modified in 2015 to expand beyond the use of opioids for chronic pain to also address opioid use for acute pain. The guidelines also added recommendations about treating opioid use disorder with methadone and buprenorphine as well as co- prescribing naloxone for those at risk for opioid overdose.

3. HIV and Hepatitis Cases and Diagnoses Related to Substance Use

Public Health-Seattle and King County participates in the National HIV Behavioral Surveillance (NHBS) program of the Centers for Disease and Control and Prevention (CDC). The 2015 NHBS IDU cycle data indicate that 5% of injectors were positive for HIV based upon a preliminary positive test result; the proportions were 3% among non-MSM IDU, 9% among non-amphetamine-MSM/IDU, and 38% among amphetamine-using-MSM- IDU. Almost two-thirds (64%) of all IDU were positive for hepatitis C. Among HIV cases diagnosed in King County between 2013 and 2015 3% had an exposure risk category of IDU and another 7% MDM-IDU (excluding those with no identified risk category, Figure 7).

4. Infectious Disease and Overdose Interventions

In 2015, syringe exchanges in King County combined to distribute 6,998,794 syringes up from 5,940,908 in 2014. The People's Harm Reduction Alliance reports distributing 3,023 take-home-naloxone (opioid overdose antidote) kits with 1,981 self-reported reversals while Public Health- Seattle & King county distributed 346 kits and had 73 self-reported reversals. The mobile homeless health care site distributed 54 kits and had 4 reversals reported. Two King County based pharmacies, Kelley Ross and Bellgrove reported distributing 47 kits to customers at risk for witnessing an overdose (not including those who work in settings where they may reverse an overdose in the course of their work) approximately 4 reversals were reported. Costco began stocking naloxone in November of 2015 and dispensed one kit in 2015 (with an additional 12

dispensed in the first half of 2016). Note that at present there is no standard mechanism for documenting or reporting naloxone distribution and use at the individual or population level and that these pharmacies dispensed via a collaborative drug therapy agreement that allows pharmacists to dispense without an outside prescriber writing a prescription.

Sources for Data in this Report:

Washington Recovery Help Line data for King County callers from 2012 to 2015 are presented in Figure 1.

Washington State Patrol Crime Laboratory evidence testing data received at the laboratory between 2001 and 2015 from law enforcement in King County are presented in Figures 2a and 2b. Data are based on cases tested through April 2016 and are presented by the year the evidence was received at the laboratory. These data serve as the basis for the data submitted to the Drug Enforcement Administration National Forensic Laboratory Information System.

Treatment admissions data for King County residents to publicly funded treatment are included for admissions from 1999 to 2015 in Exhibits 3a. Data are duplicated and are for all modalities of care. Figure 3b incudes first time admissions, heroin primary, by age and are de-duplicated. Data were obtained from the Washington State Department of Social and Health Services (DSHS), Division of Behavioral Health and Recovery, Treatment Report and Generation Tool.

Syringe exchange client survey, HIV/AIDS and Hepatitis C data were provided by Public Health – Seattle & King County (PHSKC) and are presented in Figures 4 and 7. HIV cases diagnosed through December 2015 and reported through May 31, 2016, are included and data should be considered to be preliminary. PHSKC participates in the National HIV Behavioral Surveillance (NHBS) program of the Centers for Disease and Control and Prevention (CDC). In the 2015 NHBS, IDU cycle participants were recruited using respondent-driven sampling, a form of coupon-based peer recruitment. Participants were required to be over 18 years old, residents of King or Snohomish Counties and to have injected drugs in the previous 12 months, established either by physical evidence or convincing knowledge of injection practices.

King County Medical Examiner data on drug-caused deaths from 1997 through 2015 are presented in Figure 5. The majority of deaths involved multiple drugs, so discussion of drug-specific deaths should be interpreted in the context of understanding that most also involved other drugs or alcohol.

Wastewater testing for drugs was directed by Caleb Banta-Green at the Alcohol and Drug Abuse Institute; samples were collected by staff at the Westpoint Treatment Plan, Wastewater Treatment Division, King County Department of Natural Resources and Parks, and analyzed by Dan Burgard, University of Puget Sound. The data were collected as part of an international collaboration described at: http://www.emcdda.europa.eu/topics/pods/waste-water-analysis. Note: complete confidence intervals have not been calculated for these data, so tests of statistical significance were not conducted.

Poison center exposure calls were provided by the Washington Poison Center for calls regarding drug exposures occurring in King County between January 2006 and December 2015. Reporting of exposures to the poison center is voluntary and not mandated by law. As such, the data most likely is an under-representation of the true occurrence of any one substance. Exposures do not necessarily represent a poisoning or overdose. Data are presented for the 25 most common drugs mentioned in 2015; combined, these substances represent more than 99% of the abuse-able drugs mentioned. Benzodiazepines are documented as a single class of drugs; opioids are documented separately; an aggregate category is also reported.

Figure 1. Calls to the Recovery Helpline from King County Residents

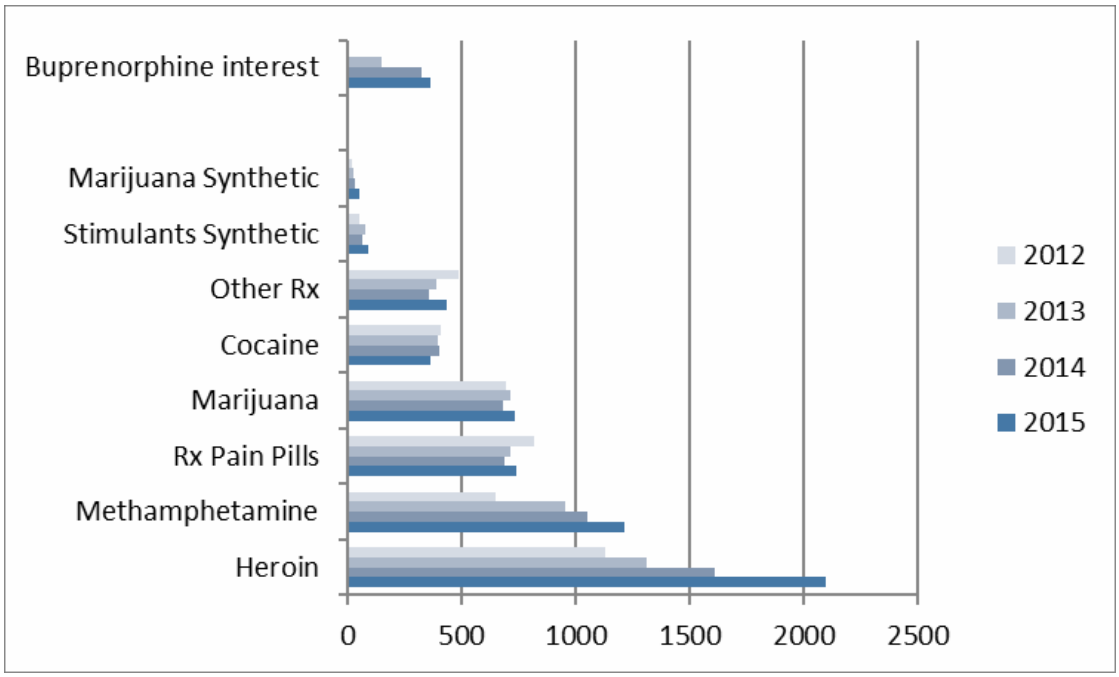


Figure 2a. Police Evidence Testing Results from Law Enforcement Agencies in King County, Major Drugs

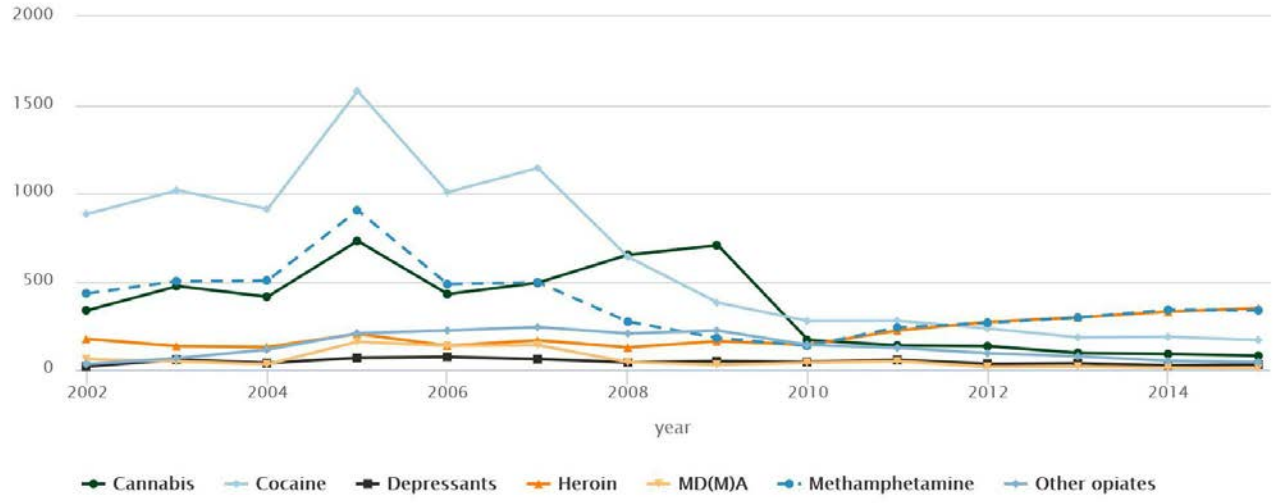


Figure 2b. Police evidence testing results from law enforcement agencies in King County, Opioids

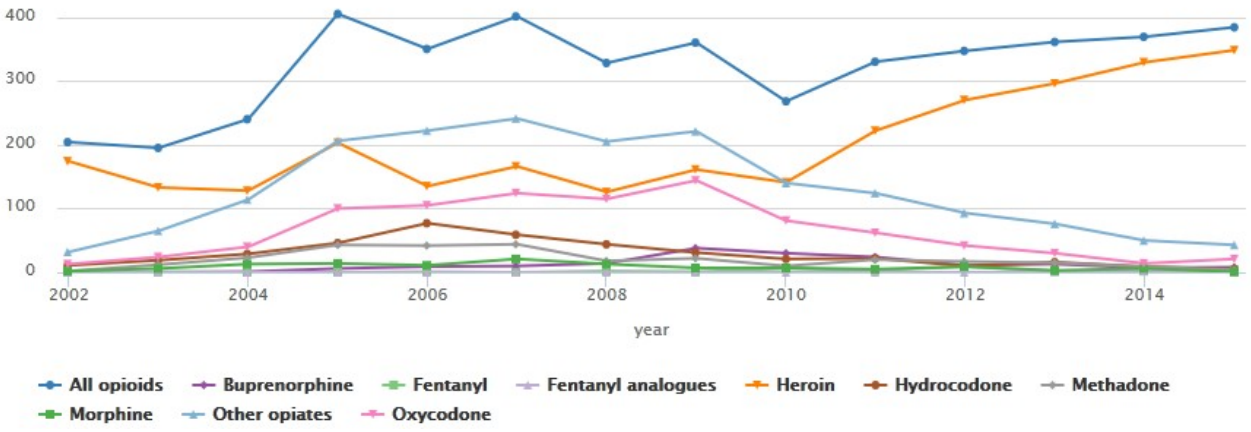
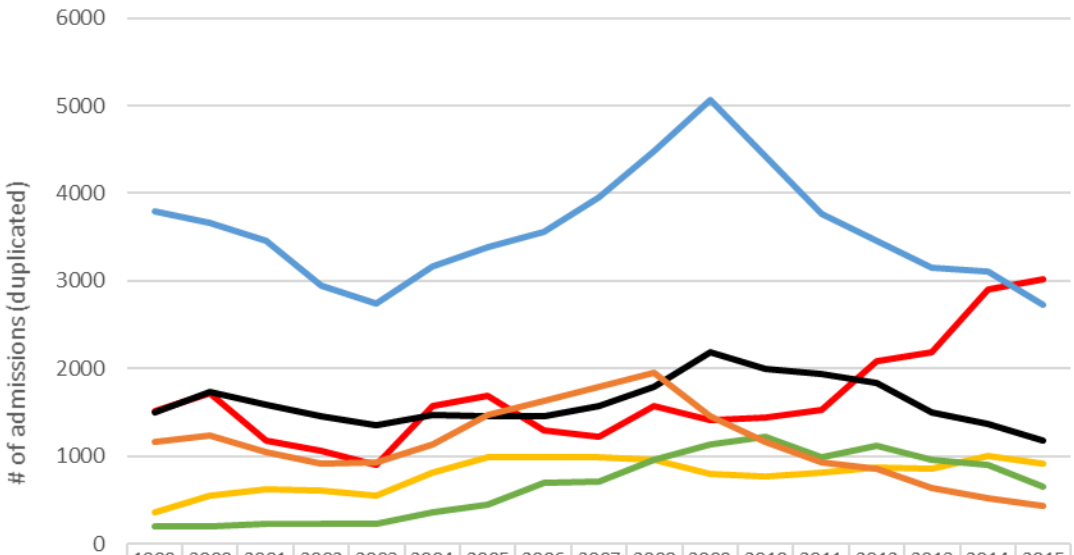
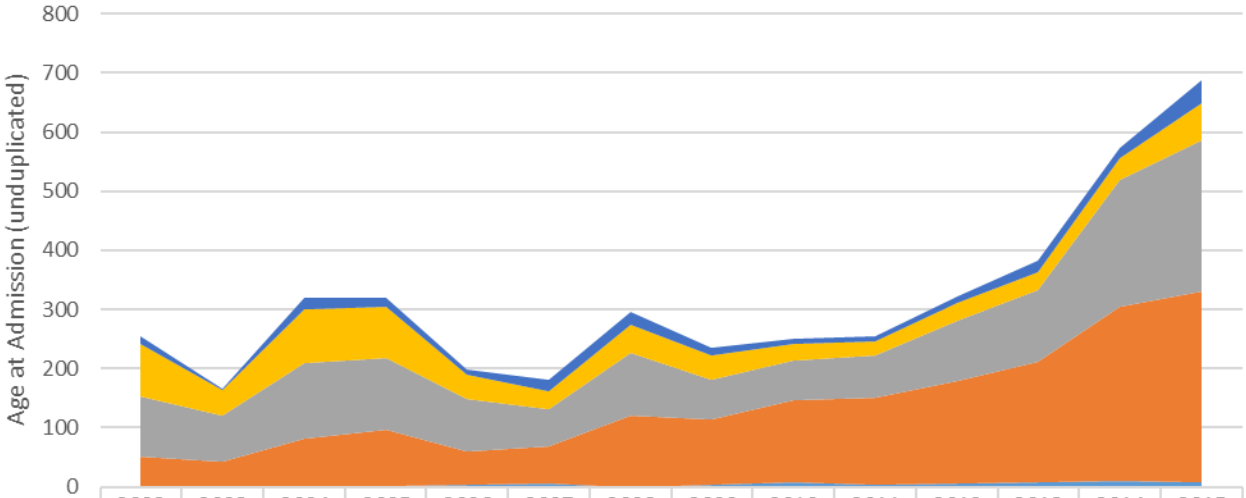


Figure 3a. Treatment Admissions, Primary Drug, King County Residents, Publicly-funded



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Heroin	1510	1727	1174	1056	895	1571	1686	1302	1224	1575	1416	1440	1531	2083	2192	2897	3016
Alcohol	3790	3668	3456	2946	2744	3169	3381	3562	3950	4478	5065	4417	3768	3456	3145	3112	2730
Marijuana	1507	1733	1585	1455	1358	1472	1454	1463	1574	1789	2183	2004	1946	1838	1498	1365	1180
Methamphetamine	355	550	625	613	549	810	991	994	994	957	806	772	817	874	854	1001	911
Other (Mostly Rx opiates)	206	200	229	229	225	364	447	691	713	966	1131	1220	994	1116	954	906	659
Cocaine	1169	1238	1052	911	930	1133	1471	1631	1790	1957	1461	1158	934	855	642	521	432

Figure 3b. Heroin Primary, First Time in Treatment, King County Residents, Publicly Funded



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
55+	13	3	19	15	10	20	21	12	8	8	12	19	18	38
45-54	89	43	91	88	40	30	48	42	28	24	30	32	37	62
30-44	101	78	129	121	89	63	106	68	68	73	101	121	214	257
18-29	50	43	79	94	56	63	121	110	137	147	174	203	293	322
<18	2	0	2	2	4	6	0	3	9	3	5	8	11	8

Table 4. Syringe Exchange Surveys of Public Health- Seattle & King County Clients

	2011		2013		2015		p-value
	n	%	n	%	n	%	
Total	**401**	-	**475**	-	**409**	-	
Drugs used (yes/no to each) *							
Powder cocaine by itself	116	31%	107	23%	66	16%	<.0001
Crack cocaine by itself	144	38%	154	33%	129	32%	NS
Speedball (cocaine & heroin	144	38%	136	29%	85	21%	<.0001
Methamphetamine by itself	121	32%	246	53%	233	58%	<.0001
Goofball (meth & heroin)	53	14%	129	28%	150	37%	<.0001
Heroin by itself	333	88%	388	83%	357	89%	NS
Prescription opiates	112	30%	163	35%	167	41%	0.001
Benzodiazepines	144	38%	191	41%	141	35%	NS
Hooked on prescription-type opiates prior to using heroin							
Yes	127	38%	177	45%	188	53%	<.0001
Possessed Narcan/Naloxone past 3 months							
Yes	Not asked		112	28%	168	47%	<.0001

*Participants could report more than one drug therefore percentages do not add to 100%. Includes drugs used by any route.
Categories may not add up to total because of missing data for individual variables
Source: Adapted from- HIV/AIDS Epidemiology Unit, Public Health – Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report 2015, Volume 84.

Figure 5. Drugs Identified in Drug Caused Deaths, King County WA

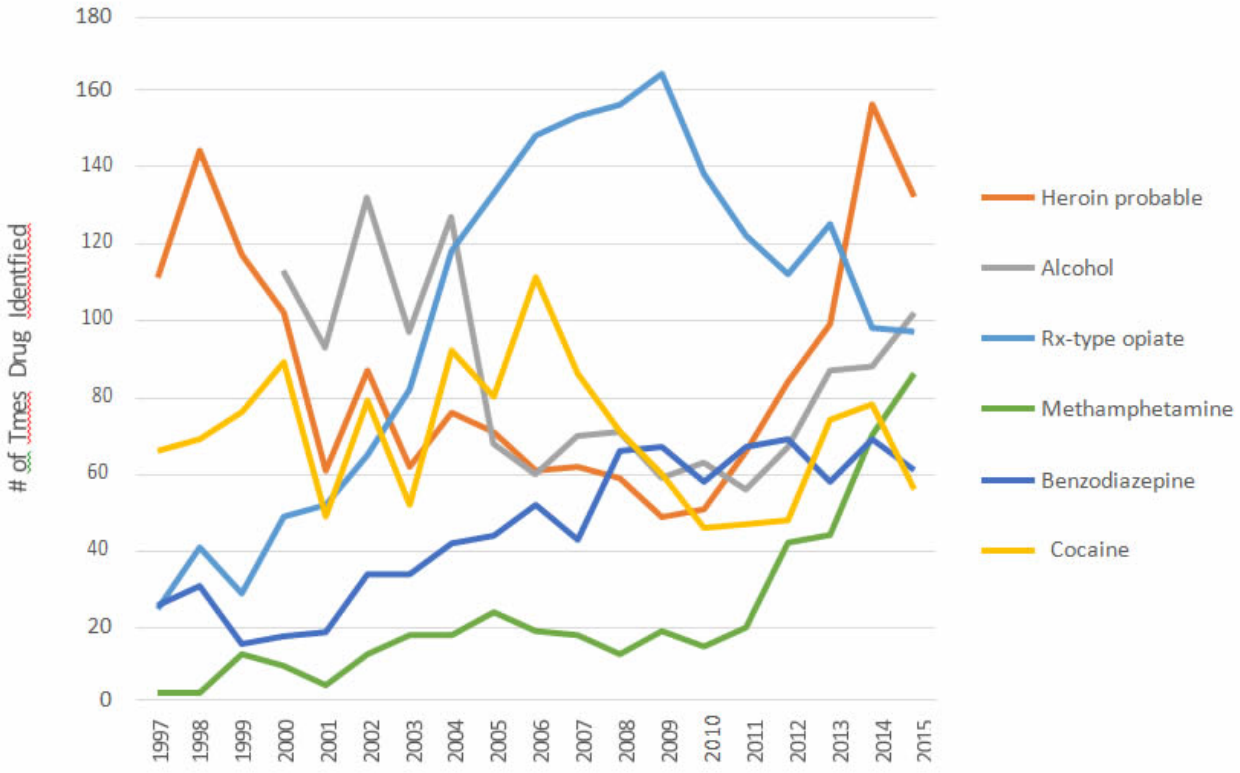


Figure 6. Poison Center exposure calls from King County, WA

Drug	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Pharmaceutical Opioids	*3,532*	*3,572*	*3,824*	*3,735*	*808*	*943*	*779*	*567*	*571*	*528*
Benzodiazepines	2,071	2,200	2,521	2,403	541	536	495	437	395	385
Dextromethorphan	2,198	2,113	1,764	1,545	395	369	286	298	293	284
Oxycodone	1,032	1,113	1,208	1,278	294	351	261	179	168	164
Hydrocodone	1,192	1,146	1,212	1,113	222	235	210	172	149	140
Cannabinoids/Marijuana/THC	119	150	152	155	57	111	83	80	115	112
Amphetamine e.g. Adderall	526	473	486	410	106	108	123	113	104	95
Methylphenidate e.g. Ritalin, Concerta	286	324	342	316	81	72	66	62	52	70
Heroin	39	40	63	58	21	34	40	49	75	60
Tramadol	234	302	392	331	74	85	68	57	56	52
Methamphetamine	64	48	103	110	24	55	60	60	46	52
Codeine	429	348	379	382	80	69	59	48	57	51
Buprenorphine	0	0	0	0	5	48	50	30	30	33
Methadone	398	430	396	407	88	77	62	40	46	33
Morphine	226	209	217	211	43	43	35	22	29	29
Cocaine	154	133	132	102	39	93	50	23	30	27
Carisoprodol e.g. Soma	0	0	0	0	0	0	0	0	23	25
Hallucinogenic amphetamine e.g. MDMA	114	81	87	65	21	25	24	37	28	15
Hydromorphone	0	0	0	0	0	18	21	10	24	14
Cyclobenzaprine e.g. Flexeril	123	157	156	168	37	15	15	11	10	12
LSD	11	11	7	10	1	1	6	10	6	10
GHB and analog/precursor	19	10	18	16	9	1	6	7	7	9
Fentanyl	0	0	0	0	1	14	10	8	10	7
Ketamine and analogs	8	1	5	5	5	5	1	5	5	5
Meperidine	21	24	20	13	1	0	2	1	0	3
Oxymorphone	0	0	0	0	0	3	1	0	2	2

Figure 7. HIV cases diagnosed through December 2015 and reported through May 31, 2016 (preliminary)

HIV exposure category	1982-2006	% with NIR	% Without NIR	2007-2009	% with NIR	% without NIR	2010-2012	% with NIR	% without NIR	2013-2015	% with NIR	% without NIR
MSM	7320	72	75	594	64	74	582	66	76	483	63	82
IDU	575	6	6	30	3	4	35	4	5	20	3	3
MSM-IDU	1066	10	11	69	7	9	76	9	10	40	5	7
Hetero	680	7	7	103	11	13	61	7	8	41	5	7
Other	133	1	1	6	1	1	11	1	1	6	1	1
No identified risk (NIR)	407	4		130	14	16	114	13	15	171	22	29
TOTAL	10181	100	100	932			879	100	100	761	99	100
Total minus NIR	9774			802			765			590		