2016 Drug Use Trends in King County, Washington

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Summary

- Marijuana use was statistically unchanged among high school sophomores in King County from 2006-2016 with 17% and 14% reporting past month use, respectively. Other indicators including police evidence testing, helpline calls and treatment admissions all declined through 2016.

- Indicators of cocaine use and consequences are generally level or declining. Calls from adults to the Recovery Helpline have been steady and police evidence testing cases have been slowly and steadily declining in recent years and are well below levels seen a decade ago. Treatment admissions in 2016 were similar to previous years, but substantially lower than 2011-2012, and drug overdose deaths involving cocaine have been at moderate and relatively steady levels in recent years, down substantially from peak levels a decade ago.

- Heroin indicators remain at high levels in 2016 across all measures and there were more than 4 calls per day to the Recovery Helpline seeking assistance regarding heroin. Heroin deaths declined somewhat in 2015 and 2016. In 2016, there was improved reporting of fentanyl of unknown source (not obviously pharmaceutical) and fentanyl analogs in deaths such that 17 deaths were identified with these compounds present that would not have been previously.

- Methamphetamine indicators continue to increase, most notably deaths involving methamphetamine totaled 98 in 2016, with a steady increase from the 20 deaths in 2011. In 2016, 51% of methamphetamine involved drug caused deaths also involved an opioid. Police evidence testing for methamphetamine continued to increase in 2016 and it was the most commonly identified drug.

- Prescription-type opioid trends are down somewhat from peaks around 2010, however prescription-type opioid involved deaths are persisting at elevated rates and are second only to heroin in terms of most common drugs identified in fatal overdoses.

- Injection drug use as the exposure category for HIV remains low, 3-4% of new HIV infections from 2008-2016, not including men who have sex with men and inject methamphetamine who are much more likely to have HIV. The majority of people who inject drugs in King County are HCV positive. Syringe exchange and naloxone programs continue to increase distribution.

Drug Specific Synopses for Primary and Emerging Drug Problems

1. Marijuana

Wastewater testing for the city of Seattle was conducted for one week in 2016—the first year that results on the marijuana metabolite carboxy-THC are available. Based on the current science, it appears that the level of carboxy-THC measured was among the highest detected in the world with an average load of 416 mg/1,000 people/day; this is a measure of the average mass excreted of the metabolite, detailed data charts are available online http://score-cost.eu/monitoring2016/. Note that wastewater testing for drugs is an area of evolving science and that THC and
metabolites are complicated to analyze chemically and statistically so results can be difficult to interpret and compare over time and between locations.

Marijuana related calls from King County residents to the Recovery Helpline have not changed substantially from 2012 through 2016 (Figure 1). There are very different patterns by age with marijuana being the most common drug mentioned by callers under the age of 18, the fourth most common substance mentioned among young adults and the fifth most common substance for those 26 and older.

An initiative legalizing marijuana use by adults 21 and older passed in November 2012 and retail stores opened July 2014. Marijuana use was statistically unchanged among high school sophomores in King County from 2006-2016 with 17% and 14% reporting past month use, respectively (Washington State Healthy Youth Survey, data available at www.askhys.net).

Police evidence testing from King County law enforcement jurisdictions for cannabis totaled 60 cases in 2016 similar to recent years and a substantial decline compared to the 704 cases in 2009 (Figure 2a), changes likely driven by the evolving legal and policy environments. Cannabis was the fourth most common drug detected in 2016. Cannabinimetics (synthetic cannabinoids) were infrequently detected in police evidence testing with five cases in 2016, they were first detected as a class of drugs in 2011 when there were 9 cases (Figure 2b).

Treatment admissions for which marijuana was the primary drug declined steadily from 18% in 2012 to 9% in the second half of 2016 among all publicly funded admissions (Figure 3a). Characteristics of those admitted with marijuana as primary in the second half of 2016 indicate a relatively high proportion of males and African Americans and Latinos compared to admissions for other drugs (Figure 3b), almost one-third were under 18, a much larger proportion than for other drugs (1-3%). Almost all marijuana treatment admissions involved smoked marijuana, with just 3% reporting an oral route.

2. Cocaine

The cocaine metabolite benzoylecgonine was detected in Seattle’s wastewater at a similar load in 2016 as in 2015 and the average level was similar to the population-weighted average for cities that participated in each of the years internationally.

Recovery Helpline calls regarding cocaine were relatively constant over time for each age group (Figure 1). Cocaine related calls were uncommon for minors, were fairly uncommon among young adults with 44 calls in 2016 compared to 190 for methamphetamine, and totaled 231 in 2016 for those ages 26 and older compared to 731 for methamphetamine.

Police evidence testing cases positive for cocaine totaled 109 in 2016, the lowest number since reporting began in 2002 (Figure 2). The number of cases has steadily declined in recent years and cocaine has been the third most common drug detected since 2012.

Treatment admissions for which cocaine was primary declined somewhat in number and percentage from 8% to 5% from 2012 to the second half of 2016 (Figure 3a). Over half (53%) of admissions were African American a proportion far higher than for any other drug (Figure 3b). The cocaine involved treatment admissions were also by far the oldest with 57% aged 45 or older compared to 18% for heroin. Smoking was the most common route of administration (79%), followed by inhaling and injecting.

Cocaine involved deaths totaled 61 in 2016 out of 332 drug caused deaths, down from 111 in 2006. In the intervening years the number of cocaine involved deaths has fluctuated between 46 and 86 (Figure 4a).

3. Heroin

Heroin related calls to the Recovery Helpline totaled 25 in 2016 for minors, fewer than for alcohol and marijuana, however heroin has consistently been the most common drug for calls regarding young adults with 476 in 2016, similar to prior years (Figure 1). For adults 26 and older, heroin was consistently the second most common substance
following alcohol and totaled 1,179 calls in 2016 similar to the prior year. In 2016, summing calls regarding all ages, there were 1,680 calls about heroin from King County callers, an average of more than four per day. Callers expressing interest in buprenorphine for opioid use disorder treatment are generally increasing and totaled 58 for young adults and 228 for those ages 26 and older in 2016.

Police evidence testing positive for heroin totaled 287 cases in 2016, down somewhat from the peak of 364 in 2015 when heroin was the most frequently detected drug. In 2016, methamphetamine was detected in more police evidence cases than heroin (Figure 2a).

Heroin was the most common drug reported as primary in 2016, 31% of all treatment admissions, a numerical and proportional increase compared to 2012 (Figure 3a). Among illicit drugs heroin had the largest proportion who were female, 40%, and White, non-Hispanic, 72%; note that prescription-type-opioid admissions had higher proportions who were female and White (figure 3b). For adults ages 18-25 admitted to treatment, heroin was numerically and proportionally much more common than other drugs, with a relatively large proportion, 19%, of admissions for heroin ages 18-25 (n=280 in the second half of 2016). Young adults may well still have private health insurance through their parents and these data are only for publicly funded admissions, so this is likely a substantial underestimate of the number of admissions for heroin among this age group. Injecting remains the most common route of administration for heroin (68%), but smoking is up substantially (28%).

Heroin involved deaths declined somewhat in 2016 to 118, down from 132 in 2015 and the peak of 156 in 2014 (Figure 4a). As discussed below, illicit fentanyl and other novel synthetic opioids increased in 2016 with at least 9 deaths involving opioids that were neither pharmaceutical-type nor heroin. Non-pharmaceutical-non-heroin opioids represent essentially a new, third class of opioids and a second class of non-pharmaceutical opioids in addition to heroin. The net impact of opioids in total, summing pharmaceutical, heroin and/or non-heroin-non-pharmaceutical, was 219 of 332 drug caused deaths in 2016 a number similar to the prior two years (Figure 4b).

4. Prescription-type Opioids and Non-pharmaceutical-non-heroin Opioids

Recovery Helpline calls for prescription-type opioids remain low among minors and have declined among young adults from 180 to 89 from 2012 to 2016 (Figure 1). However, calls regarding prescription-type opioids have been steady among those 26 and older, totaling 424 in 2016, the fourth most common substance following alcohol, heroin, and methamphetamine.

Healthy Youth Survey data for King County tenth graders indicate a significant decline in the proportion reporting past month use of prescription-type-opioids to get high. In 2006 the proportion was 10%, with bi-annual surveys showing a steady decline to 4% in 2014 and the same proportion in 2016 (data not shown, available at www.askhys.net). In 2016, there was a strong association between reporting use of prescription-type-opioids to get high and having ever used heroin (26%), compared to only 2% reporting ever having used heroin if they had not used prescription-type-opioids to get high.

Police evidence testing that was positive for prescription-type-opioids (“other opiates” in Figure 2a) has declined to the lowest level, 38 cases in 2016, since 2003 and down from the peak of 241 in 2007. The specific types of opioids detected are available online at: https://adai.washington.edu/WAdata/King_County_cases.htm, oxycodone has consistently been the most common prescription-type-opioid detected in all years.

Fentanyl as a chemical, source not documented, was identified in 7 crime lab cases in 2016 and 9 cases in 2012, with smaller numbers of cases in other years. Fentanyl analogs were first identified in 2013 when there was 1 case and there were 2 cases in 2016. Crime lab chemists report that several pieces of evidence from King County law enforcement that appeared to be oxycodone tablets actually contained fentanyl related substances, two examples include: a round blue tablets with an M/30 imprint that was actually fentanyl and a green tablets with an A214 imprint that actually contained U-47700, Heroin, Furanyl Fentanyl, and Alprazolam. There were other instances of people knowingly purchasing acetyl fentanyl in powder form on the internet that were involved in fatal, poly-drug, overdoses.

Crime lab chemists indicate they have seen a few pieces of evidence that were positive for both heroin and fentanyl that had the appearance of heroin. Taken together it is clear that illicit fentanyl and non-pharmaceutical-non-heroin
drugs are present in King County, and based on available data related to the impacts of use, it appears that the amount available and used is still modest, certainly compared to other areas of the United States. Low numbers in police evidence testing may be attributable to a number of factors including fake pills, which look legitimate and may be less likely to result in arrest and in turn prosecution or forensic testing, and internet purchases. Law enforcement indicates they have seized some pill presses for manufacturing Figurets from powders in Washington State (details are currently unavailable).

Prescription-type opioid involved treatment admissions constituted 5% of admissions in the second half of 2016 (Figure 3a), similar to the previous several years and down from the peak in 2010 (earlier data not shown, available at http://adai.washington.edu/WADATA). The majority of those admitted to treatment were female (55%), a much higher proportion than for other drugs (heroin was the closest with 40%) and they were much more likely to be White, non-Hispanic 76%. Two-thirds were ages 26-44 and a similar proportion reported using these drugs orally, 17% smoked, 10% injected, and 5% inhaled (Figure 3b).

Deaths involving prescription-type-opioids totaled 107 in 2016, up slightly from the previous two years and below the peak of 164 seen in 2009 (Figure 4a). There are challenges categorizing drugs as prescription-type-opioids given the increase in illicitly manufactured fentanyl, apparently beginning in 2016 in King County. We are now reporting a new category of opioid involved deaths, non-pharmaceutical-non-heroin.

Non-pharmaceutical-non-heroin drugs as categorized in deaths included the following substances: acetyl fentanyl, MT-45, parafluorofentanyl, 4-ANPP, U-47700, furanyl fentanyl, para-fluorobutyryl fentanyl, and non-pharmaceutical-fentanyl. The last category of non-pharmaceutical-fentanyl is based on an enhanced death investigation conducted in 2016 and included information from toxicology, such as the presence of 4-ANPP which is used to illicitly manufacture fentanyl, or other information from the death investigation indicating the source was unlikely to be pharmaceutical, a detailed write up is available at: http://adai.uw.edu/pubs/pdf/2017fentanyldeaths.pdf. These are new categorizations of opioids that have been implemented in death data and in crime lab data, with an attempt to be consistent across data sources.

5. Methamphetamine

Wastewater testing indicate high levels of methamphetamine in the Seattle area with an average load of 334 mg/1,000 people/day in 2016, similar to 2015, much higher than the average loads seen internationally and among the highest levels measured internationally in both years.

Recovery Helpline data indicate methamphetamine calls for minors are less common than alcohol or marijuana and similar to heroin (Figure 1). Among young adults, methamphetamine calls totaled 190 in 2016, similar to prior years and the third most common substance in 2016 in this age group. Methamphetamine calls among those 26 and older totaled 731 in 2016 similar to 2014 and 2015, but more than double the number seen in 2012, methamphetamine was the third most common substance after alcohol and heroin.

Police evidence testing cases continue to increase for methamphetamine through 2016, when it was the most common drug detected in King County (Figure 2a).

Treatment admissions for which methamphetamine was the primary drug totaled 1,001 in 2014, the highest number to date, doubling the second half of 2016 admissions provides a similar annual estimate of 1,094 for 2016 (Figure 3a), up somewhat from the annual total of 800-900 admissions seen in the decade prior (data not shown, available online at https://adai.washington.edu/WADdata). In 2016, two-thirds of methamphetamine admissions were for men and two-thirds for White, non-Hispanics. Admissions among young adults 18-25 totaled 113 for the second half of 2016, 20% of all methamphetamine admissions, there were 280 admissions for heroin in the same period among this age group. Most methamphetamine was smoked, 62%, with 31% reporting any injection in the prior month.

Methamphetamine involved deaths reached a new high in 2016 with 98 deaths, of which 51% also involved an opioid (Figure 4). There has been a substantial and consistent increase in methamphetamine involved deaths since the 20 seen in 2011.
6. Benzodiazepines

Treatment data for benzodiazepines for 2016 are unavailable, however in previous years they were almost never the primary or sole drug of abuse. Benzodiazepines were present in a substantial minority, 31%, of poly drug overdoses involving opioids.

New Drug-Related Legislation/Changes in Drug-Related Legislation/Practice/Policy

In 2016, the King County executive and 3 local mayors convened the Heroin and Prescription Opiate Addiction Task Force which had 32 members and was co-chaired by leadership from King County’s Behavioral Health and Recovery Division and Public Health-Seattle & King County. The task force provided 8 recommendations across primary, secondary and tertiary prevention as well as regarding evaluation. Complete details of the recommendations, meeting summaries, and supporting materials are available online at: http://www.kingcounty.gov/depts/community-human-services/mental-health-substance-abuse/task-forces/heroin-opiates-task-force.aspx

Two of the recommendations include support for low-barrier buprenorphine programs to encourage medication initiation within no more than 3 days of request and service availability in care settings out in the community where opioid injectors already receive services e.g. syringe exchange, homeless clinics. Several pilot low-barrier buprenorphine programs began in 2016 and 2017 and demand has far exceeded capacity, 2017 Cures Act funded projects are expected to begin meeting some of this need beginning Fall 2017. Same day drop in appointments for buprenorphine induction are extremely popular and appear to be an important element of low-barrier buprenorphine programs. Evaluation data are currently being collected to better understand these programs. Another recommendation was to pilot two Community Health Engagement Locations, often called safe injection facilities, in King County for three years, with continuation contingent upon evaluation findings; per the report “the CHEL pilot program should have a provisional time limit of three years. Continuation of the program beyond that time should be based on evidence of positive outcomes.”

Local Research/Evaluation Highlights

The Alcohol and Drug Abuse Institute conducted an evaluation of a pilot program by the Seattle Police Department to have bicycle officers and community oriented policing officers carry naloxone in the event of witnessing an overdose (complete report http://adai.uw.edu/pubs/pdf/spdnaloxonereport2017.pdf). The evaluation included a review of all naloxone administrations over the initial months of the program and found:

*There were eleven incidents in which SPD delivered naloxone, from March through September 2016. Ten of the eleven incidents were determined to be confirmed opioid overdoses, with one incident being an unknown drug overdose. These ten confirmed drug overdoses showed marked increases in the victims’ respirations and levels of consciousness following naloxone administration. All of the naloxone administrations took place outdoors in a public location. For these 11 incidents, [Seattle Police Department] was able to respond 199 seconds before [Seattle Fire Department] units on average. For three of these incidents, bike officers had come across the overdose victim while on patrol and notified dispatch to request a medic response."

The second part of the evaluation was a comprehensive review of all opioid overdoses to which police were dispatched during July and August, it found that:

*Of the 49 probable or confirmed opioid-related overdoses, SPD was the first responding unit on scene for 13, and officers carried naloxone for two of those thirteen. When SPD arrived first to a scene, they were on scene on average 51 seconds prior to Seattle Fire Department arrival.*

In addition to these findings which will aid decision making regarding whether, how and where to further distribute naloxone, recommendations were made for standardized data collection to facilitate ongoing evaluation and monitoring in Seattle and in any jurisdiction considering providing police with naloxone.
HIV and Hepatitis Cases and Diagnoses Related to Substance Use, Opioid Overdose and Infectious Disease Prevention Programming

New HIV diagnoses among King County residents totaled 730 from 2014-2016, of which 27 (3.7%) had injection drug use as their sole exposure category (Table 5). There were not significant changes in the rate of diagnoses with HIV as the exposure over time (p=0.71).

The majority of people who inject drugs in King County are infected with hepatitis C. In the 2015 National HIV Behavioral Surveillance (NHBS) survey of people who inject drugs, 64% had evidence of HCV antibodies.

In 2015, 21 cases of acute hepatitis C were reported to Public Health – Seattle and King County; the suspected route of exposure was injection drug use for 15 of these cases (71%). Eight (38%) of these acute hepatitis C cases were among young adults born after 1985. However, acute hepatitis C reporting underestimates the actual number of new hepatitis C cases because approximately 70%-80% of people with acute hepatitis C do not have any symptoms or experience a mild illness and do not seek medical care. Each year, PHSKC receives over a thousand new reports of King County residents with chronic hepatitis C (current or past infection). While the majority of new reports of chronic hepatitis C are persons in the baby boomer birth cohort (born from 1945-1965), there have been an increasing number of new reports of chronic hepatitis C among young adults born after 1985 (Figure 6).

Syringe distribution via exchange programs began in 1989 in King County when 39,157 syringes were distributed and continued to increase into 2016 when 7,161,085 were distributed, up slightly from 2015 (Figure 7). In 2016, there were 41,345 encounters with syringe exchange clients, note that many clients are seen multiple times per year and that they often exchange syringes for multiple people.

Naloxone is increasingly available at local service providers, area pharmacies and syringe exchanges, an online naloxone locator and overdose training are available at www.stopoverdose.org. The People’s Harm Reduction Alliance distributes a substantial amount of naloxone via fixed site and mobile syringe exchange programs. Public Health-Seattle & King County increased its naloxone distribution substantially in 2016 to 811 kits, up from 346 in 2015. Among the naloxone refills in 2016, 114 were for those whose previous kit had been used to reverse an overdose.
Appendix

Figure 1. Recovery Helpline, King County calls, 2012-2016

Source: Washington State Recovery Helpline
**Figure 2a.** Major drugs-Police evidence testing for local law enforcement agencies in King County, WA performed by the Washington State Patrol Crime Laboratory

**Figure 2b.** Novel and emerging drugs-Police evidence testing for local law enforcement agencies in King County, WA performed by the Washington State Patrol Crime Laboratory

Data Source: Washington State Patrol, Toxicology laboratory, data coding and analyses Alcohol and Drug Abuse Institute, University of Washington
**Figure 3a.** King County Treatment Admissions, Publicly Funded, Trends

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</thead>
<tbody>
<tr>
<td><strong>Total Admissions</strong></td>
<td>10,222</td>
<td>100%</td>
<td>9,285</td>
<td>100%</td>
<td>9,802</td>
<td>100%</td>
<td>8,928</td>
<td>100%</td>
<td>9,056</td>
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<tr>
<td><strong>Alcohol</strong></td>
<td>3,456</td>
<td>33.8%</td>
<td>3,145</td>
<td>33.9%</td>
<td>3,112</td>
<td>31.7%</td>
<td>2,730</td>
<td>30.6%</td>
<td>2,750</td>
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<tr>
<td><strong>Cocaine/Crack</strong></td>
<td>855</td>
<td>8.4%</td>
<td>642</td>
<td>6.9%</td>
<td>521</td>
<td>5.3%</td>
<td>432</td>
<td>4.8%</td>
<td>472</td>
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<tr>
<td><strong>Heroin</strong></td>
<td>2,083</td>
<td>20.4%</td>
<td>2,192</td>
<td>23.6%</td>
<td>2,897</td>
<td>29.6%</td>
<td>3,016</td>
<td>33.8%</td>
<td>2,842</td>
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<tr>
<td><strong>Prescription-type Opioid</strong></td>
<td>681</td>
<td>6.7%</td>
<td>559</td>
<td>6.0%</td>
<td>532</td>
<td>5.4%</td>
<td>368</td>
<td>4.1%</td>
<td>432</td>
</tr>
<tr>
<td><strong>Methamphetamine</strong></td>
<td>874</td>
<td>8.6%</td>
<td>854</td>
<td>9.2%</td>
<td>1,001</td>
<td>10.2%</td>
<td>911</td>
<td>10.2%</td>
<td>1,094</td>
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<tr>
<td><strong>Marijuana</strong></td>
<td>1,838</td>
<td>18.0%</td>
<td>1,498</td>
<td>16.1%</td>
<td>1,365</td>
<td>13.9%</td>
<td>1,180</td>
<td>13.2%</td>
<td>818</td>
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<tr>
<td><strong>Other Drugs/Unknown</strong></td>
<td>419</td>
<td>4.1%</td>
<td>379</td>
<td>4.1%</td>
<td>355</td>
<td>3.6%</td>
<td>270</td>
<td>3.0%</td>
<td>152</td>
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</table>

Includes admissions to outpatient, opioid treatment programs and residential modalities of care in publicly funded programs. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Prescription-type Opioids: Includes hydromorphone, other opiates and synthetics, and oxycodone.

Percentages may not sum to 100 due to either rounding, missing data and/or because not all possible categories are presented in the Figure.

Data Sources: Washington State Department of Social and Health Services (DSHS), Division Behavioral Health and Recovery, Treatment Report and Generation Tool (TARGET) for 2012-2015 and King County Behavioral Health and Recovery Division for July-Dec 2016. * Note that asterisk indicates that the data for the second half of 2016 were multiplied by 2 to provide an annual estimate to compare to previous years' annual totals.
### Figure 3b. King County Treatment Admissions, Publicly Funded, Characteristics July-December 2016

<table>
<thead>
<tr>
<th></th>
<th>Alcohol</th>
<th>Cocaine/Crack</th>
<th>Heroin</th>
<th>Prescription-type Opioids</th>
<th>Methamphetamine</th>
<th>Marijuana</th>
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<tr>
<td><strong>Number of Admissions</strong></td>
<td>1383</td>
<td>246</td>
<td>1446</td>
<td>220</td>
<td>565</td>
<td>418</td>
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<tr>
<td><strong>Sex (%)</strong></td>
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<tr>
<td>Male</td>
<td>969</td>
<td>167</td>
<td>866</td>
<td>100</td>
<td>382</td>
<td>308</td>
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<tr>
<td>Female</td>
<td>414</td>
<td>79</td>
<td>580</td>
<td>120</td>
<td>183</td>
<td>110</td>
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<tr>
<td><strong>Race/Ethnicity (%)</strong></td>
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<tr>
<td>White, Non-Hisp.</td>
<td>733</td>
<td>72</td>
<td>1046</td>
<td>166</td>
<td>382</td>
<td>145</td>
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<tr>
<td>African-Am/Black, Non-Hisp</td>
<td>296</td>
<td>131</td>
<td>142</td>
<td>30</td>
<td>47</td>
<td>125</td>
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<td>Hispanic/Latino</td>
<td>158</td>
<td>10</td>
<td>111</td>
<td>10</td>
<td>54</td>
<td>83</td>
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<tr>
<td>Asian/Pacific Islander</td>
<td>91</td>
<td>9</td>
<td>47</td>
<td>0</td>
<td>44</td>
<td>16</td>
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<tr>
<td>Other</td>
<td>101</td>
<td>22</td>
<td>92</td>
<td>8</td>
<td>43</td>
<td>50</td>
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<tr>
<td><strong>Age Group (%)</strong></td>
<td></td>
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<tr>
<td>Under 18</td>
<td>36</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>132</td>
</tr>
<tr>
<td>18-25</td>
<td>130</td>
<td>280</td>
<td>19.4%</td>
<td>113</td>
<td>87</td>
<td>87</td>
</tr>
<tr>
<td>26-44</td>
<td>651</td>
<td>876</td>
<td>60.6%</td>
<td>149</td>
<td>345</td>
<td>148</td>
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<tr>
<td>45+</td>
<td>568</td>
<td>279</td>
<td>19.3%</td>
<td>44</td>
<td>105</td>
<td>53</td>
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<td><strong>Route of Administration (%)</strong></td>
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<tr>
<td>Smoked</td>
<td>10</td>
<td>406</td>
<td>28.1%</td>
<td>37</td>
<td>352</td>
<td>395</td>
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<tr>
<td>Inhaled</td>
<td>0.0%</td>
<td>28</td>
<td>1.9%</td>
<td>5.0%</td>
<td>23</td>
<td>0.0%</td>
</tr>
<tr>
<td>Injected</td>
<td>0.0%</td>
<td>978</td>
<td>67.6%</td>
<td>22</td>
<td>174</td>
<td>0.0%</td>
</tr>
<tr>
<td>Oral/Other/Unknown</td>
<td>1374</td>
<td>151</td>
<td>68.6%</td>
<td>24</td>
<td>24</td>
<td>13</td>
</tr>
</tbody>
</table>

Includes admissions to outpatient, opioid treatment programs and residential modalities of care in publicly funded programs. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Prescription-type Opioids: Includes hydromorphone, other opiates and synthetics, and oxycodone.

Percentages may not sum to 100 due to either rounding, missing data and/or because not all possible categories are presented in the Figure.

Data Sources: Washington State Department of Social and Health Services (DSHS), Division Behavioral Health and Recovery, Treatment Report and Generation Tool (TARGET) for 2012-2015 and King County Behavioral Health and Recovery Division for July-Dec 2016.
Figure 4a. Drug caused deaths, King County Washington, Major drug classes

Data Source: King County Medical Examiner, Public Health-Seattle & King County, data coding and analyses Alcohol and Drug Abuse Institute, University of Washington
**Figure 4b.** Drug caused deaths, King County Washington, Opioids

*Note that fentanyl is duplicated here, also included in Rx-type-opioid, and when determined to be illicitly manufactured fentanyl included in opioid-non-Rx (prescription)-non-heroin

Data Source: King County Medical Examiner, Public Health- Seattle & King County, data coding and analyses Alcohol and Drug Abuse Institute, University of Washington

**Figure 5.** New HIV Diagnoses for King County Residents by Three Year Period and Risk Factor

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>2008-2010</th>
<th>% with Unknown risk included</th>
<th>2011-2013</th>
<th>% with Unknown risk included</th>
<th>2014-2016</th>
<th>% with Unknown risk included</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>627</td>
<td>67</td>
<td>512</td>
<td>63</td>
<td>454</td>
<td>62</td>
</tr>
<tr>
<td>IDU</td>
<td>34</td>
<td>4</td>
<td>27</td>
<td>3</td>
<td>27</td>
<td>4</td>
</tr>
<tr>
<td>MSM-IDU</td>
<td>61</td>
<td>7</td>
<td>72</td>
<td>9</td>
<td>37</td>
<td>5</td>
</tr>
<tr>
<td>Hetero</td>
<td>54</td>
<td>6</td>
<td>28</td>
<td>3</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>No identified risk (Unknown)</td>
<td>149</td>
<td>16</td>
<td>159</td>
<td>20</td>
<td>178</td>
<td>24</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>934</strong></td>
<td><strong>100</strong></td>
<td><strong>810</strong></td>
<td><strong>100</strong></td>
<td><strong>730</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Data Source: HIV/AIDS Epidemiology Program, Public Health- Seattle & King County
Figure 6. New confirmed and probable cases of Hepatitis C reported to Public Health- Seattle & King County each year, by birth year group

Data Source: Communicable Disease Epidemiology and Immunization Section, Public Health – Seattle & King County

Figure 7. Syringes distributed by programs in King County, WA

Data Source: HIV/AIDS Program, Public Health- Seattle & King County
Contributor Affiliations

CBG & JW - Alcohol and Drug Abuse Institute, University of Washington
RS - Recovery Helpline
BF & LS - Behavioral Health & Recovery Division, King County
RH, JT, MM, JH, SB & SG - Public Health- Seattle & King County
SF - Northwest High Intensity Drug Trafficking Area
FC - Toxicology Laboratory & ES - Crime Laboratory, Washington State Patrol
JO - Ryther Child Center
JP - King County Sheriff's Office
MT - King County Adult Drug Court

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