NDEWS National Drug Early Warning System

Funded at the Center for Substance Abuse Research by the National Institute on Drug Abuse

Philadelphia
Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2017

November 2017

NDEWS Coordinating Center

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National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2017

The National Drug Early Warning System (NDEWS) was launched in 2014 with the support of the National Institute on Drug Abuse (NIDA) to collect and disseminate timely information about drug trends in the United States. The Center for Substance Abuse Research (CESAR) at the University of Maryland manages the NDEWS Coordinating Center and has recruited a team of nationally recognized experts to collaborate on building NDEWS, including 12 Sentinel Community Epidemiologists (SCEs). The SCEs serve as the point of contact for their individual Sentinel Community Site (SCS), and correspond regularly with NDEWS Coordinating Center staff throughout the year to respond to queries, share information and reports, collect data and information on specific drug topics, and write an annual *SCE Narrative* describing trends and patterns in their local SCS.

This *Sentinel Community Site Drug Use Patterns and Trends* report contains three sections:

- The *SCS Snapshot*, prepared by Coordinating Center staff, contains graphics that display information on drug use, substance use disorders and treatment, drug poisoning deaths, and drug seizures. The *SCS Snapshots* attempt to harmonize data available for each of the 12 sites by presenting standardized graphics from local treatment admissions and four national data sources.

- The *SCE Narrative*, written by the SCE, provides their interpretation of important findings and trends based on available national data as well as sources specific to their area, such as data from local medical examiners or poison control centers. As a local expert, the SCE is able to provide context to the national and local data presented.

- The *SCS Data Tables*, prepared by Coordinating Center staff, include information on demographic and socioeconomic characteristics of the population, drug use, substance use disorders and treatment, drug poisoning deaths, and drug seizures for the Sentinel Community Site. The *SCS Data Tables* attempt to harmonize data available for each of the 12 sites by presenting standardized information from local treatment admissions and five national data sources.

The *Sentinel Community Site Drug Use Patterns and Trends* reports for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.

National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends: SCS Snapshot

The *SCS Snapshot* is prepared by NDEWS Coordinating Center staff and contains graphics that display information on drug use, substance use disorders and treatment, drug poisoning deaths, and drug seizures. The *SCS Snapshots* attempt to harmonize data available for each of the 12 sites by presenting standardized graphics from local treatment admissions and four national data sources:

- National Survey on Drug Use and Health;
- Youth Risk Behavior Survey;
- SCE-provided local treatment admissions data;
- National Vital Statistics System mortality data queried from CDC WONDER; and
- National Forensic Laboratory Information System.

The *SCS Snapshots* for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.

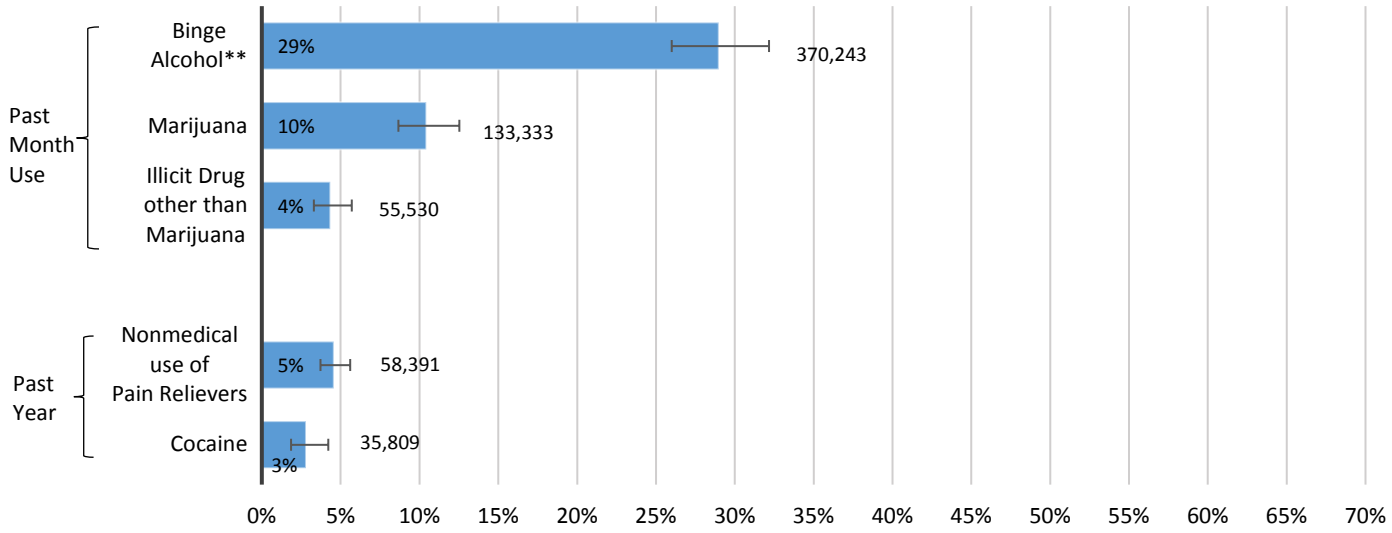
Philadelphia SCS Snapshot, 2017

Substance Use

*National Survey on Drug Use and Health (NSDUH): Survey of U.S. Population**

Persons 12+ Years Reporting Selected Substance Use, Philadelphia^, 2012-2014

Estimated Percent, 95% Confidence Interval, and Estimated Number of Persons**



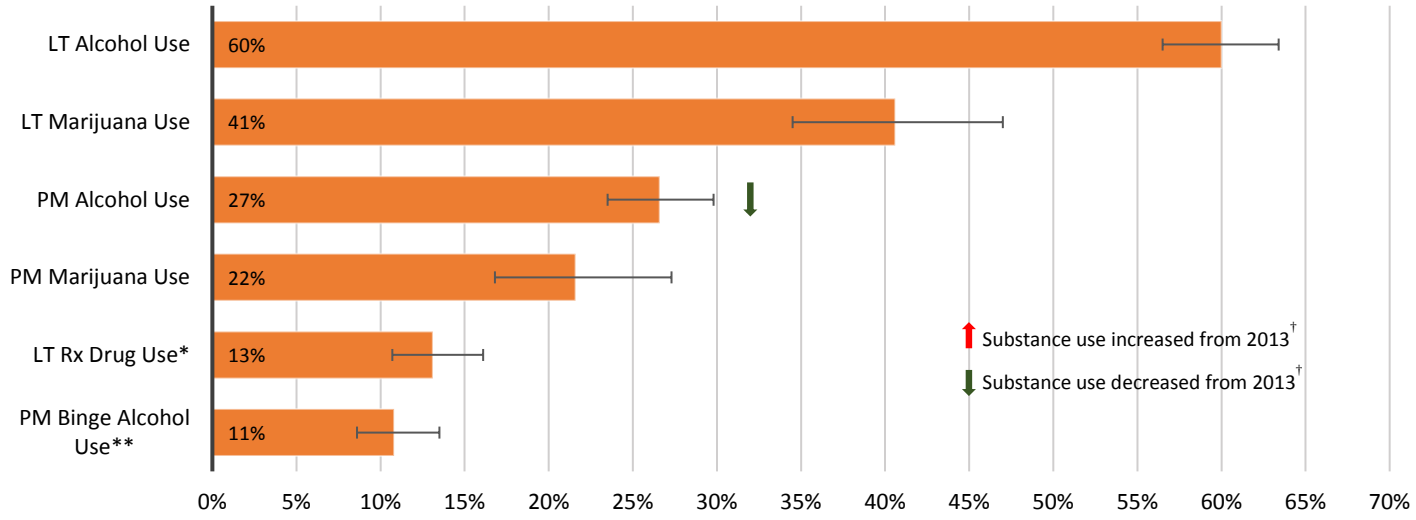
*U.S. Population: U.S. civilian non-institutionalized population. ^Philadelphia: NSDUH Region 36 (Philadelphia County). **Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (1,277,300) from Table C1 of the NSDUH Report. ***Binge Alcohol: Defined as drinking five or more drinks on the same occasion.

Source: Adapted by the NDEWS Coordinating Center from data provided by SAMHSA, NSDUH. Annual averages based on combined 2012 to 2014 NSDUH data.

Youth Risk Behavior Survey (YRBS): Survey of Student Population

Public High-School Students Reporting Lifetime (LT) or Past Month (PM) Use of Selected Substances, Philadelphia, 2015

Estimated Percent and 95% Confidence Interval



*LT Rx Drug Use: Defined as ever taking prescription drugs without a doctor's prescription one or more times during their life.

**PM Binge Alcohol Use: Defined as having five or more drinks of alcohol in a row (within a couple of hours on at least 1 day during the 30 days before the survey).

†Statistically significant change: $p<0.05$ by t-test.

See *Sentinel Community Site (SCS) Data Tables* and *Overview & Limitations* section for more information regarding the data.

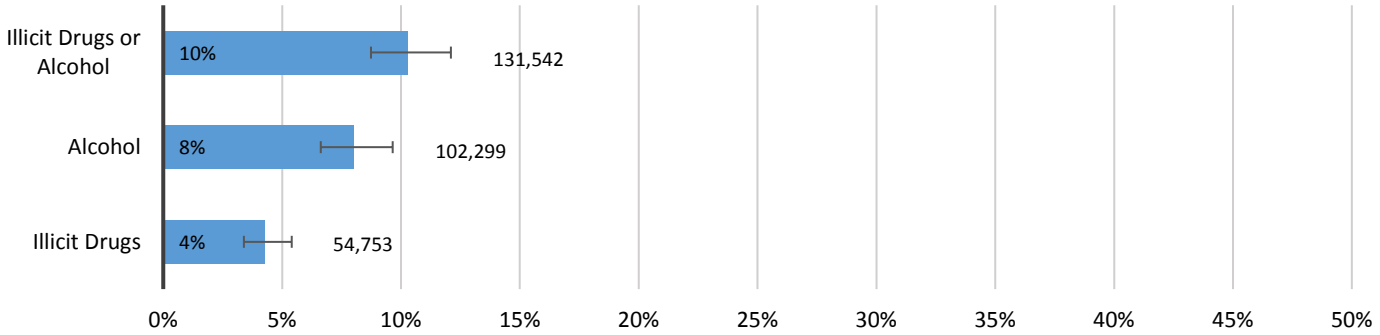
Source: Adapted by the NDEWS Coordinating Center from data provided by CDC, 1991-2015 High School YRBS data.

Substance Use Disorders and Treatment

*National Survey on Drug Use and Health (NSDUH): Survey of U.S. Population**

Substance Use Disorders in Past Year Among Persons 12+ Years, Philadelphia^, 2012-2014**

Estimated Percent, 95% Confidence Interval, and Estimated Number of Persons***



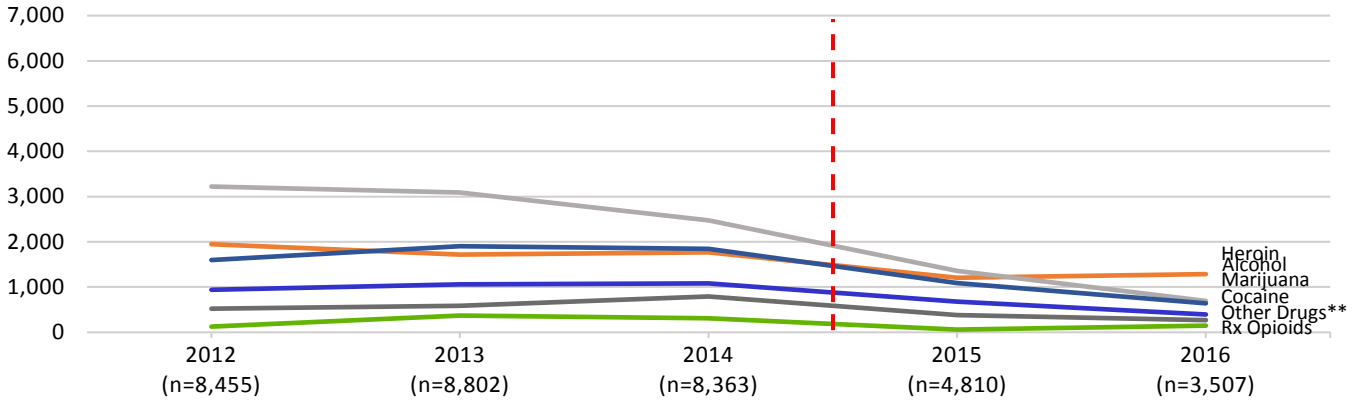
*U.S. Population: U.S. civilian non-institutionalized population. **Substance Use Disorders in Past Year: Persons are classified as having a substance use disorder in the past 12 months based on responses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. ^Philadelphia: NSDUH Region 36 (Philadelphia County). ***Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (1,277,300) from Table C1 of the NSDUH Report.

Source: Adapted by the NDEWS Coordinating Center from data provided by SAMHSA, NSDUH. Annual averages based on combined 2012 to 2014 NSDUH data.

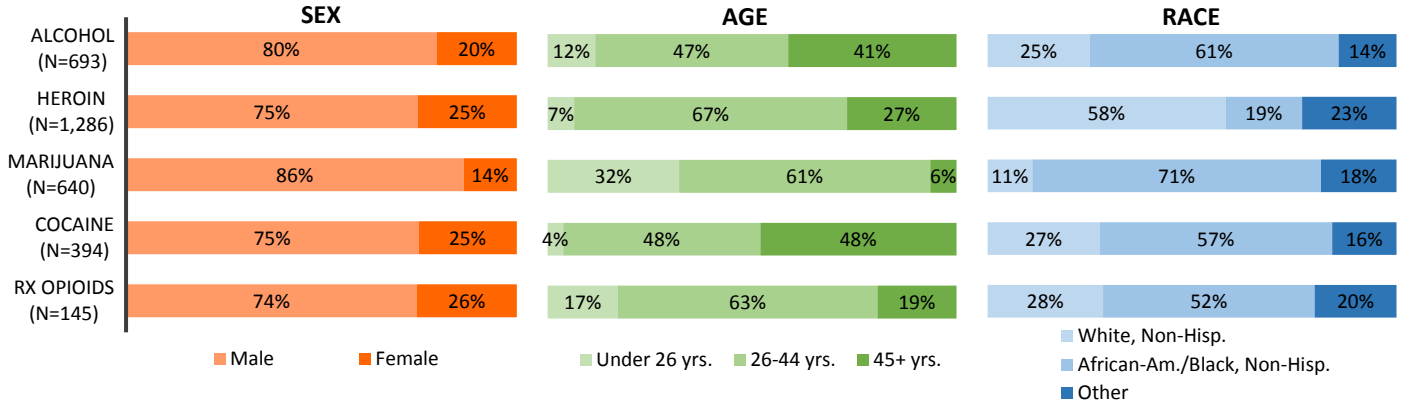
Treatment Admissions Data from Local Sources

Trends in Treatment Admissions*, by Primary Substance of Abuse, Philadelphia, 2012-2016

(n = Number of Treatment Admissions)



Demographic Characteristics of Treatment Admissions*, Philadelphia, 2016



*Treatment Admissions: Includes admissions for uninsured and underinsured individuals admitted to any licensed treatment programs funded through the Philadelphia Department of Behavioral Health and Intellectual disAbility Services. Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 additional individuals became eligible in 2015. As individuals who historically have been uninsured become insured, the number of individuals served through the BHSI (Behavioral Health Special Initiative) program has declined; thus treatment admissions reported by BHSI declined from 8,363 in 2014 to 4,810 in 2015. **Other Drugs: May include synthetics, barbiturates, and over-the-counter drugs. Percentages may not sum to 100 due to rounding. See *Sentinel Community Site (SCS) Data Tables* and *Overview & Limitations* section for more information regarding the data.

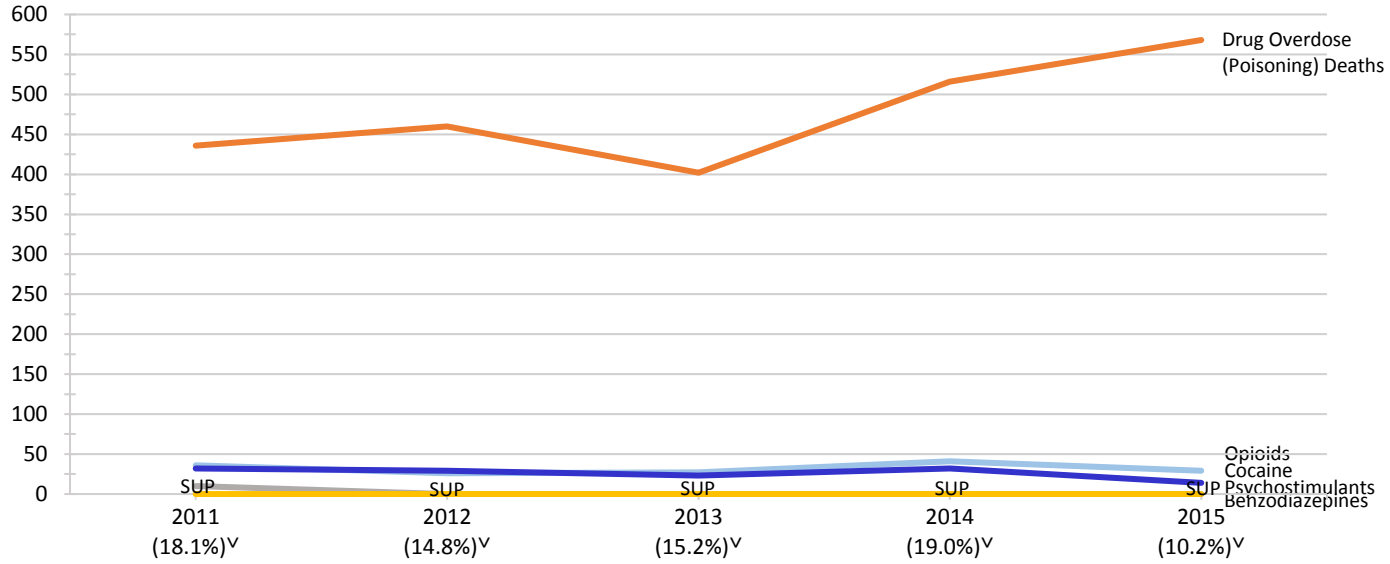
Source: Data provided to the Philadelphia NDEWS SCE by the Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Drug Overdose (Poisoning) Deaths

National Vital Statistics System (NVSS) via CDC WONDER

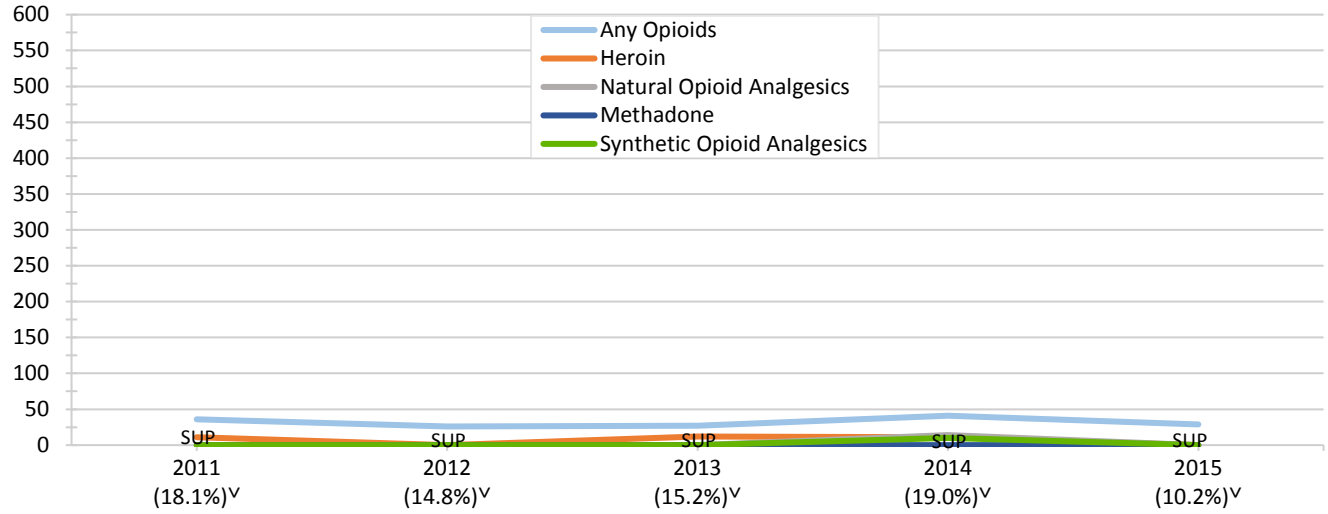
Trends in Drug Overdose (Poisoning) Deaths*, by Drug, Philadelphia^, 2011–2015**

(Number of Deaths and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified˅)



Trends in Opioid Overdose (Poisoning) Deaths*, by Opioid, Philadelphia^, 2011–2015

(Number of Deaths, by Drug** and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified˅)



*Drug Overdose (Poisoning) Deaths: Defined as deaths with ICD-10 underlying cause-of-death (UCOD) codes: X40-X44, X60-X64, X85, and Y10-Y14. **Drug Overdose (Poisoning) Deaths, by Drug: Drug overdose (poisoning) deaths with ICD-10 multiple cause-of-death (MCOD) T-codes: Benzodiazepines (T42.4); Cocaine (T40.5); Psychostimulants with Abuse Potential [excluding cocaine] (T43.6)—may include amphetamines, caffeine, MDMA, methamphetamine, and/or methylphenidate; Any Opioids (T40.0-T40.4, OR T40.6). Specific opioids are defined: Opium (T40.0); Heroin (T40.1); Natural Opioid Analgesics (T40.2)—may include morphine, codeine, and semi-synthetic opioid analgesics, such as oxycodone, hydrocodone, hydromorphone, and oxymorphone; Methadone (T40.3); Synthetic Opioid Analgesics [excluding methadone] (T40.4)—may include drugs such as tramadol and fentanyl; and Other and Unspecified Narcotics (T40.6). ^Philadelphia: Comprised of Philadelphia County. ˅Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified: The percentage of drug overdose (poisoning) deaths with specific drugs mentioned varies considerably by state/catchment area. This statistic describes the annual percentage of drug overdose (poisoning) deaths that include at least one ICD-10 MCOD code in the range T36-T50.8. Note that only 19% of drug overdose (poisoning) deaths in Philadelphia had a specific drug identified; counts of drug specific deaths were often under 10 and CDC suppresses counts for 0-9 deaths. SUP=Suppressed: Counts are suppressed for subnational data representing 0–9 deaths. See *Sentinel Community Site (SCS) Data Tables* and/or *Overview & Limitations* for additional information on mortality data.

Source: Adapted by the NDEWS Coordinating Center from data provided by the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, Multiple cause of death 1999-2015, available on the CDC WONDER Online Database, released 2016. Data compiled in the Multiple cause of death 1999-2015 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between February-June 2017, from http://wonder.cdc.gov/mcd-icd10.html

Law Enforcement Drug Seizures

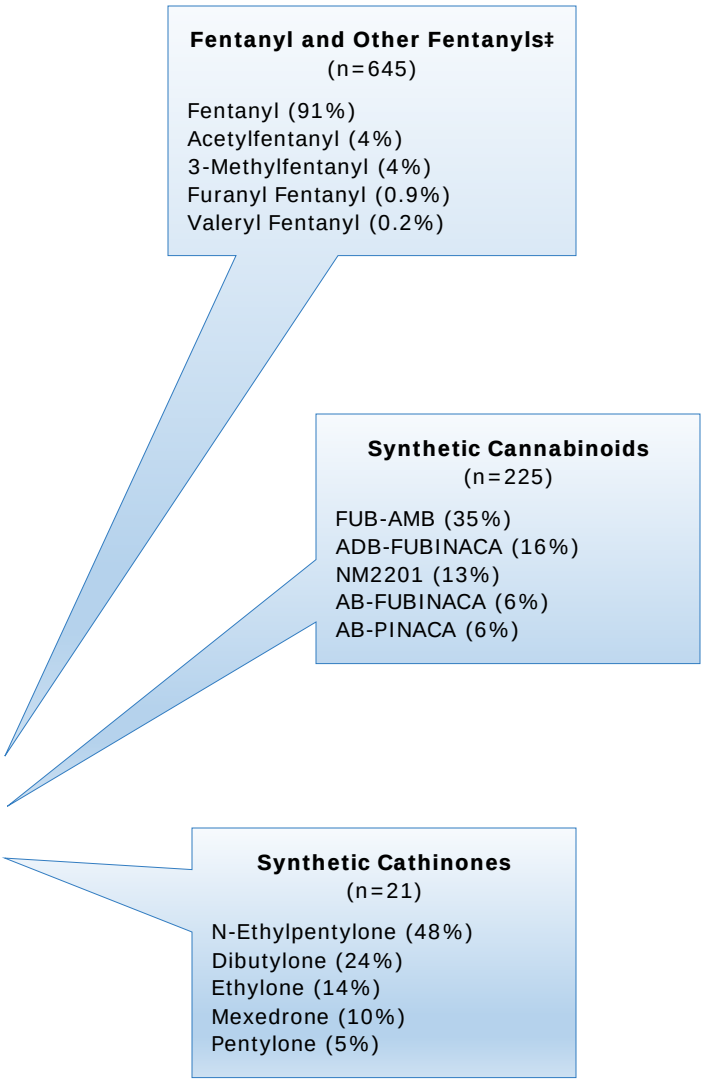
National Forensic Laboratory Information System (NFLIS)

Drug Reports* for Items Seized by Law Enforcement in Philadelphia in 2016
DEA National Forensic Laboratory Information System (NFLIS)

Top 10 Drug Reports and Selected Drug Categories

Drug Identified	Number (#)	Percent of Total Drug Reports (%)
TOTAL Drug Reports	**22,224**	**100%**
Top 10 Drug Reports		
Cocaine	6,177	27.8%
Cannabis	5,901	26.6%
Heroin	4,969	22.4%
Oxycodone	849	3.8%
Alprazolam	707	3.2%
Fentanyl	586	2.6%
No Controlled Drug Identified	458	2.1%
Acetaminophen	451	2.0%
Phencyclidine	385	1.7%
Non-Controlled Non-Narcotic Drug	266	1.2%
Top 10 Total	**20,749**	**93.4%**
New Psychoactive Substances (NPS) Drug Categories†		
Fentanyl and Other Fentanyls‡	645	2.9%
Synthetic Cannabinoids	225	1.0%
Synthetic Cathinones	21	<0.1%
Piperazines	2	<0.1%
Tryptamines	1	<0.1%
2C Phenethylamines	0	0.0%
Any Opioid†	**6,963**	**31.3%**

Top Drug Reports Among Select NPS Drug Categories†**
(% of Category)



*Drug Report: Drug that is identified in law enforcement items, submitted to and analyzed by federal, state, or local forensic labs, and included in the NFLIS database. The NFLIS database allows for the reporting of up to three drugs per item submitted for analysis. The data presented are a total count of first, second, and third listed reports for each selected drug item seized and analyzed. The timeframe is January-December 2016.

**Select NPS Drug Categories: The 3 most prevalent NPS drug categories.

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

†Drug Categories/Any Opioid: See *Sentinel Community Site (SCS) Data Table 6b* for a full list of the drug reports for each NPS and Opioid category.

‡Other Fentanyls are substances that are structurally related to fentanyl (e.g., acetylfentanyl and butyrl fentanyl). See *Notes About Data Terms* in *Overview and Limitations* section for a list of Other Fentanyls that were reported to NFLIS from the 12 NDEWS sites.

Source: Adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from the NFLIS Data Query System (DQS) on May 28, 2017.

National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends: SCE Narrative

The *SCE Narrative* is written by the Sentinel Community Epidemiologist (SCE) and provides their interpretation of important findings and trends based on available national data as well as sources specific to their area, such as data from local medical examiners or poison control centers. As a local expert, the SCE is able to provide context to the national and local data presented.

This *SCE Narrative* contains the following sections:

- ◊ Highlights
- ◊ Primary and Emerging Substance Use Problems
- ◊ Local Research Highlights (if available)
- ◊ Infectious Diseases Related to Substance Use (if available)
- ◊ Legislative and Policy Updates

The *SCE Narratives* for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.

National Drug Early Warning System (NDEWS) Philadelphia Sentinel Community Site (SCS) Drug Use Patterns and Trends, 2017: SCE Narrative

Suet Lim, Ph.D.
City of Philadelphia Community Behavioral Health

Highlights

- **Drug overdose deaths** have increased by 29.2% between 2015 and 2016 (from 702 to 907).
- **Fentanyl**, detected in 45.5% (*N* = 413) of drug overdose deaths is the substance driving overdose deaths; prior to the current outbreak, fentanyl was detected in 5.6% of overdose deaths (2007–2013); positive reports for fentanyl saw dramatic increase, from 163 to 586, in National Forensic Laboratory Information System (NFLIS) data between 2015 and 2016.
- Overdose deaths involving **heroin** reached an all-time high, surpassing 400 for the first time in the Medical Examiner's Office history; reported at 36.7% of treatment admissions, heroin is the leading primary substance of choice among the uninsured and underinsured population; the increase from 25.1% of treatment admissions in 2015 continues the upward trend that began in 2013; from NFLIS, heroin had the third highest number of positive reports (*N* = 4,969 out of 22,224).
- Overdose deaths involving **benzodiazepines** similarly reached an all-time high as heroin, at nearly 400 deaths in 2016; number of primary treatment admissions, while low (*N* = 63 out of 3,507), was almost double from the previous year's number (*N* = 34).
- Treatment indicator for **cocaine** is down (11.2% of treatment admissions compared with 14.1% in 2015), but NFLIS data had the highest number of positive reports for this drug; it is the top drug with 27.8% of positive reports, higher than 26.9% in 2015.
- **Marijuana** remained third among primary treatment admissions (*N* = 640, 18.2%); similar to the previous year, marijuana had the second highest number of positive reports in NFLIS data (*N* = 5,901, 26.6%).
- **Alcohol** continued to be one of the top reported substances for primary substance of choice in treatment admissions (ranked second, *N* = 693, 19.8%).

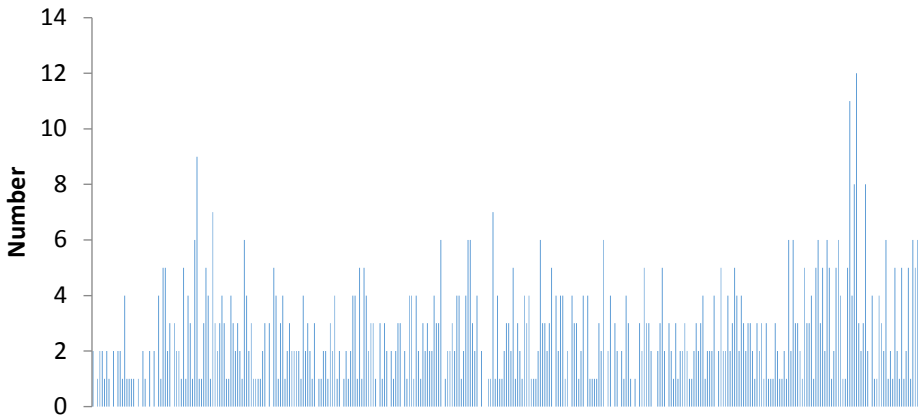
Primary and Emerging Substance Use Problems

TREND IN DRUG OVERDOSE DEATHS[1]

- Drug overdose deaths have increased by 29.2% between 2015 and 2016 (from 702 to 907).

In Philadelphia, 907 individuals died as a result of drug intoxication in 2016, which is an increase from 702[2] in 2015. The upward trend in drug intoxication deaths that started in 2014 continued in 2016. The number of drug intoxication deaths spiked in December 2016, with the highest one-day total on December 4, 2016. Responding to a cluster of deaths that began on December 1 (*N* = 11), the Medical Examiner's Office investigation determined that 90% of the drug intoxication deaths in the first five days of December were positive for heroin, fentanyl, or both. Of the four cases that did not involve heroin or fentanyl, three were positive for cocaine.[3] Figure 1 depicts the distribution of drug intoxication deaths on a daily basis for 2016.

Figure 1. Daily Number of Drug Intoxication Deaths, Philadelphia, 2016



The number of deaths from drug intoxication is three times the number of homicides, making drug intoxication one of the most pressing public health issues. Philadelphia's rate of 49.2 deaths per 100,000 residents far outpaced the drug intoxication death rates in other large cities, and it is more than double the rate of New York City (19.9).[4]

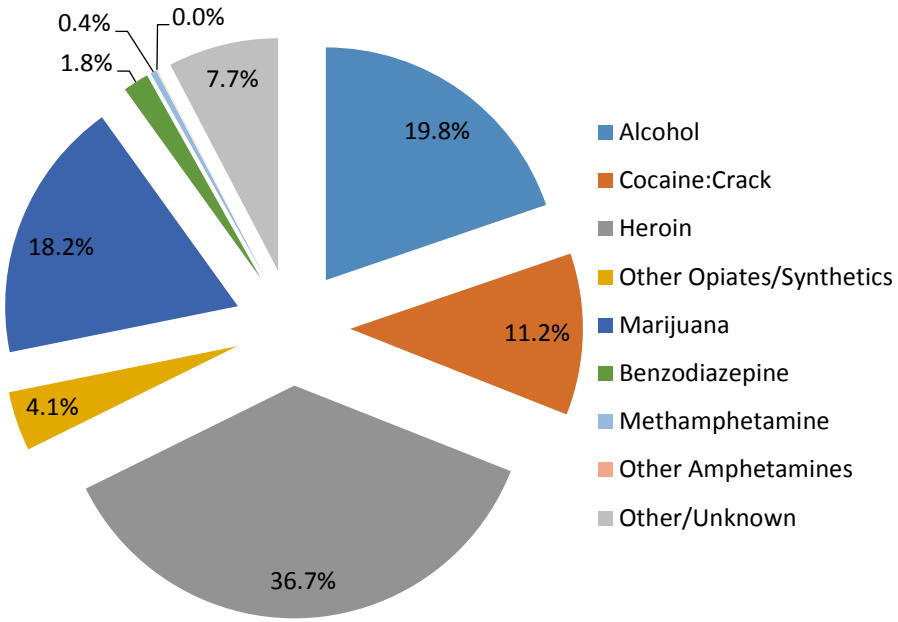
[1] Toxicology results analysis on drug intoxication deaths were conducted by Raynard Washington, Ph.D., Chief Epidemiologist, Department of Public Health.
[2] At the time of the issuance of the Philadelphia 2016 NDEWS report, the profile reported 688 alcohol and/or drug intoxication deaths. Since the submission of the report in June 2016, the Medical Examiner's Office had certified 14 additional cases of drug overdose deaths, raising the official number of drug intoxication deaths to 702.
[3] Philadelphia Department of Public Health. "*Opioids Overdose Death Spike, December 2016*" Chart, Volume 2, Number 3, February 2017, http://www.phila.gov/health/pdfs/CHARTv2e3.pdf.
[4] Denise Paone, Ellenie Tuazon, Michelle Nolan, and Shivani Mantha. "*Unintentional Drug Poisoning (Overdose) Deaths in New York City, 2000–2016*," New York City Department of Health and Mental Hygiene: Epi Data Brief June 2017 (89), https://www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief89.pdf.

With mortality data certified by Philadelphia Medical Examiner's Office (MEO), this profile will use toxicology results from MEO cases to assess for drug-specific patterns and trends. These data cover mortality cases with toxicology reports indicating the detection of substances in persons who died in Philadelphia between January 1, 2016 and December 31, 2016. Deaths with alcohol and drug intoxication listed under any cause of death are counted as intoxication deaths in this profile.

SUMMARY OF PRIMARY DRUG OF CHOICE AT TREATMENT ADMISSIONS[5]

Figure 2 shows the distribution of primary substance of choice at treatment admissions in 2016 for residents of Philadelphia County served by the Behavioral Health Special Initiative (BHSI), a program supported by the Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS). BHSI services cover the uninsured and underinsured population of Philadelphia. The data represent self-reported mentions of use of preferred substances by individuals admitted to treatment in 2016. Treatment services include detoxification, residential rehabilitation, partial hospitalization, intensive outpatient, outpatient, and recovery house, and each treatment episode may encompass more than one service. Individuals may be admitted for more than one (1) treatment episode during the reporting period. This profile focuses on reported primary drug of choice at treatment admission.

Figure 2. Primary Substance at Treatment Admissions, Philadelphia, 2016



Source: Behavioral Health Special Initiative, DBHIDS.

[5] Treatment data analysis were conducted by Kelly Boettcher, MSW, Senior Research Analyst, Community Behavioral Health, Department of Behavioral Health and Intellectual disAbility Services.

In 2016, more than one third of treatment admissions reported heroin as their primary drug of choice. Compared with the next highest reported substance, alcohol at 19.8%, heroin at 36.7% is clearly the top primary drug of choice at treatment admission. Concordance between treatment and mortality data indicates that heroin is the leading drug in use among the drug using population in Philadelphia.

BENZODIAZEPINES

- Overdose deaths involving benzodiazepines similarly reached an all-time high as heroin, at nearly 400 deaths in 2016; number of primary treatment admissions, while low (*N* = 63 out of 3,507), was almost double from the previous year's number (*N* = 34).

Alprazolam (*N* = 258, 28.4%), clonazepam (*N* = 118, 13.0%), and diazepam (*N* = 85, 9.4%), continued to be the three most frequently detected benzodiazepines amongst drug intoxication deaths. The relative ranking of these benzodiazepines from the MEO data was the same in 2016 as it was in 2015. By aggregating detections of benzodiazepines as a category of drugs, we observe a larger proportion (44%) of intoxication deaths with these drugs detected than we did in 2015 (33%).

Although the numbers of positive detections in the mortality data indicate that benzodiazepines were widely used, treatment data continue to show low numbers of primary admissions. Out of 3,507 treatment admissions, there were 63 with benzodiazepines as primary drug of choice. Among admissions for the top three primary drugs of choice, benzodiazepines were most frequently used with heroin (17.9% reported as secondary or tertiary). Figure 3 depicts the percentage of treatment admissions with benzodiazepines as secondary or tertiary drug mentions by those top three primary drugs of choice in the last four years. Compared with these other drugs, individuals who reported heroin as primary were more likely to use benzodiazepines as an adjunct. The combination of opioid and benzodiazepines use represents a high risk for serious health outcomes. The combination of heroin and benzodiazepines is a considerable factor in drug intoxication death rates in Philadelphia.

Figure 3. Percentage of Treatment Admissions With Benzodiazepines as Secondary or Tertiary Drug Mentions by Top Three Primary Drugs of Choice, Philadelphia, 2014–2016

Primary Drug of Choice at Admission	2016	2015	2014	2013
Cocaine	6.6%	8.9%	10.0%	3.4%
Heroin	17.9%	10.0%	11.8%	12.7%
Marijuana	6.4%	8.5%	9.0%	7.6%

Source: Behavioral Health Special Initiative, DBHIDS.

Despite high detections in intoxication deaths, the low admissions as primary, secondary, or tertiary would seem to indicate that users do not consider use of benzodiazepines as addictive. The use of benzodiazepines as an adjunct probably contributes to underreporting of benzodiazepine use. Information gathered from focus groups for a previous NDEWS report that indicated that users consider benzodiazepines to be "boosters" or to use them to "level out" would appear to be still applicable as this category of drugs does not bring individuals to treatment.

When NFLIS data are used for market indicators, we observe that alprazolam, clonazepam, and diazepam are the most frequently reported benzodiazepines. NFLIS data for 2016 report 707, 144, and 37 positive results for alprazolam (3.2%), clonazepam (0.6%), and diazepam (0.2%), respectively. The top three benzodiazepines represented 4% of all positive reports among drug items seized and analyzed by Philadelphia forensic laboratories in 2016.

COCAINE

- Treatment indicator for cocaine is down (11.2% of treatment admissions compared with 14.1% in 2015), but NFLIS data had the highest number of positive reports for this drug; it is the top drug with 27.8% of positive reports, higher than 26.9% in 2015.

Cocaine was detected in 42.8% (*N* = 388) of drug intoxication deaths in 2016. Although it is the third most frequently detected drug among drug intoxication deaths, it is a close second to fentanyl and heroin, which tied for first at 45.5%. Even though the overwhelming majority of intoxication deaths with cocaine also involved fentanyl and heroin, singly or in combination (see Figure 4 for distribution), it is noteworthy that there were 134 deaths with no other drugs other than cocaine, including 3 that were part of the highest one-day total of 12 deaths on December 4, 2016.[6] Cocaine was also detected in 51 nonintoxication deaths, bringing the total number of MEO cases with positive detections for cocaine to 439. The high detections of cocaine among intoxication and nonintoxication deaths indicate widespread use of this illicit substance in Philadelphia.

Figure 4. Distribution of Intoxication Deaths With Cocaine Detections By Heroin, Fentanyl, or Combination Involvement, and Nonintoxication Deaths With Cocaine Detections, Philadelphia, 2016

Cocaine Only	Cocaine, Heroin, No Fentanyl	Cocaine, Fentanyl, No Heroin	Cocaine, Heroin, Fentanyl	Cocaine Detected, Nonintoxication Deaths
134	92	75	87	51

Source: Department of Public Health.

The gender profile in Figure 5 shows that more males than females had cocaine detected. Similar percentages are observed for White, Non-Hispanic (43.3%) and African-American, Non-Hispanic (41.0%). The age profile indicates older users with a majority of decedents aged 45 and older (52.3%).

[6] Philadelphia Department of Public Health. "*Opioids Overdose Death Spike, December 2016*" Chart, Volume 2, Number 3, February 2017, http://www.phila.gov/health/pdfs/CHARTv2e3.pdf.

Figure 5. Demographic Profile of Cocaine-Involved Intoxication Deaths, Philadelphia, 2016

	Number	Percentage
Total	**388**	**100%**
Gender		
Male	268	69.1%
Female	120	30.9%
Race/Ethnicity		
White, Non-Hispanic	168	43.3%
African American, Non-Hispanic	159	41.0%
Hispanic	52	13.4%
Asian	8	2.1%
Other	1	0.3%
Age		
Under 18	2	0.5%
18-25	24	6.2%
26–44	159	41.0%
45+	203	52.3%

Source: Philadelphia Department of Public Health.

Constituting 11.2% of reported primary drug of choice, treatment admissions for cocaine decreased in 2016. As in the previous years, cocaine remained in a distant fourth compared with alcohol, marijuana, and heroin for primary treatment admissions. The demographic profile of 2016 treatment admissions for primary cocaine was similar to that of 2015. Almost three quarters (74.9%) of primary cocaine treatment admissions were male. African Americans constituted the majority of those admitted for primary treatment (56.9%), whereas more than a quarter (27.48%) were White. Hispanics represented 13.2% of total primary cocaine admissions in 2016, which was a decrease from 14.2% in 2015. Age distribution was almost identical for ages 26–44 (48.2%) and 45 and older (48.0%). As with alcohol, those presenting for primary cocaine treatment admissions are generally older than for other substances. Both mortality and morbidity indicators indicate that cocaine users tend to be older. Heroin remained the top reported secondary (20.8%) substance for primary cocaine treatment admissions.

NFLIS data indicated wide availability of cocaine in the Philadelphia illicit drug market. It is the top drug with 27.8% of positive reports, higher than 26.9% reported for 2015, and it has been the top drug with NFLIS positive reports since 2011.

MARIJUANA

- Marijuana remained third among primary treatment admissions (*N* = 640, 18.2%); similar to the previous year, marijuana had the second highest number of positive reports in NFLIS data (*N* = 5,901, 26.6%).

In 2016, marijuana ranked third in the primary substance of choice at treatment admissions. While retaining its rank position from 2015, the percentage of admissions (18.2%) declined from 2015 (22.6%). Males represented 86.4% of primary marijuana treatment admissions in 2016. African Americans

accounted for 70.6% of primary treatment admissions, followed by Whites (10.9%), Hispanics (16.3%), and Asians and others (2.2%). Almost one third (32.2%) were ages 25 and younger at treatment admission. Other illicit drugs have a much lower percentage of individuals 25 years and younger admitted for treatment, with fewer than 10% for cocaine, heroin, or methamphetamine. In contrast to the prior year's trend, the percentage of marijuana admissions reporting heroin as secondary saw a substantial decrease from 20.2% to 8.3%.

There is no mortality indicator for marijuana as the Philadelphia MEO does not test for this drug. NFLIS data for 2016 showed that marijuana accounted for 26.6% of positive reports, ranking second among seizures tested by law enforcement.

METHAMPHETAMINE

All indicators point to very low use of methamphetamine in Philadelphia. In 2016, methamphetamine and amphetamine only represented 0.4 % of primary drug of choice at treatment admission with a known substance of abuse.[7]

In 2016, methamphetamines were detected in 50 deaths where drug intoxication is one of the contributing causes of death. We note that 7 out of 125 firearm-related homicides had positive detections for methamphetamine or amphetamine; thus, methamphetamine accounted for more than 5% of these deaths.

NFLIS data for 2016 report 140 methamphetamine-positive reports for items seized and tested, and 75 amphetamine-positive reports. These drugs represented 0.9% of all positive reports for Philadelphia, which was unchanged from 2015. National NFLIS data had 312,531 positive reports for methamphetamine and 12,014 for amphetamine, or 21.5% and 0.8%, respectively, out of a total of 1,452,594 positive reports. Compared with the statistics presented by national data, Philadelphia data indicate low circulation of these drugs. Nationally, methamphetamine had the second highest positive reports, which was consistent with prior years.

NEW PSYCHOACTIVE SUBSTANCE (NPS)/SYNTHETICS

Current data sources for morbidity and mortality indicators have little or no data on new psychoactive substance or synthetics. Data on treatment for synthetic drug use are sparse as the data collection system for individuals served through the Behavioral Health Special Initiative is insufficiently specific. In treatment admissions, self-reported use of synthetic drugs is collected under "Other Drugs" or "Unknown" category, thus, limiting the profile on synthetic drug use in Philadelphia. For mortality indicators, the Medical Examiner's Office (MEO) does not currently test for synthetic cannabinoids.

No synthetics were in the top ten (10) positive drug reports from NFLIS for Philadelphia. In 2016, there were a total of 225 positive reports of synthetic cannabinoids representing 1% of Philadelphia NFLIS positive reports. Positive reports for synthetic cathinones, piperazines, and tryptamines categories each represented <0.1% individually.

[7] As a result of the combined drug category used in reporting methamphetamine and amphetamine in treatment admissions, we are not able to analyze these two drugs separately.

OPIOIDS

Opioids were found in more than 80% of all drug intoxication deaths in Philadelphia in 2016. Fatal opioid overdoses predominantly occur amongst non-Hispanic White Males, with the peak age group for overdoses amongst 45-54 year olds.[8] The peak age group for overdoses represents a distinct change from earlier periods when opioid overdose deaths were far higher in those 20-29 than any older age group.

Fentanyl

- Fentanyl, detected in 45.5% (*N* = 413) of drug overdose deaths is the substance driving overdose deaths; prior to the current outbreak, fentanyl was detected in 5.6% of overdose deaths (2007–2013); positive reports for fentanyl saw dramatic increase, from 163 to 586, in National Forensic Laboratory Information System (NFLIS) data between 2015 and 2016.

In 2016, there were 907 drug intoxication deaths in Philadelphia. This is the highest number of intoxication deaths reported in the history of the Medical Examiner's Office. A total of 80% of drug intoxication deaths in Philadelphia involved opioids (*n* = 729), including prescription opioids, heroin, and fentanyl. It is the increasing presence of fentanyl, a potent synthetic opioid pain medication that is 50 to 100 times stronger than morphine, that is driving up intoxication deaths.

The previous outbreak of fentanyl-involved intoxication deaths was in 2006, and in 2014, fentanyl had reemerged as a serious drug threat in Philadelphia. Fentanyl, as well as heroin, was the most frequently detected drug among intoxication deaths; it was detected in 45.5% of drug intoxication deaths. Between 2007 and 2013, fentanyl was detected in 5.6% of intoxication deaths, with the lowest count as recent as 2012 with nine (9) deaths. As the outbreak continues, the percentage of intoxication deaths with fentanyl continued to climb. Figure 6 shows the number and percentage of positive fentanyl detections among drug intoxication deaths in the past 10 years.

[8] City of Philadelphia. *The Mayor's Task Force to Combat the Opioid Epidemic in Philadelphia Final Report & Recommendation*. May 2017. http://dbhids.org/wp-content/uploads/2017/05/OTF_Report.pdf.

Figure 6. Number and Percentage of Fentanyl Detections Among Drug Intoxication Deaths, Philadelphia, 2007–2016

Year	Number of Fentanyl Detections	Total Drug Intoxication Deaths	Percentage With Fentanyl
2007	31	421	7.36%
2008	32	460	6.96%
2009	29	419	6.92%
2010	33	387	8.53%
2011	17	489	3.48%
2012	9	513	1.75%
2013	25	460	5.43%
2014	100	628	15.92%
2015	184	702	26.21%
2016	413	907	45.53%

Source: Philadelphia Department of Public Health.

In the initial months of the fentanyl outbreak, data from focus groups of current drug users indicated heroin users unknowingly purchased heroin mixed with fentanyl. This strategy of mixing fentanyl with heroin without the knowledge of the user was used by dealers as a marketing tool to make the heroin seem stronger, which thereby increased demand and boosted heroin sales. Nevertheless, toxicology results from the MEO's investigations of 2016 intoxication deaths have revealed more than half (52.8%) of fentanyl-involved intoxication deaths had no other opioids involved (Figure 7). It is unclear whether heroin users are seeking only fentanyl from dealers or whether the dealers are selling fentanyl as heroin. Fentanyl is not one of the substances of choice available for reporting at treatment admission; hence, we are not able to assess whether individuals deliberately seek out fentanyl through this data source.

Figure 7. Fentanyl-involved Intoxication Deaths, With and Without Other Opioids, Philadelphia, 2016

All drug intoxication deaths with fentanyl	413
Fentanyl-involved intoxication deaths, without other opioids	218
Fentanyl-involved intoxication deaths, with Heroin	195

Source: Philadelphia Department of Public Health, Medical.

The availability of fentanyl in the illicit drug market positive is supported by the reports for National Forensic Laboratory Information System (NFLIS) data. In Philadelphia, fentanyl saw a dramatic increase, from 163 to 586 positive reports between 2015 and 2016. In both the local and the national forensic data, positive reports for fentanyl constituted 2.6% and 2.4%, respectively, of total positive reports, which was approximately a three-fold increase from 2015 (0.7% and 0.8%, respectively).

Heroin

- Overdose deaths involving heroin reached an all-time high, surpassing 400 for the first time in the Medical Examiner's Office history; reported at 36.7% of treatment admissions, heroin is the leading primary substance of choice among the uninsured and underinsured population; the increase from 25.1% of treatment admissions in 2015 continues the upward trend that began in 2013; from NFLIS, heroin had the third highest number of positive reports (*N* = 4,969 out of 22,224).

Heroin (*N* = 413) tied with fentanyl as the most frequently detected drug among intoxication deaths in 2016. Fatal heroin overdoses predominantly occurred in Philadelphia among non-Hispanic White males, although no demographic group has been unaffected. Figure 8 depicts the demographic profile of heroin-involved drug intoxication deaths. The age distribution is similar to 2015 heroin-involved intoxication deaths with 26–44 as the peak age group.

Figure 8. Demographic Profile of Heroin-Involved Intoxication Deaths, Philadelphia, 2016

	Number	Percentage
Total	**413**	
Gender		
Male	118	71.4%
Female	295	28.6%
Race/Ethnicity		
White, Non-Hispanic	265	64.2%
African American, Non-Hispanic	92	22.3%
Hispanic	47	11.4%
Asian	9	2.2%
Other	0	0.0%
Age		
Under 18	1	0.2%
18-25	38	9.2%
26–44	216	52.3%
45+	158	38.3%

Source: Philadelphia Department of Public Health.

Data from Behavioral Health Special Initiative, Philadelphia Department of Behavioral Health and Intellectual disAbility Services, show that heroin use was primarily responsible for 36.7% of treatment admissions in Philadelphia in 2016. This represents an 11.70 percentage point increase from 2015. In 2016, males constituted 74.7% of primary heroin admissions. Non-Hispanic Whites accounted for 58.2% of primary heroin treatment admissions, followed by African Americans (18.7%) and Asians and others (4.5%). Hispanics constituted 18.6% of primary heroin treatment admissions. More than two thirds (68.2%) of those admitted to treatment reported injection as their preferred route of administration, with similar proportions reporting inhalation (15.7%) or oral consumption (15.8%). More than two thirds (66.7%) of heroin treatment admissions were in the middle age category, 26–44 years old.

Examination by demographic factors indicates that heroin is the top primary substance of choice for males (35.4%) and for 45 and older individuals (36.7%). When we examine treatment admissions by race and ethnicity, we observe that heroin has become the leading drug of choice for all groups except African American. Although heroin is not the top-ranked drug of choice at admission for African Americans, there was an increase in the percentage of admissions for this group, from 10.9% in 2015 to 15.2%. For groups that had identified heroin as their leading primary drug of choice, admissions for heroin have been increasing.

Half of treatment admissions who reported heroin as their primary drug of choice had mentions of a secondary drug. Benzodiazepines, as a secondary drug of choice, had increased to 12.3%, but in 2016, cocaine by a difference of almost 10 percentage points, was the most frequently reported secondary drug (21.6%). Other indicators of cocaine use, including mortality and NFLIS data, suggest high availability and high use in Philadelphia. Primary users of cocaine had consistently mentioned use of other drugs but not primary users of heroin. For primary cocaine users, 20.8% reported heroin and 19.3% reported marijuana as their secondary substance of choice, which was a distribution similar to prior years.

Prescription Opioids

Of the 145 treatment admissions that reported other opiates as primary,[9] 74.5% were male, 28.3% were White, 51.7% were African American, 4.9% were Asians and other races, and 15.2% were of Hispanic ethnicity. The largest age category for primary other opiates/opioids admissions was age 26–44 (63.4%).

In 2016, oxycodone was detected in 116 decedents, placing it seventh among the most frequently detected substance among intoxication deaths. Codeine, an opiate, was also in the top ten most frequently detected substance, detected in 55 individuals. Even though oxycodone continued to be the fourth most frequently identified drug among positive reports for items seized and analyzed in NFLIS laboratories in Philadelphia (*N* = 849, 3.8%), there were fewer positive reports than 2015.

Opioid-Involved Intoxication Deaths

In 2016, the age-adjusted death rate for opioid-involved intoxication deaths was 40.4 deaths per 100,000 residents up from 32.5 per 100,00 in 2015, and up from 17.9 per 100,000 residents in 2010 (Figure 9). When we examine rate change by demographic factors, we observe differential rate increases.

[9] This primary drug of choice category could include synthetic drugs.

Figure 9. Opioid-Involved Intoxication Death Rates, Philadelphia, 2015–2016

	Age-Adjusted Rate per 100,000 Residents		Percentage Change in Rate, 2015 to 2016
	2015	2016	
Total	32.5	40.4	24%
Sex			
Female	16.2	24.1	49%
Male	51.4	59.1	15%
Race/Ethnicity			
White, non-Hispanic	48.8	62.6	28%
Black, non-Hispanic	22.2	24.9	12%
Hispanic	39.1	47.0	20%
Age* **			
15–24	10.8	17.5	62%
25–34	48.5	53.6	11%
35–44	59.4	77.2	30%
45–54	64.9	85.1	31%
55+	27.6	31.1	13%

*Rates are calculated using Philadelphia county population denominators from the 2015 American Community Survey 5-year estimates. Rates are adjusted to the 2000 U.S. Standard Population age distribution.
**Deaths among persons with other race/ethnicity were too few to calculate.
***Age-specific rates are shown.

Males are dying at disproportionately higher rates of opioid overdoses than females are, but the rate is increasing much faster among females, a demographic that saw a rate increase of 49% between 2015 and 2016. White, non-Hispanic individuals and Hispanic individuals are experiencing the highest rates of opioid overdose deaths, and the rates increased by 28% and 20%, respectively, between 2015 and 2016. Finally, although those between the ages of 25 and 54 years old have the highest opioid overdose death rates, those between the ages of 15 and 24 years old experienced the greatest rate of increase of 62% in opioid overdose deaths from 2015 to 2016.

Neonatal Abstinence Syndrome and Maternal Opioid Use or Dependence[10]

The following section includes data from the Pennsylvania Health Care Cost Containment Council (PHC4), an independent state agency that collects information on all inpatient hospitalizations and ambulatory procedures at freestanding clinics in Pennsylvania to monitor health care cost. PHC4 also collects data on neonatal abstinence syndrome, which is the main consequence of mothers who use opioids while pregnant.

[10] The analysis on Neonatal Abstinence Syndrome and Maternal Opioid Use or Dependence was conducted by Lia Pizzicato, MPH, Council of State and Territorial Epidemiologist Fellow of Philadelphia Department of Public Health and Department of Behavioral Health and Intellectual disAbilities Services.

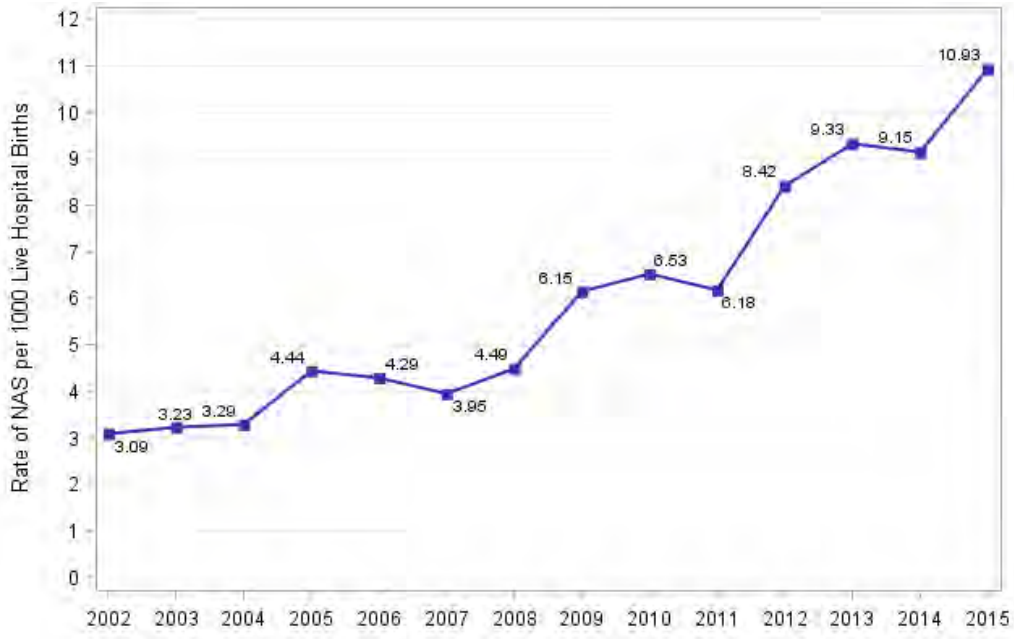
Neonatal abstinence syndrome is, depending on the amount and types of drugs the mother uses, a group of withdrawal symptoms that the baby experiences, such as diarrhea, fever, irritability, seizures, sweating, and tremors. Opioid use during pregnancy can lead to neonatal abstinence syndrome (NAS) and may interfere with a child's brain development and result in later consequences for mental functioning and behavior. Women taking or using methadone during pregnancy may deliver live births with NAS. Additionally, although the term Neonatal Abstinence Syndrome is most often associated with opioid withdrawal, it can be used to describe withdrawal from other substances as well.

Data are de-identified and include detailed patient demographic and utilization information. Each record has 1 principal diagnosis and up to 17 secondary diagnoses using codes from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for data from January 1, 2002 to September 31, 2015 and the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) from October 1, 2015 to December 31, 2015. Data shown in this section are complete through 2015 and are for Philadelphia residents that received care at a hospital in Philadelphia, Bucks, Chester, Delaware, or Montgomery Counties.

Inpatient discharges with a principal ICD-9-CM diagnosis code of V30-V39 or ICD-10-CM diagnosis code of Z38.0-Z38.8 were identified as live births. Neonatal Abstinence Syndrome (NAS) was identified using ICD-9-CM code 779.5 and ICD-10-CM code P96.1. Possible cases of iatrogenic NAS were identified and excluded from the analysis. Women hospitalized for a live-born delivery were identified using ICD-9-CM diagnosis codes V27.0, V27.2, V27.3, V27.5, and V27.6 and ICD-10-CM diagnosis codes Z37.0, Z37.2, Z37.3, Z37.5, and Z37.6. Of these women, those dependent on opioids (ICD-9-CM: 304.00-304.03; ICD-10-CM: F11.20-F11.29), using opioids (ICD-9-CM: 304.70-304.73; ICD-10-CM: F11.10-F11.29, F11.90-F11.99), and taking long-term methadone or other opiate analgesic (ICD-9-CM: V58.69; ICD-10-CM: Z79.891) were identified as a maternal hospitalization related to opioid abuse.

There are several limitations to this dataset. First, the data are delayed up to two years. Data shown in Figure 10 is complete through 2015. In Philadelphia, the rate of NAS increased more than three-fold from 3 per 1,000 live births in 2002 to 11 per 1,000 live births in 2015.

Figure 10. Rate of Neonatal Abstinence Syndrome per 1,000 Live Hospital Births by Year, 2002–2015



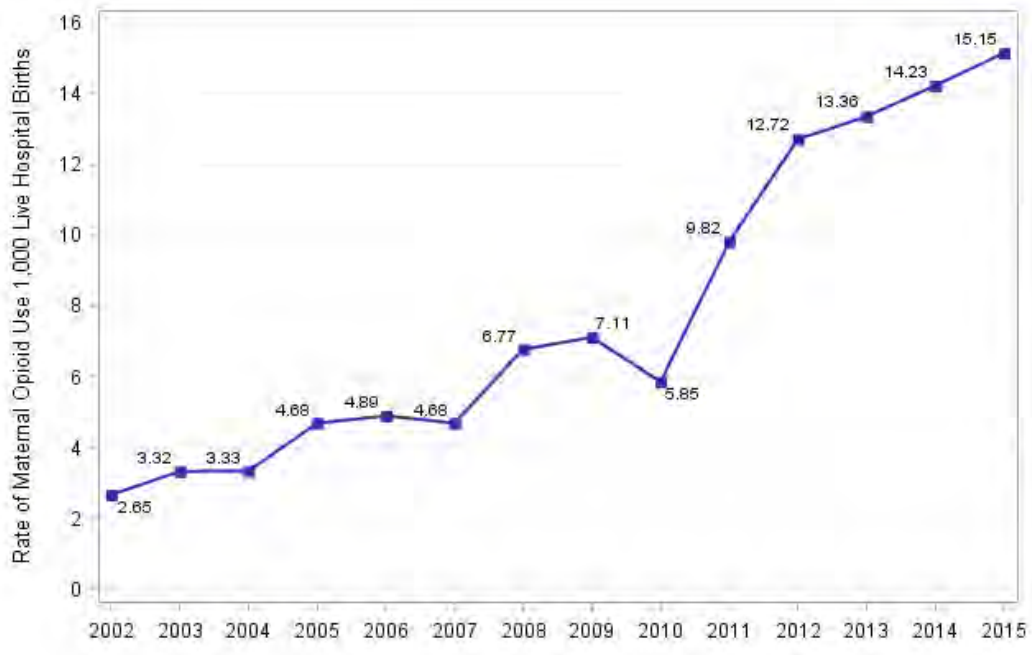
The rate of NAS has been steadily increasing since 2002 where the rate was 3.09 cases of NAS for every 1,000 live hospital births. By 2015, this rate had more than tripled with 10.93 cases of NAS for every 1,000 live hospital births (Figure 11).

Figure 11. NAS Live Hospital Births Compared With All Other Live Hospital Births by Race/Ethnicity, Philadelphia Residents, 2010–2015

	2010	2011	2012	2013	2014	2015
Neonatal Abstinence Syndrome	**(*N* = 147)**	**(*N* = 137)**	**(*N* = 186)**	**(*N* = 199)**	**(*N* = 201)**	**(*N* = 237)**
White, Non-Hispanic	70%	76%	77%	67%	64%	65%
Black, Non-Hispanic	14%	12%	13%	16%	17%	18%
Hispanic	3%	2%	1%	6%	5%	5%
Other	0%	2%	2%	1%	3%	3%
Unknown	13%	8%	7%	10%	11%	9%
All Other Hospital Births	**(*N* = 22,370)**	**(*N* = 22,015)**	**(*N* = 21,901)**	**(*N* = 21,132)**	**(*N* = 21,768)**	**(*N* = 21,442)**
White, Non-Hispanic	23%	23%	23%	25%	27%	28%
Black, Non-Hispanic	48%	48%	48%	46%	44%	45%
Hispanic	10%	10%	10%	10%	10%	11%
Other	10%	11%	11%	11%	10%	10%
Unknown	8%	8%	7%	9%	8%	6%

White, non-Hispanic infants are the predominant race/ethnicity group being born with NAS, whereas Black, non-Hispanic infants represent the predominant race/ethnicity group for all other hospital births.

Figure 12. Rate of Maternal Opioid Use or Dependence per 1,000 Live Hospital Births by Year, 2002–2015



The rate of maternal opioid use or dependence has been increasing since 2002 when 2.65 mothers used opioids per 1,000 live births. Between 2002 and 2015, the rate of maternal opioid use increased more than five-fold with the rate of maternal opioid abuse being 15.15 per 1,000 live births in 2015 (Figure 12).

Figure 13. Mothers With Live Born Hospital Deliveries With Diagnosis of Opioid Use or Dependence Compared With All Other Mothers With Live Born Hospital Deliveries by Age, Philadelphia Residents, 2010–2015

	2010	2011	2012	2013	2014	2015
Mothers With Opioid Use Diagnosis	(*N* = 123)	(*N* = 219)	(*N* = 283)	(*N* = 284)	(*N* = 304)	(*N* = 319)
11–18	1%	0%	2%	2%	1%	1%
19–24	25%	22%	25%	19%	20%	17%
25–34	70%	66%	64%	66%	65%	66%
35–44	4%	12%	9%	13%	14%	16%
45+	0%	0%	0%	0%	0%	0%
All Other Mothers	(*N* = 20,911)	(*N* = 22,083)	(*N* = 21,966)	(*N* = 21,967)	(*N* = 21,054)	(*N* = 20,739)
11–18	9%	8%	7%	6%	5%	5%
19–24	33%	32%	31%	30%	28%	27%
25–34	47%	48%	49%	51%	53%	54%
35–44	11%	12%	12%	13%	14%	15%
45+	0.11%	0.14%	0.13%	0.20%	0.15%	0.15%

There is a larger percentage of mothers with an opioid use or dependence diagnosis between the ages of 25 and 34 years than there is for all other ages (Figure 13).

Figure 14. Mothers With Live Born Hospital Deliveries With Diagnosis of Opioid Use or Dependence Compared With All Other Mothers With Live Born Hospital Deliveries by Race, Philadelphia Residents, 2010–2015

	2010	2011	2012	2013	2014	2015
Mothers With Opioid Use Diagnosis	(*N* = 123)	(*N* = 219)	(*N* = 283)	(*N* = 284)	(*N* = 304)	(*N* = 319)
White, Non-Hispanic	67%	55%	60%	52%	48%	53%
Black, Non-Hispanic	14%	30%	27%	34%	32%	30%
Hispanic	2%	3%	1%	3%	4%	5%
Other	2%	4%	5%	3%	4%	4%
Unknown	15%	8%	7%	9%	12%	8%
All Other Mothers	(*N* = 22,370)	(*N* = 22,015)	(*N* = 21,901)	(*N* = 21,132)	(*N* = 21,768)	(*N* = 21,442)
White, Non-Hispanic	25%	25%	25%	25%	27%	28%
Black, Non-Hispanic	46%	47%	47%	45%	44%	45%
Hispanic	10%	9%	7%	8%	10%	11%

Other	11%	12%	14%	12%	11%	11%
Unknown	8%	7%	8%	8%	8%	6%

White, non-Hispanic mothers make up the predominant race ethnicity group using or dependent on opioids, whereas Black, non-Hispanic mothers make up the predominant race/ethnicity group for all other mothers with live born hospital deliveries (Figure 14).

Alcohol

- Alcohol continued to be one of the top reported substances for primary substance of choice in treatment admissions (ranked second, *N* = 693, 19.8%).

Although it is the second most frequently mentioned substance, there was a substantial decrease in primary alcohol admissions compared with 2015 (28.3%). In 2016, males compromised 79.5% of primary alcohol treatment admissions. African American, non-Hispanics accounted for 60.9% of primary alcohol treatment admissions, followed by White, non-Hispanics (25.0%), Hispanics (10.7%), and Asians and others (3.5%). The largest age group seeking treatment for alcohol abuse was aged 26–44 (47.2%), followed by those older than 45 (41.1%). Youth and adolescents (18 and younger) represented 0.4% of primary treatment admissions for alcohol. The number of drug intoxication deaths with alcohol detected was 177 (19.5%), placing this substance in fifth.

Infectious Diseases Related to Substance Use

HIV

In 2015, Philadelphia recorded 538 newly diagnosed HIV cases.[11] Among these, 30 were related to injection drug use (5.5%). In 2015, this transmission risk among the newly diagnosed HIV disease case was almost half the percentage reported for 2011 (10.0%). Thus, transmission risk from injection drug use among the newly diagnosed has been declining. Co-infection rate for Hepatitis B and Hepatitis C were 2.6% and 13.2% (*N* = 14, 71) respectively.

HEPATITIS C[12]

The following section includes data from the Viral Hepatitis Program (HEP) at the Philadelphia Department of Public Health (PDPH). Hepatitis C virus (HCV) infection occurs at very high rates among

[11] As of the issuance of this profile, reports on 2016 HIV and Hepatitis C cases and diagnoses have not been released. All HIV statistics reported in this profile are from the annual HIV/AIDS surveillance report, *Philadelphia Department of Public Health, AIDS Activities Coordinating Office Surveillance Report, 2015. Philadelphia, PA: City of Philadelphia; September 2016.*

[12] Data and information for this section were provided by Kendra Viner, Ph.D., Viral Hepatitis Program Manager, Department of Public Health.

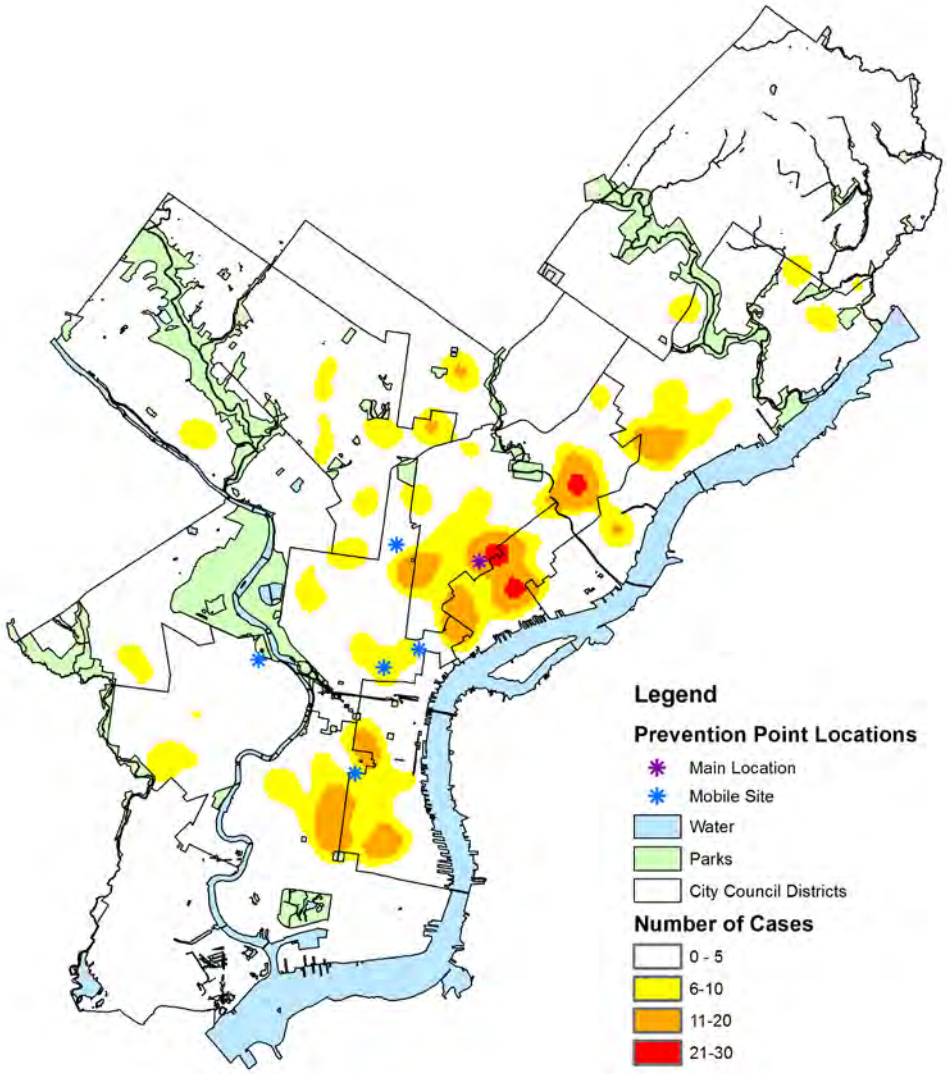
people who use injection drugs, especially among those who share injecting equipment and other drug paraphernalia.

A patient is considered to have acute HCV infection if (a) he/she meets clinical criteria (illness with discrete onset of any sign or symptom consistent with acute viral hepatitis AND jaundice OR a peak elevated serum alanine aminotransferase level) AND has a positive HCV detection test (HCV nucleic acid test or HCV antigen test) OR (b) a documented negative HCV test (antibody, antigen, or nucleic acid test) result followed by a positive test result within 12 months. In 2016, 89 cases of acute Hepatitis C were reported.

The information in this section includes all acute HCV cases reported to the PDPH between 2012 and 2016. There are some limitations to these data. First, as a result of the lack of a specific laboratory test and the general asymptomatic presentation of acute HCV, disease incidence is often underestimated. Second, the demographic and risk factor profile of the individuals tested for HCV may not be representative of the population infected. Finally, although HEP attempts to investigate all cases of acute HCV infection to assess risk factors, some individuals are lost-to-follow-up and risk factor information is not always obtained. Because injection drug use is a primary risk factor for acute HCV, it is important to emphasize safe injection strategies that can reduce the transmission of HCV and other blood born infectious diseases, such as HIV and viral hepatitis B (HBV).

There are several areas of the city where number of new acute HCV infection tend to be higher, as shown in Figure 15. Although some of these locations align with Prevention Point Philadelphia's needle and syringe exchange sites, the numbers suggest there are areas in the city that could be serviced by new mobile needle and syringe exchange site locations.

Figure 15. Cases of Acute Hepatitis C Virus (HCV) Infection, 2012–2016



Individuals between the ages of 25 and 34 years are the predominant age group being diagnosed with acute HCV. The percentage of male cases of acute HCV is slightly higher than the percentage of females. More than 50% of cases that had race/ethnicity information were White, non-Hispanic individuals (Figure 16).

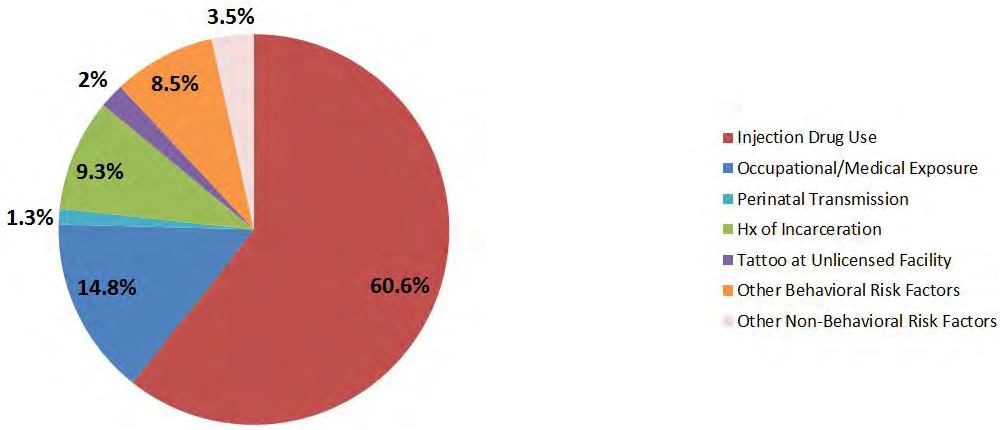
Figure 16. Acute HCV Cases, Philadelphia, 2012–2016

	Percentage
Gender (*N* = 359)	
Female	46%
Male	54%
Race/Ethnicity* (*N* = 279)	
White, Non-Hispanic	56%
Black, Non-Hispanic	20%
Hispanic	22%
Other, Non-Hispanic	2%
Age* (*N* = 358)	
15–18	1%
19–24	16%
25–34	44%
35–44	18%
45–54	13%
55–64	4%
65+	3%

*Individuals with missing age or race/ethnicity information were excluded.

The Viral Hepatitis Program had established an enhanced hepatitis surveillance program in 2013. Approximately one fourth of all newly reported HCV cases are contacted to obtain supplemental clinical and risk factor information about their disease. Figure 17 represents findings on primary risk factors from PDPH's enhanced hepatitis surveillance program to date (2013–Q1 2017).

Figure 17. Primary Risk Factor Distribution of Investigated Chronic HCV Cases, 2013 to Q1 2017 (*N* = 2,155)



*Cases with unknown risk factors (*n* = 436) not included.
Source: https://hip.phila.gov/Portals/_default/HIP/DataReports/Hepatitis/2017/HepC_invest_risk_Q1_2017.jpg

Cumulative data from the enhanced surveillance program indicate injection drug use as the most significant risk factor with more than 60% of investigated chronic Hepatitis C cases.

Legislative and Policy Updates

ABC-MAP PRESCRIPTION DRUG MONITORING PROGRAM[13]

In an effort to curb the state's prescription opioid abuse crisis and to combat the increase in drug-related overdoses and overdose deaths, Pennsylvania passed a legislative measure in late 2014. Act 191, also known as the "Achieving Better Care by Monitoring All Prescriptions Program (ABC-MAP)," was passed in October 2014 and was fully implemented in August 2016. The new law requires monitoring Schedule II through Schedule V controlled substances by the Pennsylvania Department of Health. Additional legislation was passed in late 2016 requiring prescribers to check the PDMP every time they prescribe an opioid or other controlled substance and requiring dispensers to input prescription data to the PDMP within 24 hours.[14] As of January 1, 2017[15]:

1. All licensed prescribers who are lawfully authorized to distribute, dispense, or administer a controlled substance in the Commonwealth of Pennsylvania, not including veterinarians, are required to register with the program.

2. All individuals lawfully authorized to dispense in the Commonwealth of Pennsylvania, including mail order and Internet sales of pharmaceuticals, must register with the program.

3. Dispensers are required to collect and submit prescription information to the PDMP no later than the close of the subsequent business day.

In December 2016, the Drug Enforcement Agency (DEA) issued a DEA Intelligence Report on Pennsylvania PDMP, which included an analysis on statewide prescription of two pharmaceutical opioids, oxycodone and hydrocodone. In 2015, 79,706 prescribers issued 6,608,691 prescriptions for oxycodone and hydrocodone products totaling 475,192,963 dosage units, which were dispensed by 3,309 pharmacies in Pennsylvania. The total dosage units dispensed in 2015 equates to ~37 pills for every Pennsylvanian. The dearth of available comparative state analyses for oxycodone and hydrocodone prescribing trends precludes drawing conclusions regarding the rate of prescribing in Pennsylvania versus other states. Data from a fully implemented PDMP are critical to understanding the flow of prescription drugs in Philadelphia, and allow for assessment of the new program in reducing the alarmingly high numbers of prescription opioids flowing within and beyond Pennsylvania.[16]

[13] Achieving Better Care by Monitoring All Prescriptions: General Information. (n.d.). Retrieved July 25, 2017, from http://www.health.pa.gov/My Health/Diseases and Conditions/Documents/abcmapQA.pdf.
[14] "The Bills We Need to Get to Gov. Wolf's Desk to Curb the Opioid Epidemic," September 29, 2016, from https://www.governor.pa.gov/bills-we-need-get-gov-wolfs-desk-curb-opioid-epidemic/.
[15] Retrieved July 27, 2017, from http://www.health.pa.gov/Your-Department-of-Health/Offices%20and%20Bureaus/PaPrescriptionDrugMonitoringProgram/Pages/home.aspx#.WXouGMHD-1s.
[16] Drug Enforcement Agency. *Pennsylvania Prescription Drug Monitoring Program Trends, 2014-2015*. DEA Intelligence Report. DEA-PHL-DIR-006-17. December 2016.

MAYOR'S TASK FORCE TO COMBAT THE OPIOID EPIDEMIC IN PHILADELPHIA

Recognizing the growing public health crisis on Philadelphia, in December 2016, Philadelphia Mayor James Kenney called for a task force to develop a plan to combat the opioid epidemic. During the first three months of 2017, the task force convened stakeholders in public health, substance use disorder treatment, medical care, law enforcement, advocacy, and managed, as well as representatives from the community, to develop a comprehensive and coordinated plan that would reduce opioid use disorder and its associated morbidity and mortality in Philadelphia. Issued on May 19, 2017, the final report includes 18 specific recommendations in four domains: prevention and education, treatment, overdose prevention, and involvement of the criminal justice system.[17] Progress on implementation of the recommendations will be monitored by an oversight body to be established by the Mayor. Morbidity and mortality indicators will continue to be reported in the annual NDEWS SCS Drug Use Patterns and Trends report for Philadelphia.

[17] City of Philadelphia. *The Mayor's Task Force to Combat the Opioid Epidemic in Philadelphia Final Report & Recommendation*. May 2017. http://dbhids.org/wp-content/uploads/2017/05/OTF_Report.pdf.

Exhibits

Exhibit 1. Number and Percentage of Primary Drugs of Abuse at Treatment Admission by Uninsured and Underinsured Individuals in Philadelphia: 2016

Primary Drug of Abuse	Number of Treatment Admissions	Percentage of Total Admissions
Heroin	1,287	36.7%
Alcohol	693	19.8%
Marijuana	640	18.2%
Cocaine/Crack	394	11.2%
Other Opiates/Synthetics	145	4.1%
Benzodiazepine	63	1.8%
Methamphetamine & Amphetamine	15	0.4%
Other Drugs /Unknown	269	7.7%

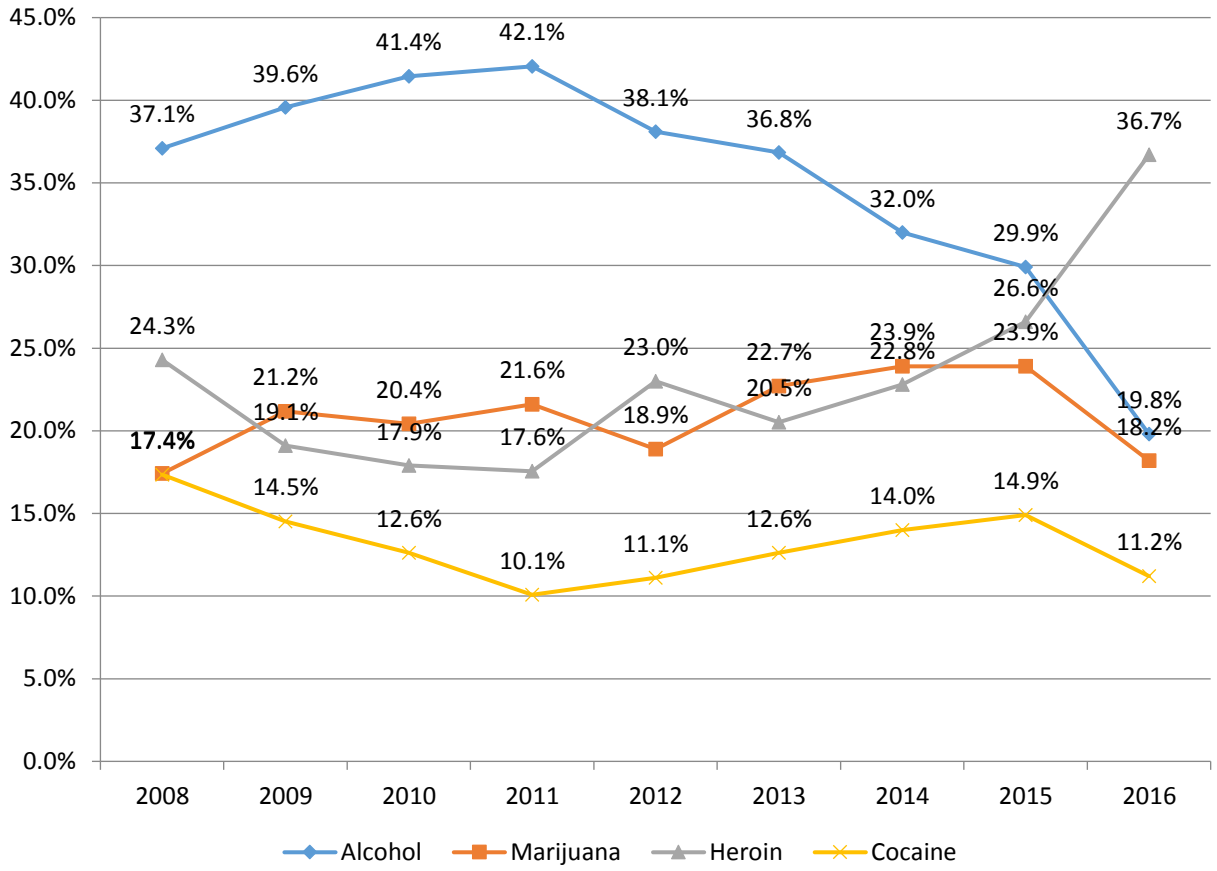
Source: Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Exhibit 2. Demographic Profiles of Individuals Who Entered Substance Abuse Treatment in Philadelphia: 2016

	Number of Treatment Admissions	Percentage of Total Admissions
Gender		
Male	2,714	77.4%
Female	793	22.6%
Race/Ethnicity		
White, Non-Hispanic	1,245	35.5%
African American, Non-Hispanic	1,587	43.3%
Hispanic	541	15.4%
Asian	31	0.9%
Others	103	2.9%
Age		
Under 18	35	1.0%
18–25	453	12.9%
26–44	2,082	59.4%
45+	937	26.7%

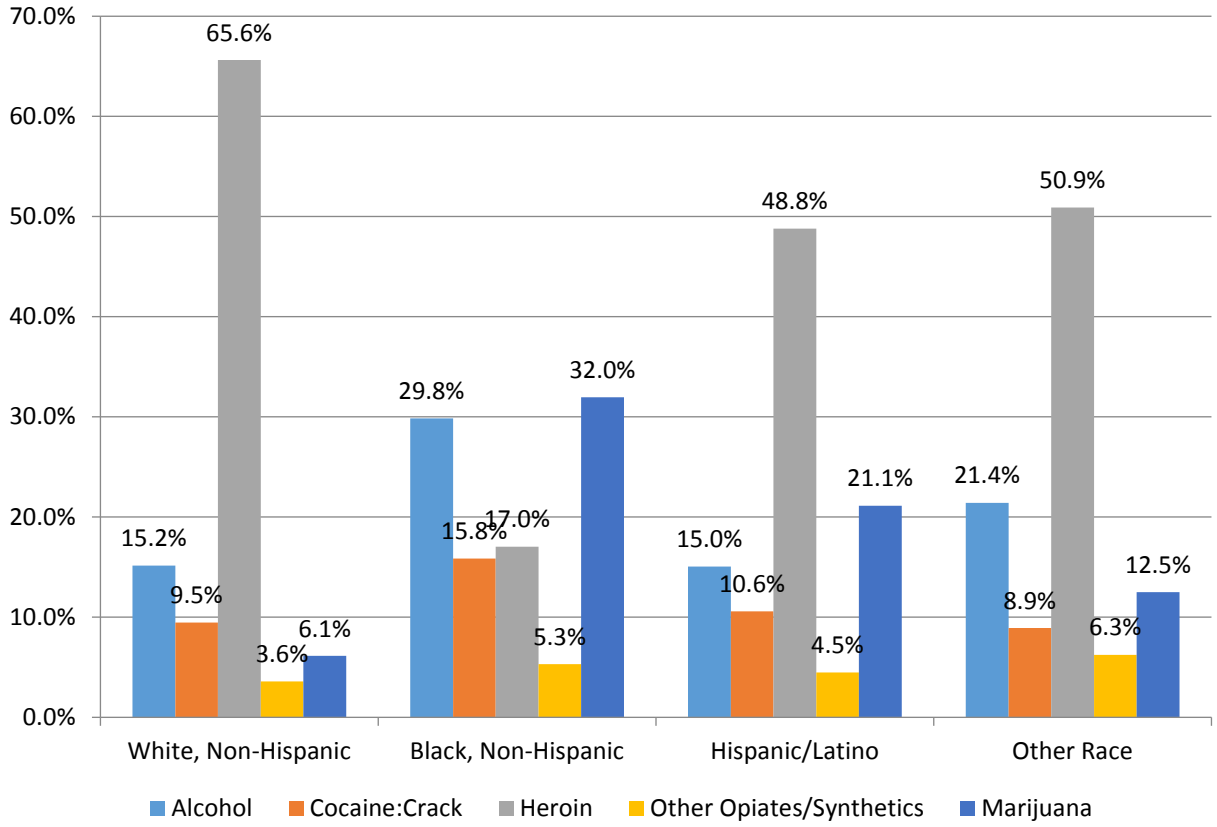
Source: Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Exhibit 3. Trend in Primary Drug of Choice in Treatment Admissions, Philadelphia, 2008–2016



Source: Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Exhibit 4. Primary Drug of Choice in Treatment Admissions by Race-Ethnicity, Philadelphia, 2016



Source: Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Exhibit 5. Most Frequently Detected Substances Among Alcohol and Drug Intoxication Deaths[18] (*N* = 907), Philadelphia, 2016

Substance	Number of Cases With Positive Detections
Fentanyl	413
Heroin	413
Cocaine	388
Alprazolam	258
Ethanol	177
Clonazepam	118
Oxycodone	116
Diphenhydramine	96
Diazepam	85
Codeine	55

Source: Philadelphia Department of Public Health, Medical Examiner's Office.

[18] There was one case of Alcohol Intoxication Death with no other substances detected in 2016.

Exhibit 6. Demographic Profiles of Alcohol and Drug Intoxication Deaths (*N* = 907), Philadelphia, 2016

	Number	Percentage
Gender		
Male	627	69.1%
Female	280	30.9%
Race/Ethnicity		
White, Non-Hispanic	509	56.1%
African American, Non-Hispanic	271	29.9%
Hispanic	112	12.4%
Asian	14	1.5%
Other	1	0.1%
Age		
Under 18	3	0.3%
18-25	80	8.8%
26-44	400	44.1%
45+	424	46.8%

Source: Philadelphia Department of Public Health, Medical Examiner's Office.

Exhibit 7. Top Ten (10) Positive Drug Reports for Items Seized by Law Enforcement in Philadelphia and in the Nation, 2016

Philadelphia			National		
Drug Identified	**Number (#)**	**Percent Total Drug Reports (%)**	**Drug Identified**	**Number (#)**	**Percent Total Drug Reports (%)**
TOTAL Drug Reports	22,224	100.0%	**TOTAL Drug Reports**	1,452,594	100.00%
Top 10 Drug Reports			**Top 10 Drug Reports**		
Cocaine	6,177	27.8%	Cannabis	358,446	24.7%
Cannabis	5,901	26.6%	Methamphetamine	312,531	21.5%
Heroin	4,969	22.4%	Cocaine	201,624	13.9%
Oxycodone	849	3.8%	Heroin	167,443	11.5%
Alprazolam	707	3.2%	Alprazolam	48,224	3.3%
Fentanyl	586	2.6%	No Controlled Drug Identified	37,849	2.6%
No Controlled Drug Identified	458	2.1%	Oxycodone	35,949	2.5%
Acetaminophen	451	2.0%	Fentanyl	34,235	2.4%
Phencyclidine	385	1.7%	Hydrocodone	23,570	1.6%
Non-Controlled Non-Narcotic Drug	266	1.2%	Buprenorphine	17,257	1.2%

Source: National Forensic Laboratory Information System (NFLIS), 2016.

Data Sources

This report focuses primarily on the city and county of Philadelphia and includes data from the sources shown below. Reporting year is the calendar year unless specified as fiscal year (FY), which would begin on July 1 and end on June 30 of the specified FY. Data for this report were drawn from the following sources:

Treatment admissions data for residents of Philadelphia County were provided by the Behavioral Health Special Initiative (BHSI), supported by the Office of Addiction Services (OAS), Philadelphia Department of Behavioral Health and Intellectual disAbility Services. The database covers the uninsured and underinsured population of Philadelphia. The data represent self-reported mentions of use of preferred drugs by individuals admitted to treatment in 2015. This report focuses on primary choice of drugs at treatment admission. Beginning in FY2015, services funded by the Pennsylvania Department of Drug and Alcohol Programs and tracked by BHSI for OAS are required to report through an Internet portal. This new reporting system does not require drug of choice in the data collection. The impact of this change in reporting protocol resulted in an increase in the proportion of "unknown" drug of choice in subsequent years.

Mortality data were provided by the Medical Examiner's Office (MEO), Philadelphia Department of Public Health. These data cover mortality cases with toxicology reports indicating the detection of drugs in persons who died in Philadelphia from January 1, 2016, to December 31, 2016. The MEO does not test for the presence of marijuana/tetrahydrocannabinol (THC)/cannabis.

Crime laboratory drug analysis data came from the National Forensic Laboratory Information System (NFLIS). Data include analysis of drug samples tested by the Philadelphia Police Department Forensic Science Laboratory from 2011 to 2016. Recent changes in NFLIS methodology resulted in reports, not items, as units of analysis. NFLIS methodology allows for the accounting of up to three drugs positively identified per item submitted for analysis. The data presented are a combined count of primary, secondary, and tertiary positive reports for drug items analyzed. Therefore, the data in this report are on positive reports, not on items analyzed.

Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) data were obtained from the Philadelphia Department of Public Health's AIDS Activities Coordinating Office Surveillance Report for 2015. At the time of this report, the 2015 Surveillance Report is final for cases reported through August 2016. Final count of cases may differ from previously reported preliminary data.

Hepatitis C (HVC) data were obtained from the Philadelphia Department of Public Health's Viral Hepatitis Program (HEP). At the time of this report, data up through first quarter of 2017 were available from the enhanced surveillance program on chronic HVC cases. Data on acute HVC cases are on cases diagnosed through December 2016.

For additional information about the drugs and drug use patterns discussed in this report, please contact Suet T. Lim, Ph.D., City of Philadelphia, Department of Behavioral Health and Intellectual disAbility Services, Community Behavioral Health, 801 Market Street, 7th Floor, Philadelphia, PA, 19107-2908, Phone: 215-413-7165, E-mail: suet.lim@phila.gov.

National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends: SCS Data Tables

The *SCS Data Tables* are prepared by NDEWS Coordinating Center staff and include information on demographic and socioeconomic characteristics of the population, drug use, substance use disorders and treatment, drug poisoning deaths, and drug seizures for the Sentinel Community Site. The *SCS Data Tables* attempt to harmonize data available for each of the 12 sites by presenting standardized information from local treatment admissions and five national data sources:

- ◊ American Community Survey;
- ◊ National Survey on Drug Use and Health;
- ◊ Youth Risk Behavior Survey;
- ◊ SCE-provided local treatment admissions data;
- ◊ National Vital Statistics System mortality data queried from CDC WONDER; and
- ◊ National Forensic Laboratory Information System.

The *SCS Data Tables* for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.

Table 1: Demographic and Socioeconomic Characteristics

Philadelphia County, Pennsylvania

2011–2015 ACS 5-Year Estimates

	Estimate	Margin of Error
Total Population (#)	**1,555,072**	**
Age		
18 years and over (%)	77.8%	**
21 years and over (%)	72.8%	+/-0.1
65 years and over (%)	12.4%	+/-0.1
Median Age (years)	33.7	+/-0.1
Race (%)		
White, Not Hisp.	35.8%	+/-0.1
Black/African American, Not Hisp.	41.5%	+/-0.1
Hispanic/Latino (of any race)	13.4%	**
American Indian/Alaska Native, Not Hisp.	0.2%	+/-0.1
Asian, Not Hisp.	6.8%	+/-0.1
Native Hawaiian/Pacific Islander, Not Hisp.	0.0%	+/-0.1
Some Other Race	0.3%	+/-0.1
Two or More Races	2.0%	+/-0.1
Sex (%)		
Male	47.2%	+/-0.1
Female	52.8%	+/-0.1
Educational Attainment (*Among Population Aged 25+ Years*) (%)		
High School Graduate or Higher	82.0%	+/-0.3
Bachelor's Degree or Higher	25.4%	+/-0.3
Unemployment (*Among Civilian Labor Force Population Aged 16+ Years*) (%)		
Unemployment Rate	13.9%	+/-0.4
Income ($)		
Median Household Income (in 2015 inflation-adjusted dollars)	$38,253	+/-511
Health Insurance Coverage (*Among Civilian Noninstitutionalized Population*) (%)		
No Health Insurance Coverage	13.1%	+/-0.3
Poverty (%)		
All People Whose Income in Past 12 Months Is Below Poverty Level	26.4%	+/-0.5

NOTES:

Margin of Error: Can be interpreted roughly as providing a 90% probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value.

****The estimate is controlled; a statistical test for sampling variability is not appropriate.

SOURCE: Adapted by the NDEWS Coordinating Center from data provided by the U.S. Census Bureau, 2011–2015 American Community Survey (ACS) 5-Year Estimates.

Table 2a: Self-Reported Substance Use Behaviors Among Persons 12+ Years in *Philadelphia*^, 2012–2014

Estimated Percent, 95% Confidence Interval, and Estimated Number*

Annual Averages Based on Combined 2012 to 2014 NSDUH Data

Substance Use Behaviors	Substate Region: Philadelphia	
	Estimated % (95% CI)*	Estimated #*
Used in Past Month		
Alcohol	54.64 (50.70 – 58.53)	697,941
Binge Alcohol**	28.99 (26.00 – 32.17)	370,243
Marijuana	10.44 (8.66 – 12.53)	133,333
Use of Illicit Drug Other Than Marijuana	4.35 (3.30 – 5.71)	55,530
Used in Past Year		
Cocaine	2.80 (1.85 – 4.22)	35,809
Nonmedical Use of Pain Relievers	4.57 (3.72 – 5.61)	58,391
Substance Use Disorders in Past Year***		
Illicit Drugs or Alcohol	**10.30 (8.74 – 12.10)**	**131,542**
Alcohol	8.01 (6.63 – 9.65)	102,299
Illicit Drugs	4.29 (3.39 – 5.40)	54,753

NOTES:

^Philadelphia: NSDUH Substate Region 36 which comprises Philadelphia County.

***Estimated %:** Substate estimates are based on a small area estimation methodology in which 2012–2014 substate level NSDUH data are combined with county and census block group/tract-level data from the state; **95% Confidence Interval (CI):** Provides a measure of the accuracy of the estimate. It defines the range within which the true value can be expected to fall 95 percent of the time; **Estimated #:** The estimated number of persons aged 12 or older who used the specified drug or are dependent/abuse a substance was calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (1,277,300) from Table C1 of the NSDUH report. The population estimate is the simple average of the 2012, 2013, and 2014 population counts for persons aged 12 or older.

****Binge Alcohol:** Defined as drinking 5 or more drinks on the same occasion on at least 1 day in the past 30 days.

*****Substance Use Disorders in Past Year:** Persons are classified as having a substance use disorder in the past 12 months based on reponses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* .

SOURCE: Adapted by the NDEWS Coordinating Center from data provided by the Substance Abuse and Mental Health Services Administration (SAMHSA), Substate Estimates of Substance Use and Mental Illness from the 2012–2014 National Surveys on Drug Use and Health. Available at: http://www.samhsa.gov/data/population-data-nsduh/reports?tab=38

Table 2b: Self-Reported Substance Use Behaviors Among Persons in *Philadelphia*^, by Age Group, 2012–2014
Estimated Percent and 95% Confidence Interval (CI)*, Annual Averages Based on 2012, 2013, 2014 NSDUHs

Substance Use Behaviors	Substate Region: Philadelphia^					
	12–17		18–25		26+	
	Estimated Percent (95% CI)*		Estimated Percent (95% CI)*		Estimated Percent (95% CI)*	
Used in Past Month						
Binge Alcohol**	5.85	(4.40 – 7.74)	39.61	(35.25 – 44.14)	29.17	(25.49 – 33.15)
Marijuana	7.94	(6.10 – 10.28)	23.55	(19.86 – 27.69)	7.77	(5.83 – 10.28)
Use of Illicit Drug Other Than Marijuana	3.22	(2.24 – 4.61)	6.45	(4.78 – 8.66)	4.00	(2.81 – 5.67)
Used in Past Year						
Cocaine	0.37	(0.19 – 0.72)	4.38	(2.96 – 6.43)	2.72	(1.63 – 4.53)
Nonmedical Use of Pain Relievers	4.84	(3.56 – 6.55)	8.52	(6.74 – 10.73)	3.65	(2.74 – 4.85)
Substance Use Disorder in Past Year***						
Illicit Drugs or Alcohol	5.63	(4.20 – 7.51)	18.49	(15.38 – 22.06)	8.98	(7.24 – 11.09)
Alcohol	2.46	(1.73 – 3.49)	12.22	(9.80 – 15.13)	7.69	(6.10 – 9.65)
Illicit Drugs	3.61	(2.55 – 5.09)	8.64	(6.67 – 11.13)	3.38	(2.40 – 4.74)

NOTES:
^Philadelphia: NSDUH Substate Region 36 which comprises Philadelphia County.
***Estimated %:** Substate estimates are based on a small area estimation methodology in which 2012–2014 substate level NSDUH data are combined with county and census block group/tract-level data from the state; **95% Confidence Interval (CI):** Provides a measure of the accuracy of the estimate. It defines the range within which the true value can be expected to fall 95 percent of the time.
****Binge Alcohol:** Defined as drinking 5 or more drinks on the same occasion on at least 1 day in the past 30 days.
*****Substance Use Disorders in Past Year:** Persons are classified as having a substance use disorder in the past 12 months based on responses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* .

SOURCE: Adapted by the NDEWS Coordinating Center from data provided by the Substance Abuse and Mental Health Services Administration (SAMHSA), Substate Estimates of Substance Use and Mental Illness from the 2012–2014 National Surveys on Drug Use and Health. Available at: http://www.samhsa.gov/data/population-data-nsduh/reports?tab=38

Table 3: Self-Reported Substance Use Behaviors Among *Philadelphia* ^ Public High-School Students, 2015
Estimated Percent and 95% Confidence Interval (CI)
2013 and 2015 YRBS*

Substance Use Behaviors	2015 vs 2013			2015 by Sex			2015 by Race			
	2015 Estimate (95% CI)	2013 Estimate (95% CI)	*p* value	Male Estimate (95% CI)	Female Estimate (95% CI)	*p* value	White Estimate (95% CI)	Black Estimate (95% CI)	Hispanic Estimate (95% CI)	Asian Estimate (95% CI)
Used in Past Month										
Alcohol	26.6 (23.5 - 29.8)	33.1 (29.7 - 36.7)	**0.01**	22.5 (18.6 - 27.0)	30.4 (26.8 - 34.2)	**0.00**	35.2 (26.9 - 44.5)	22.7 (18.3 - 27.7)	31.6 (24.0 - 40.3)	11.1 (7.5 - 16.1)
Binge Alcohol**	10.8 (8.6 - 13.5)	13.9 (11.2 - 17.1)	0.11	10.8 (8.1 - 14.2)	10.7 (8.4 - 13.6)	0.99	17.2 (11.3 - 25.2)	7.6 (5.1 - 11.0)	14.4 (9.7 - 20.9)	5.6 (3.5 - 8.9)
Marijuana	21.6 (16.8 - 27.3)	25.1 (21.6 - 28.9)	0.27	21.6 (17.8 - 25.9)	21.1 (15.4 - 28.2)	0.80	24.0 (17.4 - 32.0)	22.9 (16.6 - 30.6)	19.0 (13.2 - 26.6)	4.8 (3.1 - 7.3)
Ever Used in Lifetime										
Alcohol	60.0 (56.5 - 63.4)	64.6 (60.8 - 68.2)	0.07	54.2 (49.4 - 58.9)	65.5 (60.0 - 70.6)	**0.00**	66.5 (58.8 - 73.4)	60.9 (56.2 - 65.4)	64.4 (57.2 - 71.0)	35.0 (25.1 - 46.4)
Marijuana	40.6 (34.5 - 47.0)	44.6 (39.8 - 49.5)	0.31	40.1 (34.4 - 46.1)	40.8 (33.4 - 48.6)	0.80	37.8 (29.5 - 46.8)	45.6 (39.2 - 52.3)	36.2 (27.3 - 46.2)	15.9 (10.2 - 24.0)
Cocaine	4.6 (2.8 - 7.7)	3.1 (1.9 - 4.9)	0.26	5.4 (2.8 - 10.2)	3.7 (2.1 - 6.4)	0.31	4.8 (2.0 - 10.8)	4.4 (2.1 - 8.9)	4.4 (2.2 - 8.6)	1.7 (0.4 - 6.7)
Hallucinogenic Drugs	—	—	~	—	—	~	—	—	—	—
Synthetic Marijuana	10.2 (7.8 - 13.2)	—	~	12.4 (9.2 - 16.6)	7.7 (5.7 - 10.4)	**0.01**	6.7 (3.4 - 12.9)	11.1 (7.8 - 15.6)	11.0 (7.9 - 15.2)	3.5 (1.5 - 8.0)
Inhalants	7.5 (5.5 - 10.0)	6.7 (5.3 - 8.5)	0.58	7.7 (5.0 - 11.6)	6.7 (5.2 - 8.7)	0.59	4.5 (1.8 - 10.8)	8.4 (6.3 - 11.0)	8.0 (4.8 - 13.1)	3.5 (1.5 - 8.1)
Ecstasy also called "MDMA"	4.2 (2.5 - 7.1)	4.1 (2.8 - 6.0)	0.92	5.6 (2.8 - 10.9)	2.5 (1.4 - 4.4)	0.15	3.7 (1.7 - 7.9)	4.1 (2.3 - 7.3)	3.3 (1.4 - 7.9)	2.4 (0.9 - 6.3)
Heroin	3.3 (1.8 - 6.0)	1.8 (1.1 - 2.9)	0.14	4.5 (2.4 - 8.4)	1.7 (0.9 - 3.0)	**0.04**	1.0 (0.2 - 5.5)	3.9 (2.0 - 7.6)	1.5 (0.5 - 4.1)	2.2 (0.5 - 9.4)
Methamphetamine	3.8 (2.2 - 6.4)	2.8 (1.5 - 5.1)	0.44	5.5 (2.9 - 10.2)	1.8 (1.2 - 2.9)	**0.04**	1.7 (0.4 - 6.2)	4.5 (2.6 - 7.8)	2.7 (1.1 - 6.5)	0.9 (0.1 - 6.4)
Rx Drugs without a Doctor's Prescription	13.1 (10.7 - 16.1)	11.4 (9.4 - 13.9)	0.33	13.5 (9.6 - 18.6)	12.3 (9.5 - 15.9)	0.69	14.3 (8.3 - 23.5)	13.7 (11.1 - 16.9)	9.3 (5.7 - 14.8)	5.1 (2.5 - 9.9)
Injected Any Illegal Drug	2.5 (1.4 - 4.2)	2.6 (1.7 - 3.9)	0.85	4.0 (2.1 - 7.4)	0.8 (0.3 - 2.0)	**0.02**	1.5 (0.4 - 6.2)	2.1 (1.4 - 3.3)	3.1 (1.1 - 8.6)	0.0 (0.0 - 0.0)

NOTES:
^Philadelphia: Weighted data were available for Philadelphia in 2013 and 2015; weighted results mean that the overall response rate was at least 60%. The overall response rate is calculated by multiplying the school response rate times the student response rate. Weighted results are representative of all students in grades 9–12 attending public schools in each jurisdiction.
'—': Data not available; **~:** *p* value not available.
***Sample Frame for the 2013 and 2015 YRBS:** Consisted of public schools with students in at least one of grades 9-12. The sample size for 2013 was 1,280 with an overall response rate of 71%; the 2015 sample size was 1,717 with a 68% overall response rate.
****Binge Alcohol:** Defined as having had five or more drinks of alcohol in a row within a couple of hours on at least 1 day during the 30 days before the survey.

SOURCE: Adapted by the NDEWS Coordinating Center from data provided by the Centers for Disease Control and Prevention (CDC), 1991-2015 High School Youth Risk Behavior Survey Data. Available at http://nccd.cdc.gov/youthonline/. Accessed on [7/5/2016].

Table 4a: Trends in Admissions* to Programs Treating Substance Use Disorders, Philadelphia, 2012-2016

Number of Admissions and Percentage of Admissions with Selected Substances Cited as Primary Substance of Abuse at Admission, by Year and Substance

	Calendar Year									
	2012		2013		2014		2015		2016	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Total Admissions (#)	**8,455**	**100%**	**8,802**	**100%**	**8,363**	**100%**	**4,810**	**100%**	**3,507**	**100%**
Primary Substance of Abuse (%)										
Alcohol	3,222	38.1%	3,087	35.1%	2,476	29.6%	1,359	28.3%	693	19.8%
Cocaine/Crack	939	11.1%	1,058	12.0%	1,081	12.9%	676	14.1%	394	11.2%
Heroin	1,947	23.0%	1,720	19.5%	1,764	21.1%	1,206	25.1%	1,286	36.7%
Prescription Opioids	125	1.5%	370	4.2%	311	3.7%	60	1.2%	145	4.1%
Methamphetamine**	7	<0.1%	10	0.1%	15	0.2%	11	0.2%	15	0.4%
Marijuana	1,598	18.9%	1,903	21.6%	1,844	22.0%	1,086	22.6%	640	18.2%
Benzodiazepines	92	1.1%	67	0.8%	80	1.0%	34	0.7%	63	1.8%
MDMA	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Synthetic Stimulants***	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Synthetic Cannabinoids***	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Other Drugs/Unknown***	525	6.2%	587	6.7%	792	9.5%	378	7.9%	269	7.7%

NOTES:

***Admissions:** Includes admissions for uninsured and underinsured individuals admitted to any licensed treatment programs funded through the Philadelphia Department of Behavioral Health and Intellectual disAbility Services. Please note that Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 additional individuals became eligible in 2015. As individuals who historically have been uninsured become insured, the number of individuals served through the BHSI (Behavioral Health Special Initiative) program has declined; thus treatment admissions reported by BHSI declined from 8,363 in 2014 to 3,507 in 2016. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

****Methamphetamine:** Includes both amphetamines and methamphetamine.

*****Other Drugs:** May include synthetics, barbiturates, and over-the-counter drugs. **Synthetic Stimulants** and **Synthetic Cannabinoids** are not distinguishable from "Other Drugs" in the reporting source.

unavail: Data not available.

SOURCE: Data provided to the Philadelphia NDEWS SCE by Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Table 4b: Demographic and Drug Use Characteristics of Primary Treatment Admissions* for Select Substances of Abuse, Philadelphia, 2016

Number of Admissions, by Primary Substance of Abuse and Percentage of Admissions with Selected Demographic and Drug Use Characteristics

	Primary Substance of Abuse																	
	Alcohol		Cocaine/Crack		Heroin		Prescription Opioids		Methamphetamine**		Marijuana		Benzo-diazepines		Synthetic Stimulants		Synthetic Cannabinoids	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Number of Admissions (#)	**693**	**100%**	**394**	**100%**	**1,286**	**100%**	**145**	**100%**	**15**	**100%**	**640**	**100%**	**63**	**100%**	unavail	unavail	unavail	unavail
Sex (%)																		
Male	551	79.5%	295	74.9%	962	74.8%	108	74.5%	15	100.0%	553	86.4%	50	79.4%	unavail	unavail	unavail	unavail
Female	142	20.5%	99	25.1%	325	25.3%	37	25.5%	0	0.0%	87	13.6%	13	20.6%	unavail	unavail	unavail	unavail
Race/Ethnicity (%)																		
White, Non-Hisp.	173	25.0%	108	27.4%	749	58.2%	41	28.3%	7	46.7%	70	10.9%	28	44.4%	unavail	unavail	unavail	unavail
African-Am/Black, Non-Hisp	422	60.9%	224	56.9%	241	18.7%	75	51.7%	8	53.3%	452	70.6%	27	42.9%	unavail	unavail	unavail	unavail
Hispanic/Latino	74	10.7%	52	13.2%	240	18.7%	22	15.2%	0	0.0%	104	16.3%	4	6.3%	unavail	unavail	unavail	unavail
Asian	7	1.0%	3	0.8%	11	0.9%	4	2.8%	0	0.0%	4	0.6%	1	1.6%	unavail	unavail	unavail	unavail
Other	17	2.5%	7	1.8%	46	3.6%	3	2.1%	0	0.0%	10	1.6%	3	4.8%	unavail	unavail	unavail	unavail
Age Group (%)																		
Under 18	3	0.4%	2	0.5%	1	0.1%	0	0.0%	0	0.0%	10	1.6%	0	0.0%	unavail	unavail	unavail	unavail
18-25	78	11.3%	13	3.3%	83	6.5%	25	17.2%	1	6.7%	196	30.6%	6	9.5%	unavail	unavail	unavail	unavail
26-44	327	47.2%	190	48.2%	859	66.8%	92	63.4%	13	86.7%	393	61.4%	42	66.7%	unavail	unavail	unavail	unavail
45+	285	41.1%	189	48.0%	344	26.7%	28	19.3%	1	6.7%	41	6.4%	15	23.8%	unavail	unavail	unavail	unavail
Route of Administration (%)																		
Smoked	4	0.6%	257	65.2%	4	0.3%	0	0.0%	10	66.7%	613	95.8%	0	0.0%	unavail	unavail	unavail	unavail
Inhaled	0	0.0%	54	13.7%	202	15.7%	8	5.5%	2	13.3%	1	0.2%	4	6.3%	unavail	unavail	unavail	unavail
Injected	1	0.1%	15	3.8%	878	68.3%	4	2.8%	3	20.0%	2	0.3%	0	0.0%	unavail	unavail	unavail	unavail
Oral/Other/Unknown	688	99.3%	68	17.3%	203	15.8%	133	91.7%	0	0.0%	24	3.8%	59	93.7%	unavail	unavail	unavail	unavail
Secondary Substance (%)																		
None	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Alcohol	n/a	n/a	66	16.8%	56	4.4%	4	2.8%	0	0.0%	69	10.8%	7	11.1%	unavail	unavail	unavail	unavail
Cocaine/Crack	162	23.4%	n/a	n/a	278	21.6%	12	8.3%	2	13.3%	31	4.8%	8	12.7%	unavail	unavail	unavail	unavail
Heroin	24	3.5%	82	20.8%	n/a	n/a	10	6.9%	1	6.7%	53	8.3%	9	14.3%	unavail	unavail	unavail	unavail
Prescription Opioids	6	0.9%	10	2.5%	39	3.0%	n/a	n/a	0	0.0%	26	4.1%	3	4.8%	unavail	unavail	unavail	unavail
Methamphetamine**	4	0.6%	2	0.5%	9	0.7%	1	0.7%	n/a	n/a	3	0.5%	0	0.0%	unavail	unavail	unavail	unavail
Marijuana	161	23.2%	76	19.3%	76	5.9%	27	18.6%	6	40.0%	n/a	n/a	16	25.4%	unavail	unavail	unavail	unavail
Benzodiazepines	15	2.2%	11	2.8%	158	12.3%	31	21.4%	0	0.0%	17	2.7%	n/a	n/a	unavail	unavail	unavail	unavail
Synthetic Stimulants	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Synthetic Cannabinoids	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail

NOTES:

***Admissions:** Includes admissions for uninsured and underinsured individuals admitted to any licensed treatment programs funded through the Philadelphia Department of Behavioral Health and Intellectual disAbility Services. Please note that Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 additional individuals became eligible in 2015. As individuals who historically have been uninsured become insured, the number of individuals served through the BHSI (Behavioral Health Special Initiative) program has declined; thus treatment admissions reported by BHSI declined from 8,363 in 2014 to 3,507 in 2016. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

****Methamphetamine:** Includes both amphetamines and methamphetamine.

unavail: Data not available; **n/a:** Not Applicable; **Percentages** may not sum to 100 due to either rounding, missing data, and/or because not all possible categories are presented in the table.

SOURCE: Data provided to the Philadelphia NDEWS SCE by Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative.

Table 5: Drug Poisoning Deaths*, by Drug and Year, *Philadelphia* ^, 2011–2015**
Number, Crude Rate, and Age-Adjusted Rate* (per 100,000 population)**

	2011			2012			2013			2014			2015		
	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate
Drug Poisoning Deaths	**436**	**28.4**	**28.9**	**460**	**29.7**	**30.2**	**402**	**25.9**	**25.8**	**516**	**33.1**	**33.3**	**568**	**36.2**	**36.0**
Opioids‡	**36**	**2.3**	**2.2**	**26**	**1.7**	**1.6**	**27**	**1.7**	**1.7**	**41**	**2.6**	**2.5**	**29**	**1.9**	**1.7**
Heroin	11	UNR	UNR	SUP	SUP	SUP	12	UNR	UNR	11	UNR	UNR	SUP	SUP	SUP
Natural Opioid Analgesics	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	14	UNR	UNR	SUP	SUP	SUP
Methadone	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP
Synthetic Opioid Analgesics	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	10	UNR	UNR	SUP	SUP	SUP
Benzodiazepines	**10**	**UNR**	**UNR**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**
Benzodiazepines **AND** Any Opioids	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	SUP	SUP	SUP
Benzodiazepines **AND** Heroin	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP
Psychostimulants															
Cocaine	32	2.1	2.1	29	1.9	1.9	23	1.5	1.5	32	2.1	2.1	14	UNR	UNR
Psychostimulants with Abuse Potential	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP
Cannabis (derivatives)	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**
Percent with Drugs Specified‡	**18.1%**			**14.8%**			**15.2%**			**19.0%**			**10.2%**		

NOTES:

***Drug Poisoning Deaths:** Drug poisoning deaths are defined as deaths with **underlying cause-of-death** codes from the World Health Organization's (WHO's) *International Classification of Diseases, Tenth Revision* (ICD-10) of X40-X44, X60-X64, X85, and Y10-Y14. See *Overview & Limitations* section for additional information on mortality data and definitions of the specific ICD-10 codes listed.

****Drug Poisoning Deaths, by Drug:** Among the deaths with drug poisoning identified as the underlying cause, the specific drugs are identified by ICD-10 **multiple cause-of-death (MCOD)** T-codes (see below). Each death certificate may contain up to 20 causes of death indicated in the MCOD field. Thus, the total count across drugs may exceed the actual number of dead persons in the selected population. Some deaths involve more than one drug; these deaths are included in the rates for each drug category.

^Philadelphia: Comprised of Philadelphia County.

*****Age-Adjusted Rate:** Age-adjusted rates are weighted averages of the age-specific death rates, where the weights represent a fixed population by age (2000 U.S. Population). Age adjustment is a technique for removing the effects of age from crude rates, so as to allow meaningful comparisons across populations with different underlying age structures. Age-adjusted rates should be viewed as relative indexes rather than as direct or actual measures of mortality risk. See http://wonder.cdc.gov/wonder/help/mcd.html for more information.

‡**Opioids:** Includes any of these MCOD codes T40.0-T40.4, or T40.6

Heroin (T40.1); *Natural Opioid Analgesics* (T40.2) - Including morphine and codeine, and semi-synthetic opioid analgesics, including drugs such as oxycodone, hydrocodone, hydromorphone, and oxymorphone; *Methadone* (T40.3); *Synthetic Opioid Analgesics* (T40.4) - Other than methadone, including drugs such as tramadol and fentanyl; *Other and Unspecified Narcotics* (T40.6)

Benzodiazepines: (T42.4)

Benzodiazepines AND *Any Opioids* (T42.4 AND T40.0-T40.4, or T40.6)

Benzodiazepines AND *Heroin* (T42.4 AND T40.1)

Psychostimulants:

Cocaine (T40.5); Psychostimulants with Abuse Potential [excludes cocaine] *(T43.6)*

Cannabis (derivatives): (T40.7)

‡**Percent of Drug Poisoning Deaths with Drug(s) Specified:** Among drug poisoning deaths, deaths that mention the type of drug(s) involved are defined as those including at least one ICD-10 MCOD in the range T36-T50.8. See *Overview & Limitations* section for more information about this statistic.

SUP=Suppressed: Counts and Rates are suppressed for subnational data representing 0–9 deaths. **UNR=Unreliable:** Rates are Unreliable when the death count <20.

SOURCE: Adapted by the NDEWS Coordinating Center from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple cause of death 1999-2015, available on the CDC WONDER Online Database, released December 2016. Data compiled in the Multiple cause of death 1999-2015 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between February 2017 - June 2017, from http://wonder.cdc.gov/mcd-icd10.html

Table 6a: Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2016
DEA National Forensic Laboratory Information System (NFLIS)

Number of Drug-Specific Reports and Percent of Total Analyzed Drug Reports

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
Total Drug Reports	**22,224**	**100.0%**
COCAINE	6,177	27.8%
CANNABIS	5,901	26.6%
HEROIN	4,969	22.4%
OXYCODONE	849	3.8%
ALPRAZOLAM	707	3.2%
FENTANYL	586	2.6%
NO CONTROLLED DRUG IDENTIFIED	458	2.1%
ACETAMINOPHEN	451	2.0%
PHENCYCLIDINE	385	1.7%
NON-CONTROLLED NON-NARCOTIC DRUG	266	1.2%
CLONAZEPAM	144	0.6%
METHAMPHETAMINE	140	0.6%
BUPRENORPHINE	135	0.6%
NALOXONE	128	0.6%
CODEINE	93	0.4%
FUB-AMB	79	0.4%
AMPHETAMINE	75	0.3%
PROMETHAZINE	70	0.3%
CAFFEINE	58	0.3%
METHADONE	53	0.2%
DIAZEPAM	37	0.2%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	36	0.2%
MORPHINE	30	0.1%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	30	0.1%
HYDROCODONE	28	0.1%
ACETYLFENTANYL	27	0.1%
3-METHYLFENTANYL	25	0.1%
AB-FUBINACA	14	< 0.1%
U-47700	14	< 0.1%
AB-PINACA	13	< 0.1%
PHENYLIMIDOTHIAZOLE ISOMER UNDETERMINED	13	< 0.1%
3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA)	11	< 0.1%
QUININE	11	< 0.1%
XYLAZINE	11	< 0.1%
5-FLUORO AMB	10	< 0.1%
N-ETHYLPENTYLONE	10	< 0.1%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	9	< 0.1%
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	< 0.1%
ZOLPIDEM	9	< 0.1%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	7	< 0.1%
FURANYL FENTANYL	6	< 0.1%
MDMB-FUBINACA	6	< 0.1%
PHENACETIN	6	< 0.1%
DIBUTYLONE (BETA-KETO-N,N-DIMETHYL-1,3-BENZODIOXOLYLBUTANAMINE; BK-DMBDB)	5	< 0.1%
HYDROMORPHONE	5	< 0.1%
KETAMINE	5	< 0.1%
3,4-METHYLENEDIOXYAMPHETAMINE (MDA)	4	< 0.1%
BUTALBITAL	4	< 0.1%
LORAZEPAM	4	< 0.1%
PROCAINE	4	< 0.1%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	3	< 0.1%
ACETYLCODEINE	3	< 0.1%
ACETYLDIHYDROCODEINE	3	< 0.1%
DIPHENHYDRAMINE	3	< 0.1%

Table 6a (cont'd): Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2016
DEA National Forensic Laboratory Information System (NFLIS)

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
INOSITOL	3	< 0.1%
LIDOCAINE	3	< 0.1%
MANNITOL	3	< 0.1%
METHYLPHENIDATE	3	< 0.1%
OXYMORPHONE	3	< 0.1%
PHENOBARBITAL	3	< 0.1%
TEMAZEPAM	3	< 0.1%
TRAMADOL	3	< 0.1%
3,4-METHYLENEDIOXYMETHAMPHETAMINE METHYLENE HOMOLOG	2	< 0.1%
5F-AB-PINACA	2	< 0.1%
CARISOPRODOL	2	< 0.1%
CLONIDINE	2	< 0.1%
FDU-PB-22 (NAPHTHALEN-1-YL 1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	2	< 0.1%
FUB-144 ((1-(4-FLUOROBENZYL)-1H-INDOL-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	2	< 0.1%
GAMMA HYDROXY BUTYRATE	2	< 0.1%
LITHIUM	2	< 0.1%
METOPROLOL	2	< 0.1%
MEXEDRONE	2	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	2	< 0.1%
PSILOCYBIN/PSILOCYN	2	< 0.1%
UNSPECIFIED PRESCRIPTION DRUG	2	< 0.1%
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	1	< 0.1%
1-PIPERIDINOCYCLOHEXANECARBONITRILE	1	< 0.1%
4-ANILINO-1-PHENETHYLPIPERIDINE	1	< 0.1%
5-FLUORO-ADB	1	< 0.1%
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	1	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	1	< 0.1%
AMLODIPINE	1	< 0.1%
BENZOCAINE	1	< 0.1%
BUTABARBITAL	1	< 0.1%
CHLORZOXAZONE	1	< 0.1%
CLORTERMINE	1	< 0.1%
CYCLOBENZAPRINE	1	< 0.1%
DIMETHYLSULFONE	1	< 0.1%
DIPHENOXYLATE	1	< 0.1%
DOXYCYCLINE	1	< 0.1%
GAMMA HYDROXY BUTYL LACTONE	1	< 0.1%
HALAZEPAM	1	< 0.1%
HYDROCHLOROTHIAZIDE	1	< 0.1%
IBUPROFEN	1	< 0.1%
LISDEXAMFETAMINE	1	< 0.1%
LYSERGIC ACID DIETHYLAMIDE (LYSERGIDE)	1	< 0.1%
MAB-CHMINACA (ADB-CHMINACA)	1	< 0.1%
METHANDROSTENOLONE (METHANDIENONE)	1	< 0.1%
METHORPHAN	1	< 0.1%
NAPROXEN	1	< 0.1%
N-BENZYLPIPERAZINE (BZP)	1	< 0.1%
PENTOBARBITAL	1	< 0.1%
PENTYLONE (ß-KETO-METHYLBENZODIOXOLYLPENTANAMINE)	1	< 0.1%
PHENDIMETRAZINE	1	< 0.1%
PHENTERMINE	1	< 0.1%
STANOZOLOL	1	< 0.1%
THIAMINE	1	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	1	< 0.1%
TRIAMTERENE	1	< 0.1%
VALERYL FENTANYL	1	< 0.1%

Table 6a (cont'd): Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2016
DEA National Forensic Laboratory Information System (NFLIS)

NOTES:
^Philadelphia: Philadelphia County.
***Drug Report:** Drug that is identified in law enforcement items, submitted to and analyzed by federal, state, or local forensic labs, and included in the NFLIS database. The time frame is January - December 2016.

The NFLIS database allows for the reporting of up to three drugs per item submitted for analysis. The data presented are a total count of first, second, and third listed reports for each selected drug item seized and analyzed.

Source: Adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from the NFLIS Data Query System (DQS) on May 28, 2017.

Table 6b: Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2016
DEA National Forensic Laboratory Information System (NFLIS)

Drug Reports* by Selected Drug Categories** of Interest, Number of Drug-Specific Reports,
Percent of Analyzed Drug Category Reports, & Percent of Total Analyzed Drug Reports

Drug Identified, by Selected Drug Category**	Number (#)	Percent of Drug Category (%)	Percent of Total Reports (%)
Total Drug Reports*	**22,224**	**100.0%**	**100.0%**
Opioids Category	**6,963**	**100.0%**	**31.3%**
Heroin	**4,969**	**71.4%**	**22.4%**
Narcotic Analgesics	**1,864**	**26.8%**	**8.4%**
OXYCODONE	849	12.2%	3.8%
FENTANYL	586	8.4%	2.6%
BUPRENORPHINE	135	1.9%	0.6%
CODEINE	93	1.3%	0.4%
METHADONE	53	0.8%	0.2%
MORPHINE	30	0.4%	0.1%
HYDROCODONE	28	0.4%	0.1%
ACETYLFENTANYL	27	0.4%	0.1%
3-METHYLFENTANYL	25	0.4%	0.1%
U-47700	14	0.2%	< 0.1%
FURANYL FENTANYL	6	< 0.1%	< 0.1%
HYDROMORPHONE	5	< 0.1%	< 0.1%
ACETYLCODEINE	3	< 0.1%	< 0.1%
ACETYLDIHYDROCODEINE	3	< 0.1%	< 0.1%
OXYMORPHONE	3	< 0.1%	< 0.1%
TRAMADOL	3	< 0.1%	< 0.1%
VALERYL FENTANYL	1	< 0.1%	< 0.1%
Narcotics	**130**	**1.9%**	**0.6%**
NALOXONE	128	1.8%	0.6%
DIPHENOXYLATE	1	< 0.1%	< 0.1%
METHORPHAN	1	< 0.1%	< 0.1%
Synthetic Cannabinoids Category	**225**	**100.0%**	**1.0%**
FUB-AMB	79	35.1%	0.4%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	36	16.0%	0.2%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	30	13.3%	0.1%
AB-FUBINACA	14	6.2%	< 0.1%
AB-PINACA	13	5.8%	< 0.1%
5-FLUORO AMB	10	4.4%	< 0.1%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	9	4.0%	< 0.1%
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	4.0%	< 0.1%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	7	3.1%	< 0.1%
MDMB-FUBINACA	6	2.7%	< 0.1%
5F-AB-PINACA	2	0.9%	< 0.1%
FDU-PB-22 (NAPHTHALEN-1-YL 1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	2	0.9%	< 0.1%
FUB-144 ((1-(4-FLUOROBENZYL)-1H-INDOL-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	2	0.9%	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	2	0.9%	< 0.1%
5-FLUORO-ADB	1	0.4%	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	1	0.4%	< 0.1%
MAB-CHMINACA (ADB-CHMINACA)	1	0.4%	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	1	0.4%	< 0.1%
Synthetic Cathinones Category	**21**	**100.0%**	**< 0.1%**
Synthetic Cathinones	**19**	**90.5%**	**< 0.1%**
N-ETHYLPENTYLONE	10	47.6%	< 0.1%
DIBUTYLONE (BETA-KETO-N,N-DIMETHYL-1,3-BENZODIOXOLYLBUTANAMINE; BK-DMBDB)	5	23.8%	< 0.1%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	3	14.3%	< 0.1%
PENTYLONE (ß-KETO-METHYLBENZODIOXOLYLPENTANAMINE)	1	4.8%	< 0.1%
Synthetic Cathinones (Hallucinogen)	**2**	**9.5%**	**< 0.1%**
MEXEDRONE	2	9.5%	< 0.1%

Table 6b (cont'd): Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2016
DEA National Forensic Laboratory Information System (NFLIS)

Drug Identified, by Selected Drug Category**	Number (#)	Percent of Drug Category (%)	Percent of Total Reports (%)
Piperazines Category	**2**	**100.0%**	**< 0.1%**
Piperazines (Hallucinogen)	**1**	**50.0%**	**< 0.1%**
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	1	50.0%	< 0.1%
Piperazines (Stimulant)	**1**	**50.0%**	**< 0.1%**
N-BENZYLPIPERAZINE (BZP)	1	50.0%	< 0.1%
Tryptamines Category	**1**	**100.0%**	**< 0.1%**
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	1	100.0%	< 0.1%

NOTES:
^Philadelphia: Philadelphia County.
***Drug Report:** Drug that is identified in law enforcement items, submitted to and analyzed by federal, state, or local forensic labs, and included in the NFLIS database. The time frame is January - December 2016.
****Selected Drug Categories:** Opioids, Synthetic Cannabinoids, Synthetic Cathinones, 2C Phenethylamines, Piperazines, and Tryptamines are drug categories of current interest to the NDEWS Project because of the recent increase in their numbers, types, and availability.

The NFLIS database allows for the reporting of up to three drugs per item submitted for analysis. The data presented are a total count of first, second, and third listed reports for each selected drug item seized and analyzed.

Source: Adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from the NFLIS Data Query System (DQS) on May 28, 2017.

National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2017:
Overview and Limitations About Data Sources

The *Overview and Limitations About Data Sources,* written by Coordinating Center staff, provides a summary and a detailed description of the limitations of some of the national data sources used this report, including indicators of substance use, treatment, consequences, and availability.

Overview and Limitations of American Community Survey (ACS) Data

Data on demographic, social, and economic characteristics are based on 2011–2015 American Community Survey (ACS) 5-Year Estimates, collected between January 1, 2011 and December 31, 2015. The U.S. Census Bureau's ACS is a nationwide survey designed to provide communities with reliable and timely demographic, social, economic, and housing data on an annual basis. Although the main function of the decennial census is to provide counts of people for the purpose of congressional apportionment and legislative redistricting, the primary purpose of the ACS is to measure the changing social and economic characteristics of the U.S. population. As a result, the ACS does not provide official counts of the population in between censuses. Instead, the Census Bureau's Population Estimates Program will continue to be the official source for annual population totals, by age, race, Hispanic origin, and sex.[a]

The ACS selects approximately 3.5 million housing unit addresses from every county across the nation to survey. Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error (MOE). The values shown in the table are the margin of errors. The MOE can be interpreted roughly as providing a 90% probability that the interval defined by the estimate minus the MOE and the estimate plus the MOE (the lower and upper confidence bounds) contains the true value.[a]

Sources

***Data Sources*:** Adapted by the NDEWS Coordinating Center from data from the American Community Survey; *2011–2015 American Community Survey 5-Year Estimates;* Tables DP02, DP03, and DP05; using American FactFinder; http://factfinder.census.gov; Accessed April 2017; U.S. Census Bureau.

***Overview/Methods/Limitations Sources*:** [a]Adapted by the NDEWS Coordinating Center from U.S. Census Bureau, *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know.* U.S. Government Printing Office, Washington, DC, 2008. Available at: https://www.census.gov/library/publications/2008/acs/general.html

Overview and Limitations of National Survey of Drug Use and Health (NSDUH) Data

NSDUH is an annual survey of the civilian, noninstutionalized population of the United States aged 12 years or older that is planned and managed by the Substance Abuse and Mental Health Administration's (SAMHSA) Center for Behavioral Health Statistics and Quality (CBHSQ). Data is collected from individuals residing in households, noninstitutionalized group quarters (e.g., shelters, rooming houses, dormitories) and civilians living on military bases. In 2012–2014, NSDUH collected data from 204,048 respondents aged 12 years or older; this sample was designed to obtain representative samples from the 50 states and the District of Columbia.[a]

The **substate estimates** are produced from a hierarchical Bayes model-based small area estimation (SAE) procedure in which 2012–2014 NSDUH data at the substate level are combined with local area county and census block group/tract-level data from the area. The goal of this method is to enhance statistical power and analytic capability, and to provide more precise estimates of substance use and mental health outcomes within and across states. [See 2012–2014 NSDUH Methods Report for more information about the methodolgy used to generate substate estimates]. Comparable estimates derived from the small area estimation procedure were also produced for the 50 states and the District of Columbia. We present these estimates for Maine and Texas. Because these data are based on 3 consecutive years of data, they are not directly comparable with the annually published state estimates that are based on only 2 consecutive years of NSDUH data.[a]

Substate regions, also referred to as planning regions or substate areas, were defined by officials from each of the 50 states and the District of Columbia and were typically based on the treatment planning regions specified by the states in their applications for the Substance Abuse Prevention and Treatment Block Grant (SABG) administered by SAMHSA. There has been extensive variation in the size and use of substate regions across states. In some states, the substate regions have been used more for administrative purposes than for planning purposes. The goal of the project was to provide substate-level estimates showing the geographic distribution of substance use prevalence for regions that states would find useful for planning and reporting purposes. The final substate region boundaries were based on the state's recommendations, assuming that the NSDUH sample sizes were large enough to provide estimates with adequate precision. Most states defined regions in terms of counties or groups of counties, while some defined them in terms of census tracts. Estimates for 384 substate regions were generated using the 2012–2014 NSDUH data. Substate regions used for each Sentinel Community Site (SCS) are defined in the Notes sections of Tables 2a and 2b.[a]

Notes about Data Terms

Estimated percentages are based on a survey-weighted hierarchical Bayes estimation approach, and the 95% prediction (credible) intervals are generated by Markov Carlo techniques.

95% Confidence Interval (CI) provides a measure of the accuracy of the estimate. It defines the range within which the true value can be expected to fall 95% of the time.

Estimated # is the estimated number of persons aged 12 years or older in the civilian, noninstitutionalized population who used the specified drug or are dependent on/abuse a substance; the estimated number of persons using/dependent on a particular drug was calculated by multiplying the prevalence rate and the population estimate from Table C1 of the NSDUH report. The population estimate is the simple average of the 2012, 2013, and 2014 population counts for persons aged 12 years or older.

Binge Alcohol is defined as drinking five or more drinks on the same occasion on at least 1 day in the past 30 days.

Use of Illicit Drug Other Than Marijuana is defined as any illicit drug other than marijuana and includes cocaine (including crack), heroin, hallucinogens, inhalants, or any prescription-type psychotherapeutic used nonmedically.

Substance Use Disorder in Past Year: Persons are classified as having a substance use disorder in the past 12 months based on responses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Sources

***Data Sources*:** Adapted by the NDEWS Coordinating Center from data provided by the Substance Abuse and Mental Health Services Administration (SAMHSA), Substate Estimates of Substance Use and Mental Disorders from the *2012–2014 National Surveys on Drug Use and Health: Results and Detailed Tables.* Rockville, MD. 2014. Available at: http://www.samhsa.gov/data/population-data-nsduh/reports?tab=38; Accessed on August 2016.

***Overview/Methods/Limitations Sources*:** [a]Adapted by the NDEWS Coordinating Center from Substance Abuse and Mental Health Services Administration (SAMHSA), *2012–2014 National Surveys on Drug Use and Health: Guide to Substate Tables and Summary of Small Area Estimation Methodology.* Rockville, MD 2016. Available at: http://www.samhsa.gov/data/sites/default/files/NSDUHsubstateMethodology2014/NSDUHsubstateMethodology2014.html; Accessed August 2016.

Overview and Limitations of Youth Risk Behavioral Survey (YRBS) Data

The Youth Risk Behavior Surveillance System (YRBSS) was established in 1991 by the Centers for Disease Control and Prevention (CDC) to monitor six priority health-risk behaviors that contribute to the leading causes of morbidity and mortality among youth and young adults in the United States.[a] The YRBSS was designed to enable public health professionals, educators, policy makers, and researchers to 1) describe the prevalence of health-risk behaviors among youths, 2) assess trends in health-risk behaviors over time, and 3) evaluate and improve health-related policies and programs.[a] One component of the surveillance system is the biennial school-based Youth Risk Behavior Survey (YRBS). Survey results are based on representative samples of high school students in the nation, States, tribes, and select large urban school district across the country.[a] Weighted survey estimates of alcohol and drug use are presented for the nation and the YRBS state and large urban school district catchment areas that most closely represent each NDEWS SCS.

The national YRBS estimates are representative of all students in grades 9–12 attending **public and private** schools in the 50 states and the District of Columbia. Public schools in the national sample might include charter schools and public alternative, special education, or vocational schools. Private schools in the national sample might include religious and other private schools, but they do not include private alternative, special education, or vocational schools.[a]

The estimates for the NDEWS Sentinel Community Sites (SCS) catchment areas are represented by state and large urban school districts. Only jurisdictions with an overall response rate ≥60% are presented. See Table A for sample size and overall response rate for each SCS. The weighted estimates for state and large urban school districts are representative of all students in grades 9–12 attending **public** schools in each of their respective jurisdictions.[b] State and substate public schools might include charter schools; public alternative, special education, or vocational schools; and schools overseen by the Bureau of Indian Education.[b] In 2015, data were not available for 5 NDEWS sites and YRBS regions did not correspond exactly to the catchment areas of each NDEWS SCS:

- 2015 YRBS survey results were unavailable for the following 5 SCSs: Chicago Metro, Atlanta Metro, Texas, Denver Metro, and King County.
- The Detroit YRBS is used to represent the Wayne County SCS; Detroit does not represent the entire Wayne County catchment area.
- The Southeastern Florida (Miami Area) SCS reporting area includes separate results for each of the 3 counties making up the SCS reporting area.

Thus, results for 9 YRBS reporting areas representing 7 of the 12 NDEWS SCSs are presented in the YRBS Cross-Site Data Presentation. See Figures and Tables for description of the YRBS catchment areas, where available, used to represent each NDEWS SCS. For more information about the YRBSS and 2015 YRBS survey methodology, see *Youth Risk Behavior Surveillance—United States, 2015*.

Table A: Sample Sizes and Overall Response Rates, United States and Selected YRBS Sites, YRBS, 2015

NDEWS SCS	YRBS Site	Student Sample Size (#)	Overall Response Rate (%)
United States	**National Sample**	**15,624**	**60%**
Maine	Maine	9,605	66%
Los Angeles County	Los Angeles	2,336	81%
New York City	New York City	8,522	70%
Philadelphia	Philadelphia	1,717	68%
San Francisco	San Francisco	2,181	82%
Southeastern Florida (Miami Area)	Broward County Miami-Dade County Palm Beach County	1,413 2,728 2,490	72% 78% 71%
Wayne County (Detroit Area)	Detroit	1,699	67%

Limitations. All YRBS data are self-reported, and the extent of underreporting or overreporting of behaviors cannot be determined, although there have been studies that demonstrate that the data are of acceptable quality.

The data apply only to youths who attend school and, therefore, are not representative of all persons in this age group. Nationwide, in 2012, approximately 3% of persons aged 16–17 years were not enrolled in a high-school program and had not completed high school.[c] The NHIS and Youth Risk Behavior Supplement conducted in 1992 demonstrated that out-of-school youths are more likely than youths attending school to engage in the majority of health-risk behaviors.[d]

Local parental permission procedures are not consistent across school-based survey sites. However, in a 2004 study, the CDC demonstrated that the type of parental permission typically does not affect prevalence estimates as long as student response rates remain high.[e]

Notes about Data Terms

Lifetime Prescription Drug Misuse is defined as "*taken prescription drugs (e.g., Oxycontin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription one or more times during their life"*.

Lifetime Inhalant Use is defined as "*sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life"*.

Lifetime Synthetic Cannabinoid Use is defined as "*used "synthetic marijuana" (also called "K2," "Spice," "fake weed," "King Kong," "Yucatan Fire," "Skunk," or "Moon Rocks") one or more times during their life"*.

Past Month Binge Alcohol Use is defined as "*having five or more drinks of alcohol in a row within a couple of hours on at least 1 day during the 30 days before the survey"*.

Sources

Data Sources: Adapted by the NDEWS Coordinating Center from data provided by Centers for Disease Control and Prevention (CDC), 1991–2015 High School Youth Risk Behavior Survey Data. Available at http://nccd.cdc.gov/youthonline/. Accessed on [10/11/2016].

***Overview/Methods/Limitations Sources*:** Adapted by the NDEWS Coordinating Center from:

[a]Brener N, Kann L, Shanklin S, et al. Methodology of the Youth Risk Behavior Surveillance System—*2013.* MMWR Recomm Rep; 2013, 62(No. RR-1);1–20. Available at http://www.cdc.gov/mmwr/pdf/rr/rr6201.pdf. Accessed on [4/10/2015].

[b]Kann L, McManus T, Harris WA, et al. Youth Risk Behavior Surveillance—United States, 2015. MMWR Surveill Summ 2016; 65(No. SS-6);1–174. Available at https://www.cdc.gov/mmwr/volumes/65/ss/ss6506a1.htm Accessed on [10/11/2016].

[c]Stark P, Noel AM. Trends in high school dropout and completion rates in the United States: 1972–2012 (NCES 2015-015). US Department of Education. Washington, DC: National Center for Education Statistics; 2015. Available at http://nces.ed.gov/pubs2015/2015015.pdf

[d]CDC. Health risk behaviors among adolescents who do and do not attend school—United States, 1992. MMWR 1994;43(08):129–32.

[e]Eaton DK, Lowry R, Brener ND, et al. Passive versus active parental permission in school-based survey research: does type of permission affect prevalence estimates of self-reported risk behaviors? Evaluation Review 2004;28:564–77.

Overview and Limitations of Treatment Admissions Data from Local Sources

Treatment admissions data provide indicators of the health consequences of drug use and their impact on the treatment system.[a] The data can provide some indication of the types of drugs being used in geographic areas and can show patterns of use over time. However, it is important to note that treatment data only represent use patterns of individuals entering treatment programs and the availability of particular types of treatment in a geographic area will influence the types of drugs being reported. Also, most sites report only on admissions to publicly funded treatment programs; thus, information on individuals entering private treatment programs may not be represented by the data. It should also be noted that each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.[b]

Treatment admissions data are reported to the NDEWS Coordinating Center by the NDEWS Sentinel Community Epidemiologist for each SCS, when available. Calendar year 2016 data were available for 10 of 12 NDEWS SCSs; data were not available for the Atlanta Metro and Chicago SCSs. See below for site-specific information about the data.

Site-Specific Notes about 2016 Treatment Data and Sources of the Data

- **Atlanta Metro**

  Data Availability: Calendar year 2015 and 2016 data are not available; therefore data for 2012–2014 are presented in the Atlanta Metro SCS Data Tables and Snapshot.

  Catchment Area: Includes residents of: Barrow, Bartow, Butts, Carroll, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Haralson, Heard, Henry, Jasper, Lamar, Meriwether, Morgan, Newton, Paulding, Pickens, Pike, Rockdale, Spalding, and Walton counties.

  Notes & Definitions:

  Admissions: includes admissions to publicly-funded programs.

  Marijuana/Synthetic Cannabinoids: the data do not differentiate between marijuana and synthetic cannabinoids.

  Source: Data provided to the Atlanta Metro NDEWS SCE by the Georgia Department of Human Resources.

- **Chicago Metro**

  Data Availability: Calendar Year (CY) data are not available for the Chicago SCS so fiscal year data are presented. Data for 2016 were also not available at this time so FY2012-2015 are presented.

  Catchment Area: Data were only available for residents of Chicago, not for the entire Chicago MSA.

  Notes & Definitions:

  Admissions: Includes admissions to 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.

  Declines in overall treatment admissions are due to several factors, including budget cuts and changes in providers and payers that affect the reporting of these data (e.g., the expansion of Medicaid under the ACA to cover some forms of drug treatment).

  Prescription Opioids: Includes oxycodone/hydrocodone, nonprescription methadone, and other opiates.

  Source: Data provided to the NDEWS Chicago SCE by the Illinois Department of Human Services, Division of Alcoholism and Substance Abuse (DASA).

❖ **Denver Metro**

Catchment Area: Includes admissions data for residents of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, and Jefferson counties.

Notes & Definitions:
Admissions: Includes admissions (excluding detox and DUI) to all Colorado alcohol and drug treatment agencies licensed by the Colorado Department of Human Services, Office of Behavioral Health (OBH). Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period. Treatment data presented in this year's report differ from data presented in previous SCS reports due to a change in access to treatment data and/or a change in query search terms.
Prescription Opioids: Includes nonprescription methadone and other opiates and synthetic opiates.
MDMA: Coded as "club drugs," which are mostly MDMA.
Other Drugs/Unknown: Includes inhalants, over-the-counter, and other drugs not specified.

Source: Data provided to the Denver Metro NDEWS SCE by the Colorado Department of Human Services, Office of Behavioral Health (OBH), Drug/Alcohol Coordinated Data System (DACODS).

❖ **King County (Seattle Area)**

Notes & Definitions:

Data Availability: 2016 figures are estimates based on doubling preliminary numbers reported for July-December 2016.
Treatment authorizations: 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 Opioids: Includes hydromorphine, other opiates and synthetics, and oxycodone.

Source: Data provided to the King County (Seattle Area) NDEWS SCE by the Washington State Department of Social and Health Services (DSHS) and King County Behavioral Health and Recovery Division for July-Dec 2016.

❖ **Los Angeles County**

Notes & Definitions:
Admissions: Includes all admissions to programs receiving any public funds or to programs providing narcotic replacement therapy, as reported to the California Outcomes Monitoring System (CalOMS). An admission is counted only after all screening, intake, and assessment processes have been completed, and all of the following have occurred: 1) the provider has determined that the client meets the program admission criteria; 2) if applicable, the client has given consent for treatment/recovery services; 3) an individual recovery or treatment plan has been started; 4) a client file has been opened; 5) the client has received his/her first direct recovery service in the facility and is expected to continue participating in program activities; and 6) in methadone programs, the client has received his/her first dose. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.
Prescription Opioids: Includes drug categories labeled "oxycodone/OxyContin" and "other opiates or synthetics."

Source: Data provided to the Los Angeles NDEWS SCE by the California Department of Health Care Services, Mental Health Services Division, Office of Applied Research and Analysis, CalOMS (2013–2016 data) and the California Department of Drug and Alcohol Programs (2012 data).

❖ **Maine**

Notes & Definitions:
Admissions*:* includes all admissions to programs receiving state funding.

Source: Data provided to the Maine NDEWS SCE by the Maine Office of Substance Abuse.

❖ **New York City**

Notes & Definitions:

Non-Crisis Admissions: Includes non-crisis admissions to outpatient, inpatient, residential, and methadone maintenance treatment programs licensed in the state.

Crisis Admissions: Includes detox admissions to all licensed treatment programs in the state

Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Prescription Opioids: Includes nonprescription methadone, buprenorphine, other synthetic opiates, and OxyContin.

Benzodiazepines: Includes benzodiazepines, alprazolam, and rohypnol.

Synthetic Stimulants: Includes other stimulants and a newly created category, synthetic stimulants (created in 2014).

Source: Data provided to the New York City NDEWS SCE by the New York State Office of Alcoholism and Substance Abuse Services (OASAS), Client Data System accessed May 24, 2017 from Local Governmental Unit (LGU) Inquiry Reports.

❖ **Philadelphia**

Notes & Definitions:

Admissions: Includes admissions for uninsured and underinsured individuals admitted to any licensed treatment programs funded through the Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS). Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

2015 and 2016 Data: Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 additional individuals became eligible in 2015. As individuals who historically have been uninsured become insured, the number of individuals served through the BHSI (Behavioral Health Special Initiative) program has declined; thus treatment admissions reported by BHSI declined from 8,363 in 2014 to 3,507 in 2016. However, similar patterns of substance use were observed among those seeking treatment in 2014 and in 2015.

Beginning in FY2015, services funded by the Pennsylvania Department of Drug and Alcohol Programs and tracked by BHSI for OAS are required to report through an Internet portal. This new reporting system does not require drug of choice in the data collection. The impact of this change in reporting protocol resulted in an increase in the proportion of "unknown" drug of choice in subsequent years.

Methamphetamine: Includes both amphetamines and methamphetamine.

Other Drugs: May include synthetics, barbiturates, and over-the-counter drugs. Synthetic Stimulants and Synthetic Cannabinoids are not distinguishable from "Other Drugs" in the reporting source.

Source: Data provided to the Philadelphia NDEWS SCE by the Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS), Office of Addiction Services, Behavioral Health Special Initiative.

❖ **San Francisco County**

Notes & Definitions

Admissions: Treatment episodes include clients admitted in prior years who are still receiving services in a particular year (e.g., methadone maintenance clients). Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Source: Data provided to the San Francisco NDEWS SCE by the San Francisco Department of Public Health (SFDPH), Community Behavioral Health Services Division.

❖ **Southeastern Florida (Miami Area)**

Catchment Area: Includes the three counties of the Miami MSA—Broward, Miami-Dade, and Palm Beach counties.

Notes & Definitions:

Admissions: Includes admissions of all clients in programs receiving any public funding located in Miami-Dade, Broward and Palm Beach counties as provided by the Florida Department of Children and Families Office of Substance Abuse and Mental Health. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

2012–2013: Data for Palm Beach County is not available for 2012–2013, therefore, data for 2012–2013 only includes data for Broward and Miami-Dade counties.

Source: Data provided to the Southeastern Florida NDEWS SCE by the Florida Department of Children and Families, Office of Substance Abuse and Mental Health.

❖ **Texas**

Notes & Definitions:

Admissions: Includes all admissions reported to the Clinical Management for Behavioral Health Services (CMBHS) of the Texas Health and Human Services Commission, Behavioral Health Services (HHSC BHS). Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Methamphetamine: Includes amphetamines and methamphetamine.

Please Note: Treatment data presented in this year's report differ from data presented in previous NDEWS reports because the treatment data for Texas have been revised.

Source: Data provided to the Texas NDEWS SCE by the Texas Health and Human Services Commission, Behavioral Health Services (HHSC BHS).

❖ **Wayne County (Detroit Area)**

Notes & Definitions:

Admissions: Admissions whose treatment was covered by Medicaid or Block Grant funds; excludes admissions covered by private insurance, treatment paid for in cash, and admissions funded by the Michigan Department of Corrections. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

Synthetic Stimulants: Includes amphetamines and synthetic stimulants; data suppressed to protect confidentiality.

Source: Data provided to the Wayne County (Detroit Area) NDEWS SCE by the Michigan Department of Health and Human Services, Bureau of Behavioral Health and Developmental Disabilities, Division of Quality Management and Planning, Performance Measurement and Evaluation Section.

Sources

Data Sources: Adapted by the NDEWS Coordinating Center from data provided by NDEWS SCEs listed above.

***Overview/Methods/Limitations Sources*:** Adapted by the NDEWS Coordinating Center from:

[a]National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services, *Assessing Drug Abuse Within and Across Communities, 2nd Edition*. 2006. Available at: https://www.drugabuse.gov/publications/assessing-drug-abuse-within-across-communities

[b]National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services, *Epidemiologic Trends in Drug Abuse, Proceedings of the Community Epidemiology Work Group, Highlights and Executive Summary, June 2014*. Available at: https://www.drugabuse.gov/sites/default/files/cewgjune2014.pdf

Overview and Limitations of CDC WONDER Multiple Cause of Death Data

The multiple cause-of-death mortality files from the National Vital Statistics System (NVSS) (queried from the CDC WONDER Online Database) were used to identify drug overdose (poisoning) deaths. Mortality data are based on information from all death certificates for U.S. residents filed in the 50 states and the District of Columbia. Deaths of nonresidents and fetal deaths are excluded. The death certificates are either 1) coded by the states or provided to the CDC's National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program; or 2) coded by NCHS from copies of the original death certificates provided to NCHS by the respective state registration office. Each death certificate contains a single underlying cause of death, up to 20 additional multiple causes, and demographic data.[1] (Click here for more information about CDC WONDER Multiple Cause of Death data)

The drug-specific poisoning deaths presented in the National Drug Early Warning System (NDEWS) reports are deaths that have been certified "as due to acute exposure to a drug, either alone or in combination with other drugs or other substances" (Goldberger, Maxwell, Campbell, & Wilford, p. 234)[2] and are identified by using the World Health Organization's (WHO's) *International classification of diseases, 10th Revision* (ICD-10)[3] **underlying cause-of-death** codes X40–X44, X60–X64, X85, and Y10–Y14. Drug-specific poisoning deaths are the subset of drug overdose (poisoning) deaths with drug-specific **multiple cause-of-death** codes (i.e., T-codes). For the definitions of specific ICD-10 codes, see the section titled ***Notes About Data Terms***. Each death certificate may contain up to 20 causes of death indicated in the multiple cause-of-death (MCOD) field. Thus, the total count across drugs may exceed the actual number of dead persons in the selected population. Some deaths involve more than one drug; these deaths are included in the rates for each drug category.

As stated in its report, *Consensus Recommendations for National and State Poisoning Surveillance,* the Safe States Injury Surveillance Workgroup on Poisoning (ISW7)[a] identified the limitations of using mortality data from NVSS to measure drug poisoning deaths:

> Several factors related to death investigation and reporting may affect measurement of death rates involving specific drugs. At autopsy, toxicological lab tests may be performed to determine the type of legal and illegal drugs present. The substances tested for and circumstance in which tests are performed vary by jurisdiction. Increased attention to fatal poisonings associated with prescription pain medication may have led to changes in reporting practices over time such as increasing the level of substance specific detail included on the death certificates. Substance-

[a] The Safe States Alliance, a nongovernmental membership association, convened the Injury Surveillance Workgroup on Poisoning (ISW7) to improve the surveillance of fatal and nonfatal poisonings. Representation on the ISW7 included individuals from the National Center for Injury Prevention and Control (NCIPC), the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Council of State and Territorial Epidemiologists (CSTE), the American Association of Poison Control Centers (AAPCC), the Association of State and Territorial Health Officials (ASTHO), the Society for the Advancement of Injury Research (SAVIR), state health departments, academic centers, the occupational health research community, and private research organizations.

specific death rates are more susceptible to measurement error related to these factors than the overall poisoning death rate. (The Safe States Alliance, p. 63)[4]

Warner et al.[5] found that there was considerable variation in certifying the manner of death and the percentage of drug intoxication deaths with specific drugs identified on death certificates and that these variations across states can lead to misleading cross-state comparisons. Based on 2008–2010 data, Warner et al.[5] found that the percentage of deaths with an "undetermined" manner of death ranged from 1% to 85%. Thus, comparing state-specific rates of *unintentional* or *suicidal* drug intoxication deaths would be problematic because the "magnitude of the problem will be underestimated in States with high percentages of death in which the manner is *undetermined*."[5] The drug overdose (poisoning) deaths presented in the NDEWS tables include the various manner of death categories: unintentional (X40–X44); suicide (X60–X64); homicide (X85); or undetermined (Y10–Y14).

Based on 2008–2010 data, Warner et al.[5] found that the percentage of drug overdose (poisoning) deaths with specific drugs mentioned varied considerably by state and type of death investigation system. The authors found that in some cases, deaths without a specific drug mentioned on the death certificate may indicate a death involving multiple drug toxicity. The **Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified** statistic is calculated for each NDEWS SCS catchment area so the reader can assess the thoroughness of the data for the catchment area. This statistic is defined as drug poisoning deaths with at least one ICD-10 multiple cause of death in the range T36–T50.8.

Notes About Data Terms

Underlying Cause of Death (UCOD): The CDC follows the WHO's definition of *underlying cause of death*: "[T]he disease or injury which initiated the train of events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury." Underlying cause of death is selected from the conditions entered by the physician on the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of condition on the certificate, provisions of the ICD, and associated selection rules and modifications. (Click here for more information about CDC WONDER Multiple Cause of Death data)

Specific ICD-10 codes for *underlying cause of death*[3] (Click here to see full list of WHO ICD-10 codes)

X40: Accidental poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics.

X41: Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified.

X42: Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified.

X43: Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system.

X44: Accidental poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances.

X60: Intentional self-poisoning (suicide) by and exposure to nonopioid analgesics, antipyretics, and antirheumatics.

X61: Intentional self-poisoning (suicide) by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified.

X62: Intentional self-poisoning (suicide) by, and exposure to, narcotics and psychodysleptics [hallucinogens], not elsewhere classified.

X63: Intentional self-poisoning (suicide) by and exposure to other drugs acting on the autonomic nervous system.

X64: Intentional self-poisoning (suicide) by and exposure to other and unspecified drugs, medicaments, and biological substances.

X85: Assault (homicide) by drugs, medicaments, and biological substances.

Y10: Poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics, undetermined intent.

Y11: Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified, undetermined intent.

Y12: Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent.

Y13: Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent.

Y14: Poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances, undetermined intent.

Multiple Cause of Death: Each death certificate may contain up to 20 *multiple causes of death*. Thus, the total count by "any mention" of cause in the *multiple cause of death* field may exceed the actual number of dead persons in the selected population. Some deaths involve more than one drug; these deaths are included in the rates for each drug category. (Click here for more information about CDC WONDER Multiple Cause of Death data)

Drug-specific ICD-10 T-codes for *multiple cause of death*[3]
(Click here to see full list of WHO ICD-10 codes)

Any Opioids (T40.0–T40.4 or T40.6) [T40.0 (Opium) and T40.6 (Other and Unspecified Narcotics)]

Heroin (T40.1)

Methadone (T40.3)

Natural Opioid Analgesics (T40.2)

Please note the ICD-10 refers to T40.2 as *Other Opioids*; CDC has revised the wording for clarity: http://www.cdc.gov/drugoverdose/data/analysis.html

Synthetic Opioid Analgesics (T40.4)

Please note the ICD-10 refers to T40.4 as *Other Synthetic Narcotics*; CDC has revised the wording for clarity: http://www.cdc.gov/drugoverdose/data/analysis.html

Cocaine (T40.5)

Psychostimulants with Abuse Potential [excludes cocaine] (T43.6)

Cannabis (derivatives) (T40.7)

Benzodiazepines (T42.4)

Percentage of Drug Overdose (Poisoning) Deaths with Drug(s) Specified: Percentage of drug overdose (poisoning) deaths that mention the type of drug(s) involved, by catchment area. This statistic is defined as drug poisoning deaths with at least one ICD-10 multiple cause of death in the range T36–T50.8.

Population (used to calculate rates): The population estimates used to calculate the crude rates are bridged-race estimates based on Bureau of the Census estimates of total U.S. national, state, and county resident populations. The year 2010 populations are April 1 modified census counts. The year 2011–2015 population estimates are bridged-race postcensal estimates of the July 1 resident population. Click here for more information about CDC WONDER Multiple Cause of Death data)

Age-Adjusted Rate: Age-adjusted death rates are weighted averages of the age-specific death rates, where the weights represent a fixed population by age. They are used to compare relative mortality risk among groups and over time. An age-adjusted rate represents the rate that would have existed had the age-specific rates of the particular year prevailed in a population whose age distribution was the same as that of the fixed population. Age-adjusted rates should be viewed as relative indexes rather than as direct or actual measures of mortality risk. The rate is adjusted based on the age distribution of a standard population allowing for comparison of rates across different sites. The year "2000 U.S. standard" is the default population selection for the calculation of age-adjusted rates. (Click here for more information about CDC WONDER Multiple Cause of Death data)

Suppressed Data: As of May 23, 2011, all subnational data representing 0–9 deaths are suppressed (privacy policy). Corresponding subnational denominator population figures are also suppressed when the population represents fewer than 10 persons. (Click here for more information about CDC WONDER Multiple Cause of Death data)

Unreliable Data: Estimates based on fewer than 20 deaths are considered unreliable and are not displayed. (Click here for more information about CDC WONDER Multiple Cause of Death data

Sources

Data Sources: Adapted by the NDEWS Coordinating Center from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, *Multiple cause of death 1999–2015*, available on the CDC WONDER Online Database, released December 2016. Data compiled in the *Multiple cause of death 1999–2015* were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between February 2017 - June 2017, from http://wonder.cdc.gov/mcd-icd10.html

***Overview/Methods/Limitations Sources*:** Adapted by the NDEWS Coordinating Center from:

[1]Center from Centers for Disease Control and Prevention, National Center for Health Statistics. (2015). *Multiple cause of death 1999–2014*. Retrieved December 16, 2015, from http://wonder.cdc.gov/wonder/help/mcd.html

[2]Goldberger, B. A., Maxwell, J. C., Campbell, A., & Wilford, B. B. (2013). Uniform standards and case definitions for classifying opioid-related deaths: Recommendations by a SAMHSA consensus panel. *Journal of Addictive Diseases*, *32*, 231–243.

[3]World Health Organization (WHO). (2016). *International statistical classification of diseases and related health problems 10th Revision*. Retrieved March 14, 2016, from http://apps.who.int/classifications/icd10/browse/2016/en

[4]The Safe States Alliance. (2012). *Consensus recommendations for national and state poisoning surveillance*. Atlanta, GA: Injury Surveillance Workgroup 7.

[5]Warner, M., Paulozzi, L. J., Nolte, K. B., Davis, G. G., & Nelson, L.S. (2013). State variation in certifying manner of death and drugs involved in drug intoxication deaths. *Acad Forensic Pathol,* 3(2),231–237.

Overview and Limitations of National Forensic Laboratory Information System (NFLIS) Data

The Drug Enforcement Administration's (DEA) National Forensic Laboratory Information System (NFLIS) systematically collects results from drug analyses conducted by State and local forensic laboratories. These laboratories analyze controlled and noncontrolled substances secured in law enforcement operations across the United States. The NFLIS participation rate, defined as the percentage of the national drug caseload represented by laboratories that have joined NFLIS, is currently over 98%. NFLIS includes 50 State systems and 101 local or municipal laboratories/laboratory systems, representing a total of 277 individual laboratories. The NFLIS database also includes Federal data from DEA and U.S. Customs and Border Protection (CBP) laboratories.[a]

Limitations. NFLIS includes results from completed analyses only. Drug evidence secured by law enforcement but not analyzed by laboratories is not included in the NFLIS database.

State and local policies related to the enforcement and prosecution of specific drugs may affect drug evidence submissions to laboratories for analysis.

Laboratory policies and procedures for handling drug evidence vary. Some laboratories analyze all evidence submitted to them, whereas others analyze only selected case items. Many laboratories do not analyze drug evidence if the criminal case was dismissed from court or if no defendant could be linked to the case.[a]

Notes about Reporting Labs

Reporting anomalies were identified in several NDEWS SCSs in 2016 and are described below:

- **Denver Metro Area:** The Aurora Police Department laboratory's last reported data are from July 2014, following the migration to a new laboratory information management system (LIMS).
- **San Francisco County:** The San Francisco Police Department (SFPD) laboratory has been closed since 2010; however, beginning in January 2012, the Alameda Sheriff Department laboratory began reporting their SFPD cases to NFLIS. All available data from the SFPD are included in the counts. Please note that previously published 2014 and 2015 San Francisco County NDEWS reports did not include SFPD cases analyzed by the Alameda Sheriff Department laboratory. The dramatic increases in this year's 2016 data, compared to 2014 and 2015, are a result of the inclusion of SFPD data analyzed by the Alameda laboratory.
- **Texas:** The Austin Police Department laboratory resumed reporting for 2016. Dallas Institute of Forensic Science is a new lab reporting all 2016 data to date.
- **Wayne County (Detroit Area):** The Michigan State Police began reporting data from a lab in Detroit starting in March 2016.

Notes about Data Terms

SCS Drug Report: Drug that is identified in law enforcement items, submitted to and analyzed by Federal, State, or local forensic labs and included in the NFLIS database. This database allows for the reporting of up to three drug reports per item submitted for analysis.

For each site, the NFLIS drug reports are based on submissions of items seized in the site's catchment area. The catchment area for each site is described in the Notes section below each table. The time frame is January through December 2016. Data were retrieved from the NFLIS Data Query System (DQS) on May 28, 2017. Please note that

the data are subject to change; data queried on different dates may reflect differences in the time of data analyses and reporting.

National Estimates in Table 5a of the Cross-Site Data Presentation of NFLIS data: The top 10 most frequently identified drugs in the United States are included in Table 5a; this list comes from the DEA's *National Forensic Laboratory Information System (NFLIS) Annual 2016 Report* and is based on national estimates of drug reports using the NEAR (National Estimates Based on All Reports) approach. The NEAR estimates are based on cases and items submitted to laboratories from January through December 2016 that were analyzed by March 31, 2017. A national sampling frame of all State and local forensic laboratories that routinely perform drug chemistry analyses has been developed based on laboratory-specific information, such as annual caseloads, ascertained from a 1998 survey (updated in 2002, 2004, 2008, and 2013).[a] A probability proportional to size (PPS) sample was drawn on the basis of annual cases analyzed per laboratory resulting in a NFLIS national sample of 29 State laboratory systems and 31 local or municipal laboratories, and a total of 168 individual laboratories.[a] Over the years, the number of non-sampled laboratories reporting to NFLIS has increased, so the DEA sought ways to use the data submitted by these "volunteer" laboratories. Since 2011, data from the "volunteer" laboratories have been included and assigned a weight of one. Estimates are more precise, especially for recent years, due to this inclusion of a large number of volunteer laboratories. This precision allows for more power to detect trends and fewer suppressed estimates."[a]

Since 2011, for each drug item (exhibit) analyzed by a laboratory in the NFLIS program, up to three drugs were reported to NFLIS and counted in the estimation process. A further enhancement to account for multiple drugs per item was introduced in 2017 for the 2016 Annual Report. All drugs reported in an item are now counted in the estimation process. This change ensures that the estimates will take into consideration all reported substances including emerging drugs of interest that may typically be reported as the fourth or fifth drug within an item. This change was implemented in the 2016 data processing cycle and for future years.[a] (See *National Forensic Laboratory Information System (NFLIS): Statistical Methodology* report for more information about how the national estimates are derived).

NPS Categories: Five new psychoactive substance (NPS) drug categories and Fentanyls are of current interest to the NDEWS Project because of the recent increase in their numbers, types, and availability. The five NPS categories are: synthetic cannabinoids, synthetic cathinones, piperazines, tryptamines, and 2C Phenethylamines.

Other Fentanyls are substances that are structurally related to fentanyl (e.g., acetylfentanyl and butyryl fentanyl).

A complete list of drugs included in the Other Fentanyls category that were reported to NFLIS during the January to December 2016 timeframe includes:

3-METHYLFENTANYL
3-METHYLTHIOFENTANYL
4-METHOXY-BUTYRYL FENTANYL
ACETYL-ALPHA-METHYLFENTANYL
ACETYLFENTANYL
ACRYL-ALPHA-METHYLFENTANYL
ACRYLFENTANYL
ALFENTANIL
ALPHA-METHYLFENTANYL
ALPHA-METHYLTHIOFENTANYL
BENZYLFENTANYL
BETA-HYDROXY-3-METHYLFENTANYL

BETA-HYDROXYFENTANYL
Beta-HYDROXYTHIOFENTANYL
BUTYRYL FENTANYL
CARFENTANIL
CIS-3-METHYLFENTANYL
DESPROPIONYL FENTANYL
FLUOROFENTANYL
FLUOROISOBUTYRYLFENTANYL
FURANYL FENTANYL
LOFENTANIL
ORTHO-FLUOROFENTANYL
P-FLUOROBUTYRYL FENTANYL (P-FBF)
P-FLUOROFENTANYL
P-FLUOROISOBUTYRYL FENTANYL
REMIFENTANIL
SUFENTANIL
THENYLFENTANYL
THIOFENTANYL
TRANS-3-METHYLFENTANYL
VALERYL FENTANYL

Sources

***Data Sources*:** SCS Drug Report data adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from NFLIS Data Query System (DQS) May 28, 2017.

National estimates adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (2017) *National Forensic Laboratory Information System: 2016 Annual Report.* Springfield, VA: U.S. Drug Enforcement Administration. Available at: https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLIS2016AR.pdf

***Overview/Methods/Limitations Sources*:** [a]Adapted by the NDEWS Coordinating Center from U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (2017) *National Forensic Laboratory Information System: 2016 Annual Report.* Springfield, VA: U.S. Drug Enforcement Administration. Available at: https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLIS2016AR.pdf

U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (2017) *National Forensic Laboratory Information System: Statistical Methodology Revised September 2017.* Springfield, VA: U.S. Drug Enforcement Administration. Available at: https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLIS-2017-StatMethodology.pdf