Philadelphia
Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2016

October 2016

NDEWS Coordinating Center

Sentinel Community Site (SCS) Locations

Sentinel Community Epidemiologists (SCEs)

Atlanta Metro
Brian J. Dew, PhD
Department of Counseling and
Psychological Services
Georgia State University
Phone: 404-413-8168
bdew@gsu.edu

Chicago Metro
Lawrence J. Ouellet, PhD
School of Public Health
University of Illinois at Chicago
Phone: 312-355-0145
ljo@uic.edu

Denver Metro
Cindy Laub, PhD
Office of Behavioral Health Strategies
City and County of Denver
Phone: 720-944-1148
cindy.laub@denvergov.org

Wayne County (Detroit Area)
Cynthia L. Arfken, PhD
Department of Psychiatry and
Behavioral Neurosciences
Wayne State University
Phone: 313-993-3490
cynthia.arfken@wayne.edu

Los Angeles County
Mary-Lynn Brecht, PhD
Integrated Substance Abuse Programs
University of California at Los Angeles
Phone: 310-267-5275
lbrecht@ucla.edu

Maine
Marcella H. Sorg, PhD, RN
Rural Drug and Alcohol Research
Program
University of Maine
Phone: 207-581-2596
mhsorg@maine.edu

Southeastern Florida (Miami Area)
James N. Hall, BA
Center for Applied Research on
Substance Use and Health Disparities
Nova Southeastern University
Phone: 786-547-7249
upfrontin@aol.com

New York City
Denise Paone, EdD
Bureau of Alcohol and Drug Use
Prevention, Care and Treatment
New York City Department of Health
and Mental Hygiene
Phone: 347-396-7015
dpaone@health.nyc.gov

Philadelphia
Suet T. Lim, PhD
City of Philadelphia
Department of Behavioral Health and
Intellectual disAbility Services
Community Behavioral Health
Phone: 215-413-7165
suet.lim@phila.gov

San Francisco
Phillip O. Coffin, MD, MIA
San Francisco Department of Public
Health
Phone: 415-437-6282
phillip.coffin@sfdph.org

King County (Seattle Area)
Caleb Banta-Green, MSW, MPH, PhD
Alcohol and Drug Abuse Institute
University of Washington
Phone: 206-685-3919
calebbg@u.washington.edu

Texas
Jane C. Maxwell, PhD
School of Social Work
The University of Texas at Austin
Phone: 512-656-3361
jcmaxwell@austin.utexas.edu

National Drug Early Warning System (NDEWS) Sentinel Community Site (SCS) Drug Use Patterns and Trends, 2016

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.
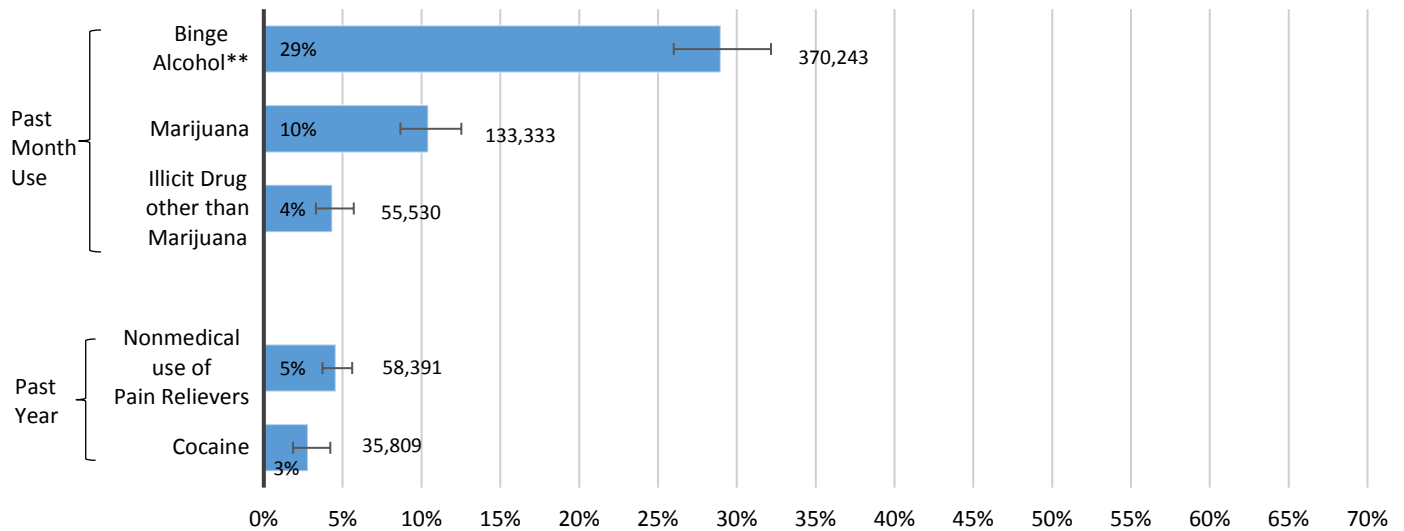
Philadelphia SCS Snapshot, 2016

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**

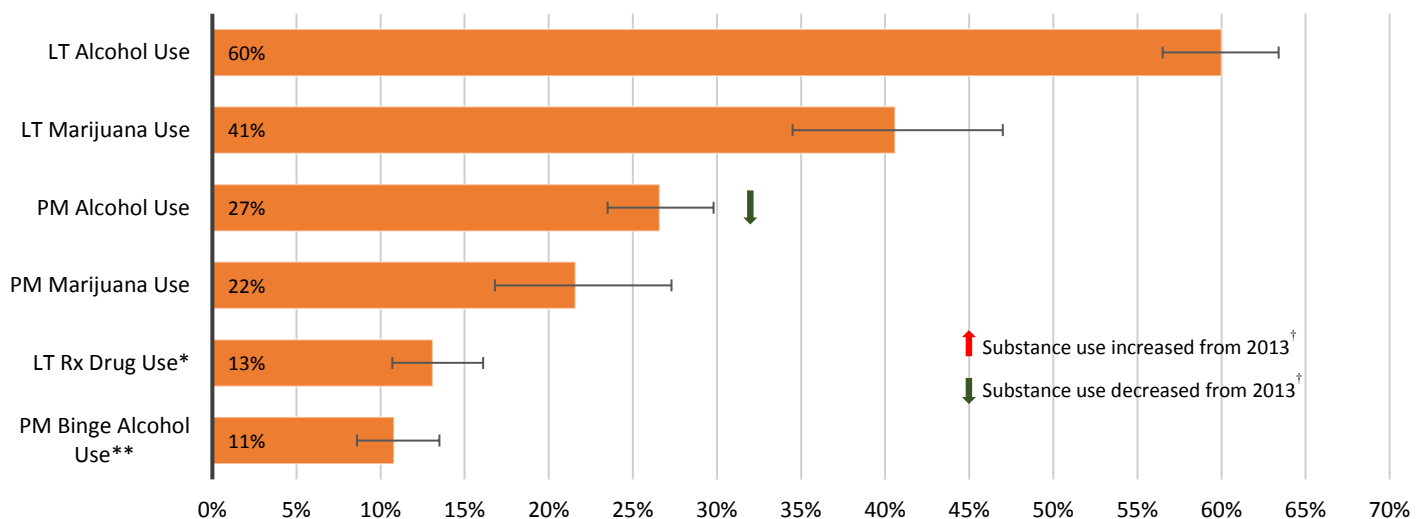| Category	Substance	Percent	Estimated Number
Past Month Use	Binge Alcohol**	29%	370,243
	Marijuana	10%	133,333
	Illicit Drug other than Marijuana	4%	55,530
Past Year	Nonmedical use of Pain Relievers	5%	58,391
	Cocaine	3%	35,809

*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

Substance	Percent
LT Alcohol Use	60%
LT Marijuana Use	41%
PM Alcohol Use	27%
PM Marijuana Use	22%
LT Rx Drug Use*	13%
PM Binge Alcohol Use**	11%

↑ Substance use increased from 2013[†]

↓ Substance use decreased from 2013[†]

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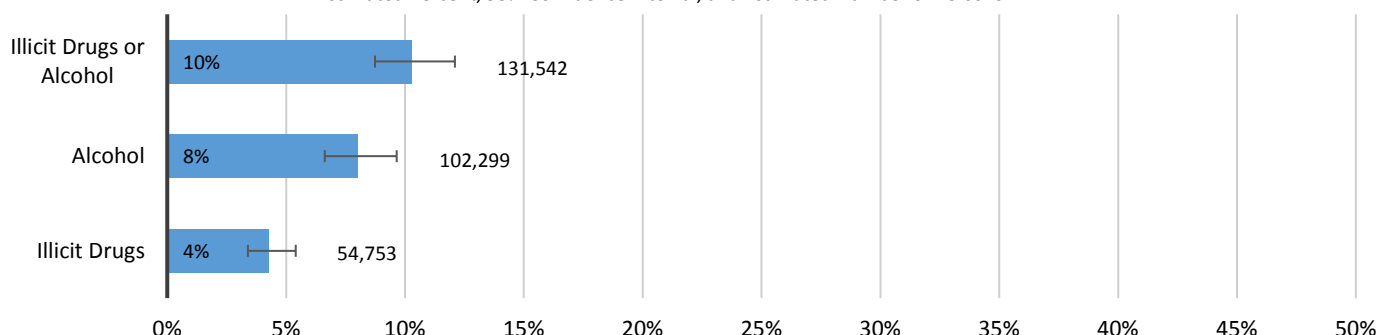**Source**: Adapted by the NDEWS Coordinating Center from data provided by CDC, 1991-2015 High School YRBS data.

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***

Category	Percent	Estimated Number
Illicit Drugs or Alcohol	10%	131,542
Alcohol	8%	102,299
Illicit Drugs	4%	54,753

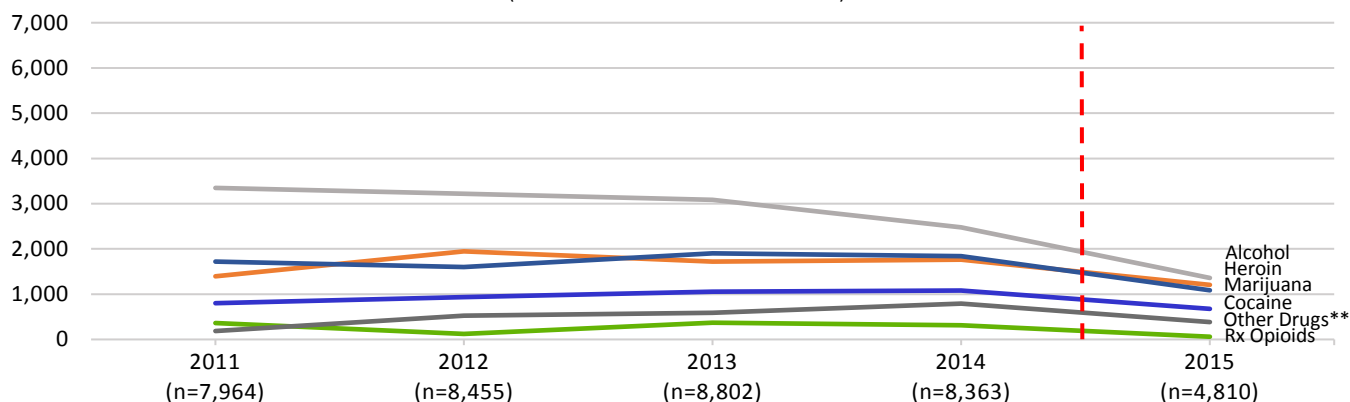(Horizontal axis: 0% to 50% in 5% increments)

*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.
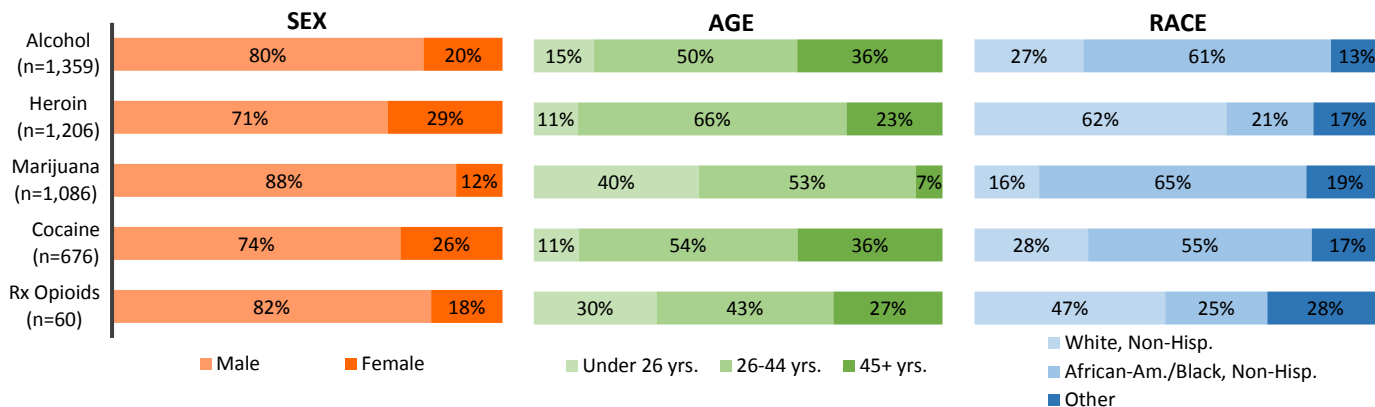
Treatment Admissions Data from Local Sources

Trends in Treatment Admissions*, by Primary Substance of Abuse, Philadelphia, 2011-2015
(n = Number of Treatment Admissions)

Lines (top to bottom at right): Alcohol, Heroin, Marijuana, Cocaine, Other Drugs**, Rx Opioids

Year	2011	2012	2013	2014	2015
n	(n=7,964)	(n=8,455)	(n=8,802)	(n=8,363)	(n=4,810)

Demographic Characteristics of Treatment Admissions*, Philadelphia, 2015

	SEX		AGE			RACE		
	Male	Female	Under 26 yrs.	26-44 yrs.	45+ yrs.	White, Non-Hisp.	African-Am./Black, Non-Hisp.	Other
Alcohol (n=1,359)	80%	20%	15%	50%	36%	27%	61%	13%
Heroin (n=1,206)	71%	29%	11%	66%	23%	62%	21%	17%
Marijuana (n=1,086)	88%	12%	40%	53%	7%	16%	65%	19%
Cocaine (n=676)	74%	26%	11%	54%	36%	28%	55%	17%
Rx Opioids (n=60)	82%	18%	30%	43%	27%	47%	25%	28%

*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^, 2010–2014
(Number of Deaths and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified^v)
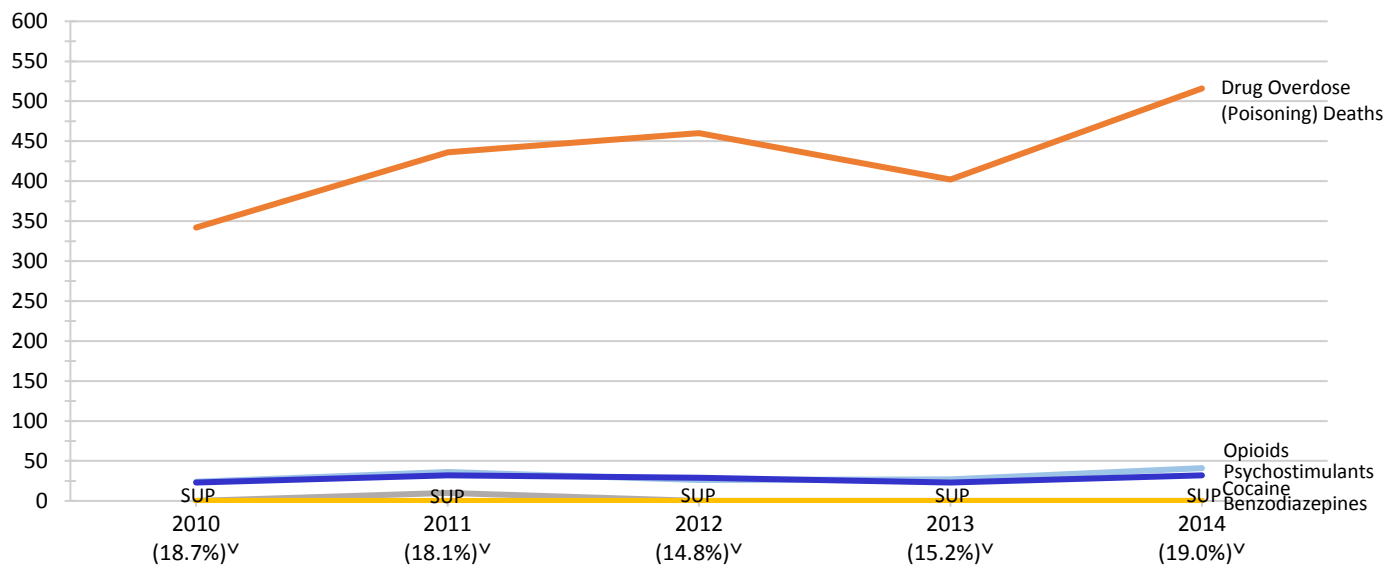
Trends in Opioid Overdose (Poisoning) Deaths*, by Opioid, Philadelphia^, 2010–2014
(Number of Deaths, by Drug** and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified^v)
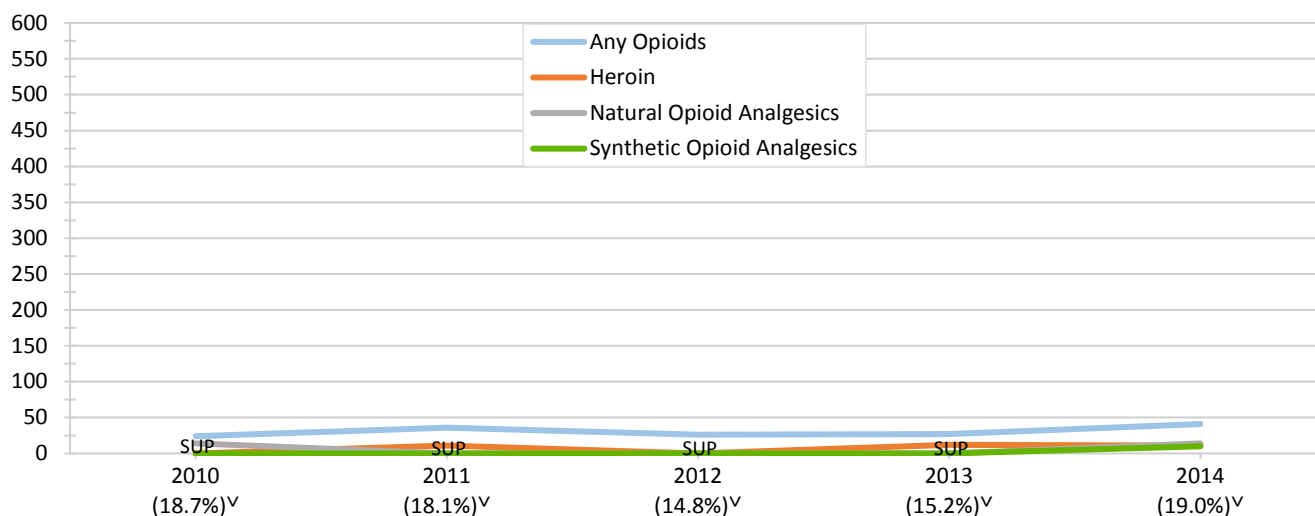
*Drug Overdose (Poisoning) Deaths: Defined as deaths with ICD-10 underlying cause-of-death (UCOD) codes: X40-X44, X60-X64, X85, and Y10-Y14. **Drug Overdose (Poisoning) Deaths, by Drug: Drug overdose (poisoning) deaths with ICD-10 multiple cause-of-death (MCOD) T-codes: Benzodiazepines (T42.4); Cocaine (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. ^vPercent 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 1999-2014, available on the CDC WONDER Online Database, released 2015. Data compiled in the Multiple cause of death 1999-2014 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between December 2015 - May 2016, from http://wonder.cdc.gov/mcd-icd10.html
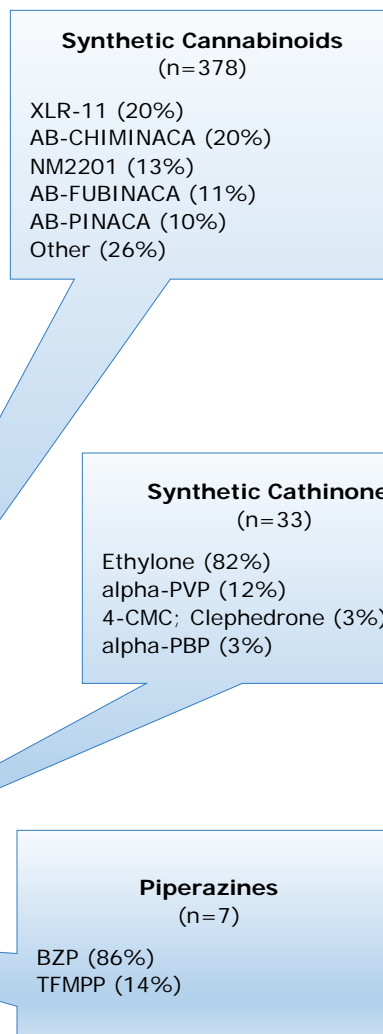
Law Enforcement Drug Seizures

National Forensic Laboratory Information System (NFLIS)

Drug Reports* for Items Seized by Law Enforcement in Philadelphia^ in 2015
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	22,293	100%
Top 10 Drug Reports		
Cocaine	6,001	26.9%
Cannabis	5,880	26.4%
Heroin	4,940	22.2%
Oxycodone	1,127	5.1%
Alprazolam	743	3.3%
Acetaminophen	658	3.0%
No Controlled Drug Identified	439	2.0%
Phencyclidine	431	1.9%
Non-Controlled Non-Narcotic Drug	300	1.3%
Fentanyl	163	0.7%
Top 10 Total	**20,682**	**92.8%**
Selected Drugs/Drug Categories		
Opioids	6,764	30.3%
Fentanyl	163	0.7%
Other Fentanyls***	6	<0.1%
Synthetic Cannabinoids	378	1.7%
Synthetic Cathinones	33	0.1%
Piperazines	7	<0.1%
Tryptamines	2	<0.1%
2C Phenethylamines	0	0.0%

Top 5 Drugs, by Selected Drug Category
(% of Category)**

Synthetic Cannabinoids
(n=378)

XLR-11 (20%)
AB-CHIMINACA (20%)
NM2201 (13%)
AB-FUBINACA (11%)
AB-PINACA (10%)
Other (26%)

Synthetic Cathinones
(n=33)

Ethylone (82%)
alpha-PVP (12%)
4-CMC; Clephedrone (3%)
alpha-PBP (3%)

Piperazines
(n=7)

BZP (86%)
TFMPP (14%)

*Drug Reports: 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.

^Philadelphia: Philadelphia County

**Percentages may not sum to 100 due to rounding. ***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 full list of Other Fentanyls that were reported to NFLIS during the January to December 2015 timeframe. See *Sentinel Community Site (SCS) Data Tables* and *Overview & Limitations* for more information regarding the data.

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 18, 2016.

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:

◇ SCS Highlights
◇ Changes in Legislation
◇ Substance Use Patterns and Trends
◇ Local Research Highlights (if available)
◇ Infectious Diseases Related to Substance Use (if available)

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, 2016: SCE Narrative

Suet Lim, Ph.D.

City of Philadelphia
Community Behavioral Health

Highlights

- The outbreak of **fentanyl**-related intoxication deaths that began in 2014 continued unabated in 2015. Of the 688 alcohol and/or drug intoxication deaths in 2015, 183 (27%) tested positive for fentanyl, which was an increase from 100 (16%) reported for 2014. Ten (10) of the 183 cases have no other positive detections for other substances and had fentanyl only on board.

- From mortality indicator data, **heroin** remained the most dangerous illicit drug in Philadelphia; it also remained the top-ranked drug detected among intoxication deaths with 381 cases testing positive for heroin. From morbidity indicator data, treatment admissions for heroin continued to increase steadily from 2013 to 2015.

- **Cocaine** remained a high-ranking drug; mortality indicator data showed that cocaine was the 3rd most detected drug among alcohol and/or drug intoxication deaths with 298 cases positive (2nd if alcohol-only intoxication deaths is excluded); primary treatment admissions showed a slight increase in primary treatment admissions in 2015 from 2014. In 2015, cocaine reemerged as the top drug among National Forensic Laboratory Services (NFLIS)-positive reports for Philadelphia since 2011.

- Treatment admissions for **benzodiazepines** were low in 2015, but positive detections among intoxication deaths increased. As in the previous year, alprazolam remained the most frequently detected benzodiazepines among intoxication deaths, detected in 33% of cases in 2015 compared with 27% in 2014. Positive results for clonazepam and diazepam among intoxication deaths decreased, but they remained in the top 10 drugs detected.

- Of **prescription opioids**, the mortality indicator identified oxycodone as the top-ranked drug; however, the treatment indicator was low and showed a decrease in primary admissions for prescription opioids.

- **Marijuana** continued to be in the top three primary treatment admissions. In 2015, marijuana was the second most detected drug in law enforcement seizures; it has historically been the most commonly identified substance from NFLIS-positive reports since 2012.

- **Alcohol** continued to be a top substance in primary treatment admissions and was detected in 55% of intoxication deaths.

Changes in Legislation

Pennsylvania's Medical Marijuana Act[1,2]

Pennsylvania has become the 24th state to legalize medical marijuana in the United States. Pennsylvania's Governor Tom Wolf signed The Medical Marijuana Act (SB 3) in April 2016, with it taking effect on May 17, 2016. After the development of regulations, SB 3 will allow certified doctors to recommend medical cannabis to patients who struggle with a qualifying medical condition. Qualifying patients will become registered with the state for use and preparation of medical cannabis. Upon patient approval for medical cannabis use, a $50 cost will be issued to the patient for the processing of a medical marijuana identification card. Patients with a medical cannabis card will be able to purchase medical cannabis at approved dispensaries. Individuals are only legally protected after they have received their medical cannabis registration card. A registered patient will also be protected in child custody matters. Healthcare insurers are not to be held responsible for the cost associated with medical cannabis use. Employers of individuals with a medical cannabis registration card are not required to accommodate an individual's use at the employment site. Under the supervision of the Pennsylvania Health Department, 25 processors/growers and up to 150 dispensaries will manufacture and distribute medical cannabis. Dispensaries will be limited to dispending medical cannabis in pills, oils, gels, creams, ointments, tinctures, liquid, and non-whole plant forms for vaporization use. At this time, restrictions are placed on the distribution of edibles and dry leaf cannabis. The Department of Health is scheduled to review the medical cannabis implementation report devised by the advisory board to accept and/or reject recommendations in May 2018.

ABC-MAP Prescription Drug Monitoring Program[3,4]

In an effort to address the opioid abuse crisis in Pennsylvania, the Pennsylvania Medical Society (PAMED) and Department of Health (DOH) along with other key stakeholder have partnered in the creation of a controlled substance database to raise awareness of controlled substances prescribed in the state. Under the supervision of the Pennsylvania Department of Health, the Achieving Better Care by Monitoring All Prescriptions (ABC-MAP) program is a statewide database collecting data on controlled

---

[1] Pennsylvania - MPP Summary of Pennsylvania's Medical Marijuana Act. (n.d.). Retrieved May 11, 2016, from https://www.mpp.org/states/pennsylvania/

[2] Pennsylvania General Assembly: Bill Information. (n.d.). Retrieved May 11, 2016, from http://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2015

[3] Achieving Better Care by Monitoring All Prescriptions: General Information. (n.d.). Retrieved May 11, 2016, from http://www.health.pa.gov/My Health/Diseases and Conditions/Documents/abcmapQA.pdf

[4] Information for State Prescribers on the Controlled Substances Database. (n.d.). Retrieved May 11, 2016, from https://www.pamedsoc.org/Pages/Article-Detail-Page.aspx?TermStoreId=ab8b8fe3-5cb2-4091-916b-64792bec3d05&TermSetId=a6d4659a-154c-4b15-8266-4135869cd8f0&TermId=257806a9-5363-4650-ad81-c4b268755993&UrlSuffix=Controlled Substances Database Basics

substance prescription drugs dispensed to patients. This program is based on the expansion of a previous mandate of the Prescription Drug Monitoring Program (PDMP) that required the reporting of Schedule II controlled substances. Under new revisions, ACT 191 of 2014 requires the reporting of all Schedule II through Schedule V controlled substances. Controlled substances are government-regulated substances varying in their degree for potential abuse or dependence. With the enactment of ACT 191 of 2014, prescribers and dispensers will have access to a patient's controlled substance medication history. This information will support prescribers and dispensers in accessing and providing treatment strategies. In addition, PDMP will aid law enforcement agencies in identifying and/or preventing fraud, abuse, and diversion of controlled substances.

Once fully implemented, the dispenser will be required to submit data into the PDMP system within 72 hours of filling the prescription. Dispensers will be required to collect patient information regarding patient's controlled substance status (i.e., new patient and dispensed controlled substance). The PDMP will securely house information for monitoring purposes for healthcare professionals and others authorized by the law. PDMP will provide professional "real-time" data mandating all dispensers enter data up to 72 hours postcontrolled substance dispensing. Upon full implementation of the PDMP database, prescribers will be accountable to query first-time patients and/or assess potential patient abuse or diversion of a controlled substance. The PDMP database is to support prescribers in making informed treatment decisions. In the event of abuse or dependence, PDMP will provide prescribers referral and resource information for drug and alcohol treatment.

Follow-up to Changes in Legislation

In October 2014, the Pennsylvania Governor signed Good Samaritan legislation (Act 139) that established immunity from prosecution for activities intended to reduce fatalities from drug overdoses. This legislation also provides for first-responders and individuals the ability to administer naloxone, a life-saving, opioid-overdose antidote, with immunity from prosecution for drug-related crimes. This legislation was anticipated to encourage people to report overdoses quickly without fear of legal repercussions. Following up to the Good Samaritan legislation, the Pennsylvania Department of Health issued a standing order for naloxone prescription for overdose prevention. The standing order was issued by the Pennsylvania Physician General on October 28, 2015. It is a prescription written for the general public, rather than specifically for an individual, which provides for individuals to obtain naloxone from a pharmacy in the event that they are unable to obtain naloxone or a prescription for naloxone from their regular healthcare providers. The standing order is intended to ensure that individuals who are at risk or experiencing an opioid-related overdose, or who are family members, friends, or other persons in a position to assist a person at risk of experiencing an opioid-related overdose, can obtain naloxone. Pennsylvania State Police are now equipped with naloxone so that those troopers who are first on the scene of an overdose can have another tool on-hand during these emergencies.

In November 2015, a multi-agency Opiate Overdose Prevention Taskforce planning committee was convened by Prevention Point, a service agency in the City of Philadelphia, with origins in the syringe exchange program intended to reduce the harm associated with substance use and sex industry work. Planning committee members represent the Philadelphia Department of Behavioral Health, Department of Public Health, Police Department, area hospital emergency rooms, schools, and departments of public

health from area academic institutions, pharmacy groups, High Intensity Drug Trafficking Area (HIDTA), and advocacy groups among others.

As the planning committee worked to develop and launch the taskforce, the committee learned that the Physician General standing order was not universally known or acknowledged by pharmacies. Research by members on the planning committee revealed that there were pharmacies in the City that did not know about the standing order or that they did not necessarily stock or plan to stock naloxone if they were aware of the standing order. This represented a need for education on the current opiate overdose problem in Pennsylvania.

Among many efforts to address the opiate overdose problem, the Police Department is instituting a prescription drug take-back program. One of their partners in this new program, Walgreens, one of the nation's largest pharmacy chains, will be instituting drug take-back boxes at their pharmacies. Currently, take-back boxes are being established in select Philadelphia Police district offices.

Substance Use Patterns and Trends

OVERVIEW OF DRUG POISONING DEATHS

Between 2010 and 2014, using multiple cause-of-death mortality data from the National Vital Statistics System (NVSS) queried from the CDC WONDER Online Database, the age-adjusted rate of drug poisoning deaths for Philadelphia increased from 22.6 to 33.3 per 100,000 population. In the same time period, drug poisoning deaths in the United States also increased from an age-adjusted rate of 12.3 to 14.7 per 100,000 population. Throughout this five-year period, Philadelphia consistently exhibited higher rates of drug poisoning deaths than the United States and, from the most up-to-date official vital statistics, experienced a much higher rate of increase than the United States as a whole (47.3% increase between 2010 and 2014 for Philadelphia compared with 19.5% for United States). Table 1 shows the number and rate, comparing Philadelphia and United States for three of the five-year period.

Table 1. Drug Poisoning Deaths, by Year, Philadelphia and United States, 2010–2014

	2010			2012			2014		
	Number	Crude Rate	Age-Adjusted Rate	Number	Crude Rate	Age-Adjusted Rate	Number	Crude Rate	Age-Adjusted Rate
Philadelphia, PA	342	22.4	22.6	460	29.7	30.2	516	33.1	33.3
% with drug specified	18.7%			14.8%			19.0%		
United States	38,329	12.4	12.3	41,502	13.2	13.1	47,055	14.8	14.7
% with drug specified	75.4%			76.0%			80.7%		

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 1999-2014*, available on the CDC WONDER Online Database, released 2015. Data compiled in the *Multiple cause of death 1999-2014* were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between December 2015 and May 2016, from http://wonder.cdc.gov/mcd-icd10.html

Based on 2008–2010 data, Warner et al.[5] found that the percentage of drug 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. Comparing the Number of Drug Poisoning Deaths with the # with Drug(s) Specified between Philadelphia and United States in Table 1, there is considerable difference in the thoroughness of the data for assessing drug-specific consequences on mortality.

In using mortality data provided and certified by the Medical Examiner's Office (MEO), Philadelphia Department of Public Health, this profile will analyze toxicology results from MEO cases to assess for drug-specific mortality consequences. These data cover mortality cases with toxicology reports indicating the detection of substances in persons who died in Philadelphia between January 1, 2015 and December 31, 2015. Deaths with alcohol and/or drug intoxication listed under any cause of death are counted as intoxication deaths in this profile. In 2015, there were 688 deaths with alcohol and/or drug intoxication listed as a contributing cause of death. Intoxication deaths with no positive toxicology results from Philadelphia MEO (*n* = 38) are not included in this profile.

[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. *Academic Forensic Pathology, 3*(2), 231–237.

OVERVIEW OF PRIMARY DRUG OF CHOICE AT TREATMENT ADMISSION

Morbidity indicators have consistently identified four (4) primary drugs of choice in Philadelphia (see Exhibits 1 and 3). Figure 1 shows the distribution of primary drug of choice at treatment admissions for residents of Philadelphia County served by the Behavioral Health Special Initiative (BHSI), supported by the Office of Addiction Services (OAS), Philadelphia Department of Behavioral Health and Intellectual disAbility Services, in 2015. BHSI-funded services cover 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 profile focuses on reported primary choice of drugs at treatment admission.

Figure 1. Primary Drug at Treatment Admissions (excluding unknown), Philadelphia, 2015
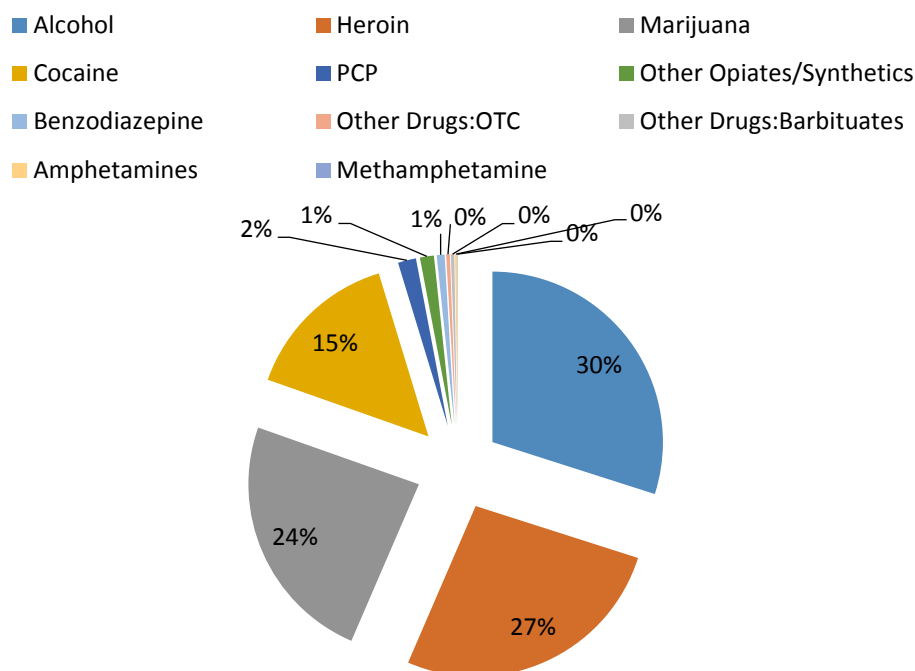
Source: Behavioral Health Special Initiative, OAS, DBHIDS

In 2015, Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 individuals became Medicaid eligible throughout the year. Consequently, as individuals who historically have been uninsured become Medicaid eligible, the number of individuals served through the BHSI program has declined. Treatment admissions in 2015 totaled 4,810, which was a substantial decrease from the previous year (*n* = 8,363). Although the number of treatment admissions is at a historical low, similar patterns of drug use and abuse were observed among those seeking treatment.

As previously reported, the number of treatment admissions with unknown drugs has increased due in part to changes in the reporting system by the Pennsylvania Department of Drug and Alcohol Programs (PA-DDAP). Beginning with FY2013, the Internet-based reporting system for DDAP no longer requires drug of choice in the data collection. Of the four age-categories used in this report, individuals younger

than 17 years of age (*n* = 141; see Exhibit 2) have the lowest reporting of a specific primary drug of choice (*n* = 50), that is, not "Other" or "Unknown," thus, limiting analysis for this particular age category.

BENZODIAZEPINES

- Treatment admissions for benzodiazepines were low in 2015, but positive detections among intoxication deaths increased. As in the previous year, alprazolam remained the most frequently detected benzodiazepines among intoxication deaths, detected in 33% of cases in 2015 compared with 27% in 2014. Positive results for clonazepam and diazepam among intoxication deaths decreased, but they remained in the top 10 drugs detected.

Treatment data from 2015 revealed relatively low (0.7%) primary admissions for benzodiazepines, which was similar to previous years (1.0% in 2014). Information gathered from focus groups previously had indicated high use of benzodiazepines on the streets. The participants reported that benzodiazepines are commonly used as "boosters" to heighten the high created by other drug such as prescription opioids, heroin, and cocaine. It was also reported that benzodiazepines were used to "level out" after consuming large amounts of drugs. This information from the focus groups is supported through toxicology results from the MEO, where benzodiazepines were detected in one third of alcohol and/or drug intoxication deaths in 2015. The number of intoxication deaths with the presence of different benzodiazepines (in combination with other drugs) was significant. MEO cases that included alprazolam totaled 226 in 2015 (32.8% of 688 overdose cases with toxicology results available), clonazepam/aminoclonazepam 101 (15%), and diazepam 86 (12.5%). Thus, although benzodiazepine is commonly abused, this is not a category of drug that brings users into treatment.

NFLIS data for 2015 reported alprazolam 743 (3.3%), clonazepam 154 (0.7%), and diazepam 37 (0.2%) positive results. Taken together, this represented 4.2% of all positive reports among drug items seized and analyzed by NFLIS laboratories.

COCAINE

- Cocaine remained a high-ranking drug; mortality indicator data showed that cocaine was the 3rd most detected drug among alcohol and/or drug intoxication deaths with 298 cases positive (2nd if alcohol-only intoxication deaths is excluded); primary treatment admissions showed a slight increase in primary treatment admissions in 2015 from 2014. In 2015, cocaine reemerged as the top drug among National Forensic Laboratory Services (NFLIS)-positive reports for Philadelphia since 2011.

As in the previous years, cocaine remained in a distant 4th place relative to alcohol, marijuana, and heroin for treatment admissions, but primary treatment admissions for cocaine did increase in 2015, which continued an upward trend from 2011. In 2015, cocaine constituted 14.1% of all primary treatment admissions.

Almost three quarters (73.8%) of primary cocaine treatment admissions were male. African Americans constituted the majority of those admitted for primary treatment (54.7 %), whereas 27.8% were White. Hispanics represented 14.2% of total primary cocaine admissions in 2015, which was a decrease from 17.1% in 2014. More than half of those admitted were between 26 and 44 years of age (53.6%), whereas

35.5% were 45 and older; the age distribution for primary cocaine is similar to primary alcohol admissions. Historically, marijuana was the most commonly cited secondary drug for primary cocaine admissions followed by heroin. In 2015, heroin became the top-cited secondary drug for primary cocaine admissions (43.7%), followed by marijuana (40.4%).

Cocaine continued to be among the top 10 drugs detected among Philadelphia intoxication cases in 2015. The number of intoxication deaths with the presence of cocaine in 2015 was 298 (43.3% of MEO cases with positive toxicology results). Nevertheless, when all deaths with positive toxicology results were considered, cocaine was detected in an additional 80 cases whose cause of death was not intoxication. Thus, cocaine would be ranked first when deaths resulting from causes other than intoxication are included.

Of public health consequences of drug use, cocaine is a contributor to violent deaths, namely, homicides. When all deaths with cocaine detected were compared by cause, one third or 33.8% of deaths that were not determined to have alcohol and/or drug intoxication as one of the causes resulted from homicides. Table 2 shows the distribution of the mode of death of cocaine-positive cases by selected cause of death.

Table 2. Mode of Death of Cocaine-Positive Cases by Selected Cause of Death, Philadelphia, 2015

			Cause of death		Total
			Other than intoxication	Alcohol and/or Drug Intoxication	
	Accident		20	296	316
			25.0%	99.3%	83.6%
	Homicide		27	0	27
			33.8%	0.0%	7.1%
	Natural		21	0	21
			26.2%	0.0%	5.6%
	Suicide		12	2	14
			15.0%	0.7%	3.7%
Total			80	298	378
			100.0%	100.0%	100.0%

Chi-square = 255.443
Significance = .000

For intoxication cases where cocaine is detected, the average age at death is 44, which is 2 years older than cases without cocaine detection. Table 3 shows the mean and variance in age at death for intoxication deaths with and without cocaine detected. Based on both mortality and morbidity data, cocaine abusers tend to be older.

Table 3. Comparing the Average Age at Death for Intoxication Deaths With and Without Cocaine Detected, Philadelphia, 2015

Cocaine Detection	Mean	n	Std. Deviation	Maximum	Minimum
None	42.09	390	13.083	79	2
Positive	44.13	298	12.695	74	19

F statistics = 4.218
Significance = .040

In 2014, NFLIS reported 24.6% of the seizures tested positive as cocaine. In 2015, the percentage increased to 26.9% and is the top drug among NFLIS-positive reports for Philadelphia since 2011.

MARIJUANA

- Marijuana continued to be in the top three primary treatment admissions. In 2015, marijuana was the second most detected drug in law enforcement seizures; it has historically been the most commonly identified substance from NFLIS-positive reports since 2012.

In 2015, marijuana (22.6%) ranked 3rd in the number of primary treatment admissions, shifting from the 2nd spot in 2014. Percentage of treatment admissions that were primary for marijuana, however, was consistent with 2014 (22.0%). Males represented 88.1% of primary marijuana treatment admissions in 2014. African Americans accounted for 65.4% of primary treatment admissions, followed by Whites (15.8%), Hispanics (14.0%), and Asians and Others (4.8%). Age categories 26–44 combined constituted one half of primary marijuana treatment admissions (53.1%). Historically, for youths age 18 and younger, marijuana was overwhelmingly the primary drug of choice for treatment. In 2015, as in 2014, 75% of adolescent admissions with a known drug of choice reported marijuana as their primary drug. There was no mortality indicator for marijuana as Philadelphia MEO does not test for this drug.

As in the prior year, heroin was the most commonly cited secondary drug for primary marijuana admissions. The percentage of marijuana admissions reporting heroin as secondary did increase from 16.3% to 20.2%, which was indicative of the increasingly widespread use of heroin. NFLIS data for 2015 showed marijuana accounted for 26.4% of positive reports, ranking 2nd among seizures tested.

METHAMPHETAMINE

Methamphetamine and amphetamines remained a small drug problem in Philadelphia, and use of these drugs seemed to be confined to a small portion of the population, based on various indicators. As in 2014, methamphetamine and amphetamine only represented 0.2% of primary drug of choice at treatment admission with a known drug of abuse in 2015. Historically, these drugs have not frequently been detected drugs in MEO cases. In 2015, methamphetamines were not among top 10 drugs detected in intoxication deaths, being detected in 18 deaths where alcohol and/or drug intoxication was one of the contributing causes.

Although not currently considered to be a primary drug threat to the Philadelphia region, recent substantial seizures of methamphetamine, coupled with increased regional production and continued reports of Mexican methamphetamine sources actively trying to establish a local/regional market, had necessitated the Drug Enforcement Administration's (DEA's) evaluation of the threat methamphetamine poses to Pennsylvania. In the first half of calendar year 2015, a significant amount of methamphetamine was seized in the region, including 6 pounds of crystal methamphetamine in Philadelphia. Recent DEA laboratory analysis revealed that a heroin product marketed in Philadelphia as a high-quality product suspected of containing fentanyl was actually heroin mixed with methamphetamine, which is indicative of the marketing efforts by the distributors. Based on their investigations, DEA Philadelphia Field Division (PFD) considers methamphetamine a potential threat to the population, especially to new drug users.[6]

NFLIS data for 2015 reported 108 methamphetamine-positive reports for items seized and tested and 90 amphetamine-positive reports. Taken together, these drugs represented 0.9% of all positive reports for Philadelphia. Compared with national NFLIS data, where methamphetamine and amphetamine accounted for 19.7% of positive drug reports, Philadelphia's statistics were drastically lower, indicating low local use. At the national level, when examining data from 2012 onward, methamphetamine consistently ranks among the top 3 substances seized by law enforcement.

NEW PSYCHOACTIVE SUBSTANCES (OTHER THAN OPIOIDS)

Synthetic Cannabinoids

Through informal information channels, service providers in the behavioral health system have indicated that synthetic drugs have been surfacing in Philadelphia in the past couple years, in particular, synthetic cannabinoid use by individuals in the forensic system wishing to avoid drug use detection. Historically, marijuana has been the most frequently detected drug among first timers to probation or parole. From the most recent APPD urinalysis data currently available for this profile, the first tests of adults placed on probation or parole continued to detect the presence of marijuana in more samples than any other drug, with marijuana representing two thirds (66%) of the tests that were positive for any drug in 2014. Communications with the psychiatric hospitals indicated that presentations of psychotic behavior, typically by young males, resolved within 1 to 2 days are suspected to have originated from use of synthetic cannabinoids. Nevertheless, the lack of standard testing for synthetic cannabinoids has hampered efforts to quantify the prevalence of synthetic cannabinoid use among individuals seeking or involuntarily committed to behavioral health treatment. Data on treatment for synthetic drug use are sparse as the data collection system for individuals served through the Philadelphia Department of Behavioral Health, Office of Addiction Services' 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 MEO does not currently test for synthetic cannabinoids. Although anecdotes abound regarding use of synthetic drugs, the limitations of current data sources hamper the ability to quantify use of this category of drugs.

---

[6] DEA Intelligence Report. (2015). Analysis of methamphetamine seizures, production, and abuse in Pennsylvania, 2012 – 2014. *DEA-PHL-DIR-078-15*, September.

No synthetics were in the top ten (10) positive drug reports from NFLIS for Philadelphia. In 2014, synthetic cannabinoids were detected in 352 seizures, representing 1.9%. Compared with 2015, the findings were relatively consistent with 378 positive detections, representing 1.7% of positive seizures.

OPIOIDS

Heroin

- From mortality indicator data, heroin remained the most dangerous illicit drug in Philadelphia; it also remained the top-ranked drug detected among intoxication deaths with 381 cases testing positive for heroin. From morbidity indicator data, treatment admissions for heroin continued to increase steadily from 2013 to 2015.

Data from Behavioral Health Special Initiative, Philadelphia Department of Behavioral Health and Intellectual disAbility Services, showed that heroin use was responsible for 25.1% of primary treatment admissions in Philadelphia in 2015. This represented a 4.0% point increase from 2014 and a 7.5% point increase from 2011. In 2015, males constituted 70.6% of primary heroin admissions. Whites accounted for 61.6% of primary heroin treatment admissions, followed by African Americans (21.3%) and Asians and Others (4.3%). Hispanics constituted 12.9% of primary heroin treatment admissions. Most of those admitted to treatment reported injection as their preferred route of administration (52.2%) with oral consumption (47.6%) as a close second. Almost two thirds (65.8%) of heroin treatment admissions were in the middle age category, 26–44 years old.

For users who reported heroin as their primary drug of choice, few reported any secondary or tertiary drug of choice, generally less than 10% for other drugs. Benzodiazepines were the most frequently reported secondary drug of choice with 7.9%, followed by cocaine or crack at 5.8%. In contrast, primary users of cocaine used other drugs; 27.2% reported heroin and 25.1% reported marijuana as their secondary substance of choice.

The MEO 2015 data showed that heroin/morphine was the most frequently detected drug (n = 381) among intoxication deaths where a toxicology test was performed by the MEO (n = 688); it was present in 55.4% of these deaths. Consistent with morbidity indicator, intoxication deaths with heroin detected were overwhelmingly White males cases (76.6% males, 79.5% Whites). As Whites constituted 45.5% of the Philadelphia population, and in 2015, 66% of all intoxication deaths, the disproportionate distribution indicated heroin clearly as the primary drug of choice for White Philadelphians.

When the average age at death for drug intoxication deaths involving heroin use was compared with those without heroin use, the data showed that heroin-involved decedents were younger. Table 4 provides descriptive statistics with statistical testing results on the age difference. Consistent with anecdotal observations from street outreach groups in Philadelphia such as Angel in Motion and Prevention Point Philadelphia, a syringe exchange program, intoxication deaths with heroin use were younger than those without heroin use (F statistics from the one-way analysis of variance (ANOVA) indicates the difference is significant). In contrast to the analysis on intoxication deaths with cocaine detected, this age difference is in the opposite direction, indicating that those dying with heroin tended to die younger than those dying with cocaine, who tended to be older.

Table 4. Comparing the Average Age at Death for Intoxication Deaths With and Without Heroin Detected, Philadelphia, 2015

Heroin Detection	Mean	*n*	Std. Deviation	Maximum	Minimum
None	45.71	307	12.688	77	2
Positive	40.77	381	12.747	79	16

F statistics = 25.65
Significance = .0000

When the distribution of age at death was examined with a little more granularity, the data showed that approximately 10% of the heroin-involved intoxication deaths were ages 25 and younger. Table 5 shows the difference in age distribution between intoxication deaths with and without heroin positives, supporting community advocates' concerns regarding heroin use and youth.

Table 5. Comparing the Distribution of Age at Death for Intoxication Deaths With and Without Heroin Detected, Philadelphia, 2015

	Heroin Detection		Total
	None	Positive	
Under 18	1	2	3
	0.3%	0.5%	0.4%
18-25	18	36	54
	5.9%	9.4%	7.8%
26-44	116	198	314
	37.8%	52.0%	45.6%
45+	172	145	317
	56.0%	38.1%	46.1%

Philadelphia has historically offered the cheapest and purest heroin on the East Coast. Heroin seized by DEA Philadelphia has been significantly higher in purity and lower in cost than most other heroin markets. According to the DEA Heroin Domestic Monitoring Program (HDMP), the cost of a bag of heroin in Philadelphia in 2014 was $10, a gram of heroin $55–$80, and $55,000–$80,000 per kilogram. Official HDMP results nationally in 2013 (most recent final data available for all participating cities) found Philadelphia and Newark, New Jersey, ranked as the top two in the nation with the highest purity heroin.[7] Historically, heroin in Philadelphia was South American in origin. In April 2016, Philadelphia-

---

[7] DEA Intelligence Report. (2015). 2013 Heroin Domestic Monitor Program. *DEA-DCW-DIR-059-15*, September.

Camden HIDTA shared with the Philadelphia Opiate Overdose Prevention Taskforce planning committee that Mexican white heroin has been entering the Philadelphia market. In 2014, there was evidence from the DEA of incursions of Mexican black tar in the Northeast U.S. drug market, including Philadelphia's. Expanded production capabilities and perhaps local drug use demand could have contributed to the availability of Mexican white heroin in this region. The Mexican white is cheaper but lower quality than the South American white. Philadelphia-Camden HIDTA also indicated that increasingly adjuncts are detected in Mexican white, particularly fentanyl.

Fentanyl

- The outbreak of fentanyl-related intoxication deaths that began in 2014 continued unabated in 2015. Of the 688 alcohol and/or drug intoxication deaths in 2015, 183 (27%) tested positive for fentanyl, which was an increase from 100 (16%) reported for 2014. Ten (10) of the 183 cases have no other positive detections for other substances and had fentanyl only on board.

Fentanyl, which had reemerged as a serious drug threat in Philadelphia in 2014, showed no sign of abatement in 2015. Prior to the current outbreak, there were 24 fentanyl-related intoxication deaths in Philadelphia in 2013. In 2014, fentanyl was detected in 100 of the 635 intoxication deaths with positive toxicology results. This number was surpassed in 2015, with 183 or 27% intoxication deaths with positive fentanyl detections, up from 16% in 2014. Four (4) of the 183 tested positive for acetyl fentanyl only. In reviewing timing of cases throughout 2015, a one-day spike occurred with 4 cases of fentanyl-related

Figure 2. **Number of Intoxication Deaths With Positive Fentanyl Detections, by Date of Death, Philadelphia, 2015**
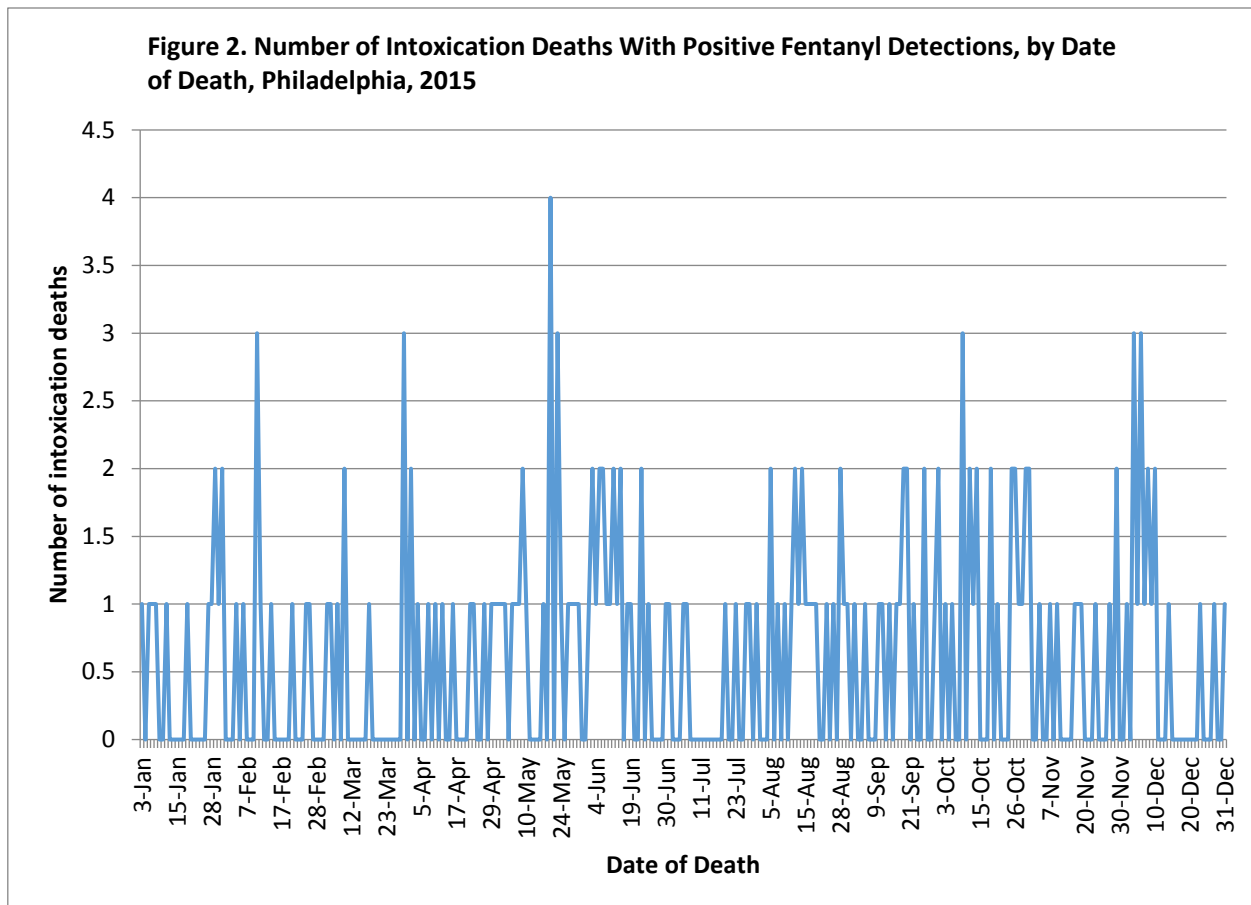
intoxication deaths on May 21 but no clustering of cases around that date. Figure 2 displays the number of deaths by date of death on a daily basis in 2015.

Philadelphia as one of the few cities in the United States involved in the previous fentanyl outbreak experienced high mortality consequences (n = 299 deaths with the presence of fentanyl indicative of abuse or misuse). The 2006 fentanyl crisis was resolved after the closure of a clandestine laboratory in Toluca, Mexico, when deaths with fentanyl involvement dropped off rapidly. In the initial months after the start of the current outbreak, focus groups with users in treatment revealed 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. As the current fentanyl crisis has progressed, there have been reports of counterfeit prescription medications containing various fentanyls in addition to fentanyl mixed in with heroin. Since 2014, U.S. law enforcement agencies have been seizing a new form of fentanyl—counterfeit prescription opioid pills containing fentanyls. The DEA assessment is that fentanyl-laced pills and clandestine pill press operations are becoming a trend, not a series of isolated incidents.[8] This development could be particularly troubling for Philadelphia as oxycodone has been the prescription opioid most frequently detected among intoxication deaths. In 2015, oxycodone was detected in 110 (16%) intoxication deaths.

Testing from materials seized by law enforcement revealed multiple fentanyl analogs indicating inconsistent clandestine lab production. HIDTA also reported irregular consistency in fentanyl dosage found in materials tested. DEA investigations thus far have indicated a complex global reach of off-shore clandestine productions supplying illicit fentanyl to the United States through multiple channels. Compared with the 2006 fentanyl outbreak, the evolving production and distribution strategy have resulted in an expansion of the use of fentanyl that is unprecedented. From NFLIS, positive reports for fentanyl numbered 163 in 2015, representing 0.7% of positive drug reports for items seized by law enforcement in Philadelphia. This was a large increase from 2014, where fentanyl accounted for 24 positive drug reports (0.13%).

Prescription Opioids (Other than Fentanyl)

- Of prescription opioids, the mortality indicator identified oxycodone as the top-ranked drug; however, the treatment indicator was low and showed a decrease in primary admissions for prescription opioids.

In 2015, the nonmedical use of prescription opioids decreased as primary drug of choice at treatment admission from 3.7% in 2014 to 1.2% in 2015. Of the 60 primary treatment admissions, 81.7% were male, 46.7% were White, 25% were African American, 3.3% were Asians and other races, and 25% were of Hispanic ethnicity. The largest age category for primary other opiates/opioids admissions was age 26–44 (43.3%).

---

[8] DEA Intelligence Brief. (2016). Counterfeit prescription pills containing fentanyls: A global threat. *DEA-DCT-DIB-017-16*,
May.

In 2015, oxycodone was detected in 110 (16%) decedents who died from drug intoxication where a toxicology test was performed by the MEO (*n* = 688). Oxycodone continued to be the fourth most frequently identified drug among all drug reports for items seized and analyzed in NFLIS laboratories in Philadelphia in 2015 (*n* = 1,127). The MEO detected methadone in 58 (8.4%) decedents who died from drug intoxication and where a toxicology test was performed in 2015.

Although morbidity and mortality indicators for prescription opioids were not as sizeable in Philadelphia as for heroin, this category of drug should not be underestimated. Analysis by the Pennsylvania Health Care Cost Containment Council on hospitalizations for overdose of pain medication and heroin showed dramatic increases from 2000 to 2014 (Table 6). The analysis included Pennsylvania residents, 15 years of age and older, who were admitted to a Pennsylvania general acute care hospital between 2000 and 2014. For Philadelphia, hospitalizations for pain medication overdoses were higher than the statewide rate (12.3 per 100,000 population in 2014 compared with 8.8), having increased 166% between 2000 and 2014. Hospitalizations for heroin overdoses, although higher than for paid medicine overdoses (16.5 per 100,000 population compared in 2014 with 12.3), experienced a 36% increase in that same time period.

Table 6. Hospitalization Rates per 100,000 Population for Pain Medication and Heroin Overdose by Pennsylvania Region, 2000 and 2014

	Pain Medicine			Heroin		
	2000	2014	% Increase	2000	2014	% Increase
Philadelphia	4.6	12.3	166%	12.1	16.5	36%
Statewide	2.9	8.8	204%	3.6	8.7	145%

Source: Hospitalizations for Overdose of Pain Medication and Heroin PHC4 Research Brief, April 2016

ALCOHOL

- Alcohol continued to be a top substance in primary treatment admissions and was detected in 55% of intoxication deaths.

Alcohol continued to be the substance most likely to be reported as a primary substance of abuse at treatment admission in 2015 in Philadelphia. As reported in last year's profile, alcohol also continued to decrease in total admissions, constituting for 28.3% of primary admissions with known substance of choice. In 2015, males compromised 79.8% of primary alcohol treatment admissions. African Americans accounted for 60.6% of primary alcohol treatment admissions in 2015, followed by Whites (26.6%), Hispanics (7.7%), and Asians and Others (5.1%). Most of those seeking treatment for alcohol abuse were aged 26–44 (49.8%), followed by those older than 45 (35.5%).Youth and adolescents (18 and younger) represented 0.9% of primary treatment admissions for alcohol. The number of intoxication deaths with the presence of alcohol (in combination with other drugs) was 125 in 2014 (19% of the 635 cases with toxicology results available), which was a substantial increase from 2015, where 55% of 688 intoxication deaths involved alcohol.

Infectious Diseases Related to Substance Use

In 2014, Philadelphia recorded 624newly diagnosed HIV cases. Among these, 34 were related to injection drug use (5.4%). Philadelphia represented 51.7% of newly diagnosed HIV cases in Pennsylvania (n=1,207). There were 7 new cases of acute hepatitis B, at a rate of 0.4 new cases of 100,000 population, compared to Pennsylvania with 70 new cases and rate of 0.5.

Exhibits

Exhibit 1. Number and Percentage of Primary Drugs of Abuse at Treatment Admission by Uninsured and Underinsured Individuals in Philadelphia, 2015

Primary Drug of Abuse	Number of Treatment Admissions	Percentage of Total Admissions
Alcohol	1,359	28.3%
Heroin	1,206	25.1%
Marijuana	1,086	22.6%
Cocaine: Crack/Powder	676	14.1%
Other Opiates/Synthetics	60	1.2%
Benzodiazepine	34	0.7%
Methamphetamine & Amphetamine	11	0.2%
Other Drugs /Unknown	378	7.9%

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, 2015

	Number of Treatment Admissions	Percentage of Total Admissions
Gender		
Male	3,688	76.7%
Female	1,122	23.3%
Race/Ethnicity		
White, Non-Hispanic	1,599	31.7%
African American, Non-Hispanic	2,351	51.8%
Hispanic	581	13.0%
Asian	22	0.5%
Others	257	3.0%
Age		
Under 18	141	2.9%
18-25	891	18.5%
26-44	2,643	54.9%
45+	1,135	23.6%

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, 2008–2015

Selected Primary Drug of Choice (excluding unknown) , 2008-2015 Treatment Admissions, Philadelphia

	Alcohol	Marijuana	Heroin	Cocaine
2008	37.1%	17.4%	24.3%	17.4%
2009	39.6%	21.2%	19.1%	14.5%
2010	41.4%	20.4%	17.9%	12.6%
2011	42.1%	21.6%	17.6%	10.1%
2012	38.1%	18.9%	23.0%	11.1%
2013	36.8%	22.7%	20.5%	12.6%
2014	32.0%	23.9%	22.8%	14.0%
2015	29.9%	23.9%	26.6%	14.9%

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, 2015

Selected Primary Substance of Choice by Race-Ethnicity, Treatment Admissions, Philadelphia, 2015
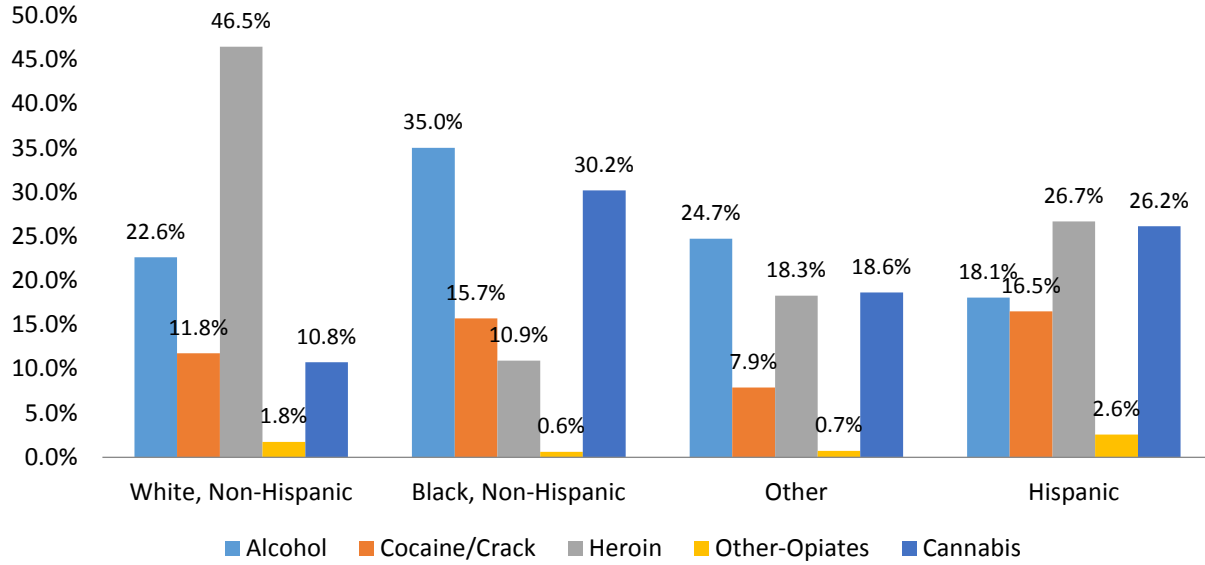
	Alcohol	Cocaine/Crack	Heroin	Other-Opiates	Cannabis
White, Non-Hispanic	22.6%	11.8%	46.5%	1.8%	10.8%
Black, Non-Hispanic	35.0%	15.7%	10.9%	0.6%	30.2%
Other	24.7%	7.9%	18.3%	0.7%	18.6%
Hispanic	18.1%	16.5%	26.7%	2.6%	26.2%

SOURCE: Philadelphia Department of Behavioral Health and Intellectual disAbility Services, Office of Addiction Services, Behavioral Health Special Initiative
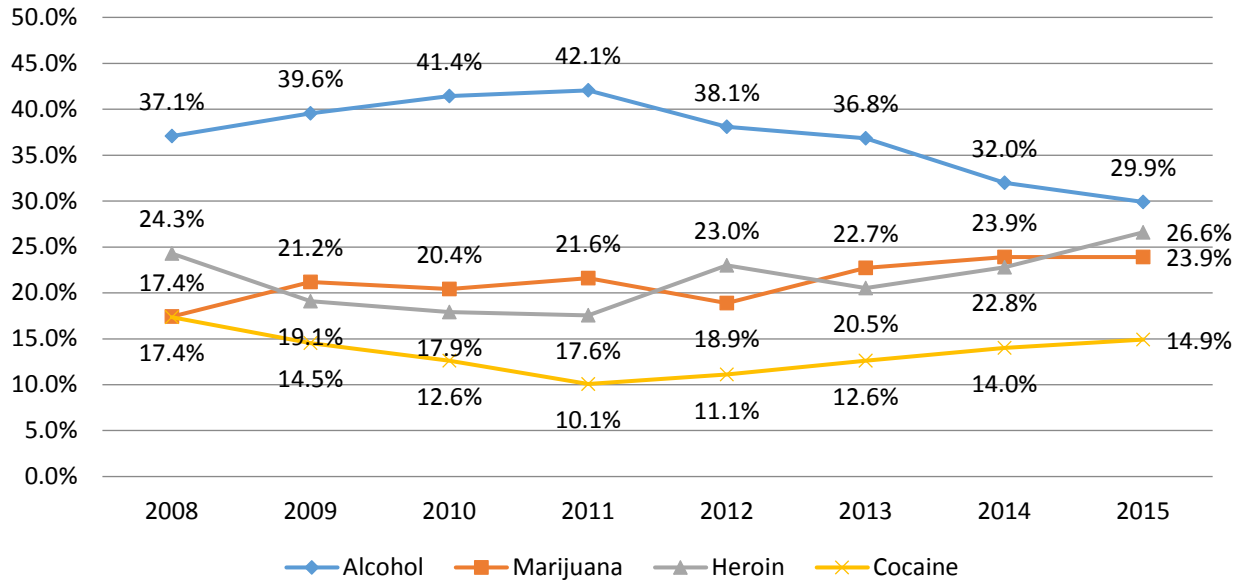
Exhibit 5. Most Frequently Detected Substances Among Alcohol and/or Drug Intoxication Deaths (*n* = 688), Philadelphia, 2015

Substance	Number of Cases With Positive Detections
Heroin/Morphine	381
Ethanol	380
Cocaine	298
Alprazolam	226
Fentanyl	183
Oxycodone	110
Clonazepam	101
Diphenhydramine	93
Diazepam	86
Codeine	81

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

Exhibit 6. Demographic Profiles of Alcohol and/or Drug Intoxication Deaths, Philadelphia, 2015

	Number	Percentage
Gender		
Male	498	72.4%
Female	190	27.6%
Race/Ethnicity		
White, Non-Hispanic	378	54.9%
African American, Non-Hispanic	222	32.3%
Hispanic	80	11.6%
Asian	4	0.6%
Other	0	0.0%
Age		
Under 18	3	0.4%
18-25	54	7.8%
26-44	314	45.6%
45+	317	46.1%

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, 2015

Philadelphia			National		
Drug Identified	Number (#)	Percent of Total Drug Reports (%)	Drug Identified	Number (#)	Percent of Total Drug Reports (%)
TOTAL Drug Reports	22,293	100.0%	TOTAL Drug Reports	1,372,058	100.00%
Top 10 Drug Reports			Top 10 Drug Reports		
Cocaine	6,001	26.9%	Cannabis	361,829	26.4%
Cannabis	5,880	26.4%	Methamphetamine	259,818	18.9%
Heroin	4,940	22.2%	Cocaine	190,444	13.9%
Oxycodone	1,127	5.1%	Heroin	166,856	12.2%
Alprazolam	743	3.3%	Alprazolam	40,429	2.9%
Acetaminophen	658	3.0%	Oxycodone	37,538	2.7%
No Controlled Drug Identified	439	2.0%	No Controlled Drug Identified	34,678	2.5%
Phencyclidine	431	1.9%	Hydrocodone	25,267	1.8%
Non-Controlled Non-Narcotic	300	1.3%	Buprenorphine	16,190	1.2%
Fentanyl	163	0.7%	Acetaminophen	15,114	1.1%

SOURCE: National Forensic Laboratory Information System (NFLIS), 2015

Data Sources

Data for this report were drawn from the following sources. 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:

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 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. 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 FY 2015, 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. In addition, 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.

Mortality data were provided by the Medical Examiner's Office (MEO), Philadelphia Department of Public Health. These data cover mortality cases with toxicology tests by the MEO indicating the detection of drugs in persons who died in Philadelphia from January 1, 2015, to December 31, 2015. 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 2015. 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 2014. At the time of this report, the 2014 Surveillance Report was final for cases reported through November 2015. Final count of cases may differ from previously reported preliminary data.

Acute Hepatitis B data came from PA Department of Health online query system, EDDIE

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
2010–2014 ACS 5-Year Estimates

	Estimate	Margin of Error
Total Population (#)	**1,546,920**	******
Age		
18 years and over (%)	77.7%	+/-0.1
21 years and over (%)	72.4%	+/-0.1
65 years and over (%)	12.3%	+/-0.1
Median Age	33.6	
Race (%)		
White, Not Hisp.	36.2%	+/-0.1
Black/African American, Not Hisp.	41.8%	+/-0.1
Hispanic/Latino (of any race)	13.0%	**
American Indian/Alaska Native	0.2%	+/-0.1
Asian	6.6%	+/-0.1
Native Hawaiian/Pacific Islander	0.0%	+/-0.1
Some Other Race	0.3%	+/-0.1
Two or More Races	1.8%	+/-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	81.4%	+/-0.3
Bachelor's Degree or Higher	24.5%	+/-0.4
Unemployment (*Among Civilian Labor Force Population Aged 16+ Years*) (%)		
Percent Unemployed	14.9%	+/-0.4
Income ($)		
Median Household Income (in 2014 inflation-adjusted dollars)	$37,460	+/-430
Health Insurance Coverage (*Among Civilian Noninstitutionalized Population*) (%)		
No Health Insurance Coverage	14.1%	+/-0.3
Poverty (%)		
All People Whose Income in Past Year Is Below Poverty Level	26.7%	+/-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, 2010–2014 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* Residents, 2011-2015

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

	Calendar Year									
	2011		2012		2013		2014		2015	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Total Admissions (#)	**7,964**	**100%**	**8,455**	**100%**	**8,802**	**100%**	**8,363**	**100%**	**4,810**	**100%**
Primary Substance of Abuse (%)										
Alcohol	3,349	42.1%	3,222	38.1%	3,087	35.1%	2,476	29.6%	1,359	28.3%
Cocaine/Crack	803	10.1%	939	11.1%	1,058	12.0%	1,081	12.9%	676	14.1%
Heroin	1,398	17.6%	1,947	23.0%	1,720	19.5%	1,764	21.1%	1,206	25.1%
Prescription Opioids	363	4.6%	125	1.5%	370	4.2%	311	3.7%	60	1.2%
Methamphetamine**	4	0.1%	7	0.1%	10	0.1%	15	0.2%	2	<0.1%
Marijuana	1,721	21.6%	1,598	18.9%	1,903	21.6%	1,844	22.0%	1,086	22.6%
Benzodiazepines	140	1.8%	92	1.1%	67	0.8%	80	1.0%	34	0.7%
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***	186	2.3%	525	6.2%	587	6.7%	792	9.5%	387	8.0%

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 4,810 in 2015. 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 Treament Admissions* for Select Substances of Abuse, *Philadelphia* Residents, 2015
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			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
Number of Admissions (#)	1,359	100%	676	100%	1,206	100%	60	100%	2	100%	1,086	100%	34	100%		
Sex (%)																
Male	1,084	79.8%	499	73.8%	852	70.6%	49	81.7%	2	100.0%	957	88.1%	20	58.8%		
Female	275	20.2%	177	26.2%	354	29.4%	11	18.3%	0	0.0%	129	11.9%	14	41.2%		
Race/Ethnicity (%)																
White, Non-Hisp.	362	26.6%	188	27.8%	743	61.6%	28	46.7%	2	100.0.	172	15.8%	0	0.0%		
African-Am/Black, Non-Hisp	823	60.6%	370	54.7%	257	21.3%	15	25.0%	0	0.0%	710	65.4%	34	100.0%		
Hispanic/Latino	105	7.7%	96	14.2%	155	12.9%	15	25.0%	0	0.0%	152	14.0%	0	0.0%		
Asian	9	0.7%	1	0.1%	2	0.2%	0	0.0%	0	0.0%	5	0.5%	0	0.0%		
Other	60	4.4%	21	3.1%	49	4.1%	2	3.3%	0	0.0%	47	4.3%	0	0.0%		
Age Group (%)																
Under 18	12	0.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	36	3.3%	0	0.0%		
18-25	187	13.8%	74	10.9%	130	10.8%	18	30.0%	0	0.0%	402	37.0%	10	29.4%		
26-44	677	49.8%	362	53.6%	793	65.8%	26	43.3%	2	100.0%	577	53.1%	19	55.9%		
45+	483	35.5%	240	35.5%	283	23.5%	16	26.7%	0	0.0%	71	6.5%	5	14.7%		
Route of Administration (%)																
Smoked	1	0.1%	206	30.5%	2	0.2%	0	0.0%	2	100.0%	1,071	98.6%	0	0.0%		
Inhaled	0	0.0%	0	0.0%	1	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%		
Injected	0	0.0%	3	0.4%	629	52.2%	1	1.7%	0	0.0%	0	0.0%	0	0.0%		
Oral/Other/Unknown	1,358	99.9%	467	69.1%	574	47.6%	59	98.3%	0	0.0%	15	1.4%	34	100.0%		
Secondary Substance (%)																
None	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail		
Alcohol	unavail	unavail	30	4.4%	5	0.4%	2	3.3%	unavail	unavail	11	1.0%	5	14.7%		
Cocaine/Crack	493	36.3%	unavail	unavail	70	5.8%	2	3.3%	unavail	unavail	19	1.7%	1	2.9%		
Heroin	60	4.4%	184	27.2%	0	0.0%	4	6.7%	unavail	unavail	219	20.2%	9	26.5%		
Prescription Opioids	unavail	unavail	0	0.0%	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	8	23.5%		
Methamphetamine**	unavail	unavail	1	0.1%	2	0.2%	0	0.0%	unavail	unavail	2	0.2%	unavail	unavail		
Marijuana	403	29.7%	170	25.1%	22	1.8%	8	13.3%	unavail	unavail	unavail	unavail	3	8.8%		
Benzodiazepines	10	0.7%	8	1.2%	95	7.9%	unavail	unavail	unavail	unavail	32	2.9%	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 4,810 in 2015. 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; **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 Overdose (Poisoning) Deaths*, by Drug** and Year, *Philadelphia^* , 2010–2014
Number, Crude Rate, and Age-Adjusted Rate*** (per 100,000 population)

	2010			2011			2012			2013			2014		
	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 Overdose (Poisoning) Deaths	342	22.4	22.6	436	28.4	28.9	460	29.7	30.2	402	25.9	25.8	516	33.1	33.3
Opioids‡	**24**	**1.6**	**1.6**	**36**	**2.3**	**2.2**	**26**	**1.7**	**1.6**	**27**	**1.7**	**1.7**	**41**	**2.6**	**2.5**
Heroin	SUP	SUP	SUP	11	UNR	UNR	SUP	SUP	SUP	12	UNR	UNR	11	UNR	UNR
Natural Opioid Analgesics	14	UNR	UNR	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	14	UNR	UNR
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	SUP	SUP	SUP	10	UNR	UNR
Benzodiazepines	**SUP**	**SUP**	**SUP**	**10**	**UNR**	**UNR**	**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	23	1.5	1.6	32	2.1	2.1	29	1.9	1.9	23	1.5	1.5	32	2.1	2.1
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‡	18.7%			18.1%			14.8%			15.2%			19.0%		

NOTES:

*Drug Overdose (Poisoning) Deaths: 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 Overdose (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. This is not a complete list of all drugs that may have been involved with these drug poisoning deaths.

^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
  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; *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 [excluding cocaine] (T43.6) (e.g., amphetamines, caffeine, MDMA, methamphetamine, and methylphenidate)
Cannabis (derivatives): (T40.7)
‡**Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified:** Among drug overdose (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 1999-2014, available on the CDC WONDER Online Database, released 2015. Data compiled in the Multiple cause of death 1999-2014 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between December 2015 - May 2016, from http://wonder.cdc.gov/mcd-icd10.html

Table 6a: Drug Reports* for Items Seized by Law Enforcement in *Philadelphia*^ in 2015
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*	**22,293**	**100.0%**
COCAINE	6,001	26.9%
CANNABIS	5,880	26.4%
HEROIN	4,940	22.2%
OXYCODONE	1,127	5.1%
ALPRAZOLAM	743	3.3%
ACETAMINOPHEN	658	3.0%
NO CONTROLLED DRUG IDENTIFIED	439	2.0%
PHENCYCLIDINE	431	1.9%
NON-CONTROLLED NON-NARCOTIC DRUG	300	1.3%
FENTANYL	163	0.7%
CLONAZEPAM	154	0.7%
BUPRENORPHINE	132	0.6%
CODEINE	124	0.6%
NALOXONE	124	0.6%
METHAMPHETAMINE	108	0.5%
PROMETHAZINE	94	0.4%
AMPHETAMINE	90	0.4%
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	77	0.3%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	74	0.3%
METHADONE	62	0.3%
HYDROCODONE	55	0.2%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	50	0.2%
AB-FUBINACA	43	0.2%
DIAZEPAM	37	0.2%
AB-PINACA	36	0.2%
CAFFEINE	30	0.1%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	30	0.1%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	27	0.1%
MORPHINE	23	0.1%
LORAZEPAM	17	< 0.1%
5F-PB-22 (1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	10	< 0.1%
3,4-METHYLENEDIOXYAMPHETAMINE (MDA)	9	< 0.1%
MAB-CHMINACA (ADB-CHMINACA)	9	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	8	< 0.1%
PHENTERMINE	8	< 0.1%
PHENYLIMIDOTHIAZOLE ISOMER UNDETERMINED	8	< 0.1%
ZOLPIDEM	8	< 0.1%
5F-AB-PINACA	7	< 0.1%
MANNITOL	7	< 0.1%
METHYLPHENIDATE	7	< 0.1%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
PHENDIMETRAZINE	7	< 0.1%
ACETYLFENTANYL	6	< 0.1%
LIDOCAINE	6	< 0.1%
N-BENZYLPIPERAZINE (BZP)	6	< 0.1%
5-FLUORO AMB	5	< 0.1%
ADB-PINACA	5	< 0.1%
HYDROMORPHONE	5	< 0.1%
MDMB-FUBINACA	5	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	5	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	5	< 0.1%
3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA)	4	< 0.1%
ALPHA-PYRROLIDINOPENTIOPHENONE (ALPHA-PVP)	4	< 0.1%
QUININE	4	< 0.1%
XYLAZINE	4	< 0.1%
3,4-METHYLENEDIOXYMETHAMPHETAMINE METHYLENE HOMOLOG	3	< 0.1%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	3	< 0.1%
HYDROCHLOROTHIAZIDE	3	< 0.1%
KETAMINE	3	< 0.1%
PROCAINE	3	< 0.1%
PSILOCYBIN/PSILOCYN	3	< 0.1%
UR-144 ((1-PENTYLINDOL-3-YL)-(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	3	< 0.1%
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	2	< 0.1%
AKB48 N-(5-FLUOROPENTYL)	2	< 0.1%
BUTALBITAL	2	< 0.1%
CARISOPRODOL	2	< 0.1%
DIMETHYLSULFONE	2	< 0.1%
LYSERGIC ACID DIETHYLAMIDE (LYSERGIDE)	2	< 0.1%
NAPROXEN	2	< 0.1%
OXAZEPAM	2	< 0.1%
OXYMORPHONE	2	< 0.1%
PHENACETIN	2	< 0.1%
TEMAZEPAM	2	< 0.1%
TESTOSTERONE	2	< 0.1%
UNSPECIFIED PRESCRIPTION DRUG	2	< 0.1%
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	1	< 0.1%
4-CHLOROMETHCATHINONE (4-CMC; CLEPHEDRONE)	1	< 0.1%
ACEPROMAZINE	1	< 0.1%
ACETYLDIHYDROCODEINE	1	< 0.1%
ALPHA-PYRROLIDINOBUTIOPHENONE (ALPHA-PBP)	1	< 0.1%
ATENOLOL	1	< 0.1%
BENZOCAINE	1	< 0.1%
CAMAZEPAM	1	< 0.1%
CETIRIZINE	1	< 0.1%
CHLORPHENIRAMINE	1	< 0.1%
COCA LEAVES	1	< 0.1%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
DICYCLOMINE	1	< 0.1%
DIPHENHYDRAMINE	1	< 0.1%
EG 018 (NAPHTHALEN-1-YL(9-PENTYL-9H-CARBAZOL-3-YL)METHANONE)	1	< 0.1%
GAMMA HYDROXY BUTYRATE	1	< 0.1%
HYDROXYZINE	1	< 0.1%
INOSITOL	1	< 0.1%
LACTOSE	1	< 0.1%
MELATONIN	1	< 0.1%
OXYMETHOLONE	1	< 0.1%
POTASSIUM	1	< 0.1%
SALT	1	< 0.1%
SIBUTRAMINE	1	< 0.1%
SODIUM BICARBONATE	1	< 0.1%
TRIAZOLAM	1	< 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 to December 2015.

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 18, 2016.

Table 6b: Drug Reports* for Items Seized by Law Enforcement in *Philadelphia^* in 2015
DEA National Forensic Laboratory Information System (NFLIS)
Drug Reports* by Select Drug Categories of Interest
Number of Drug-Specific Reports, Percent of Analyzed Drug Category Reports**, & Percent of Total Analyzed Drug Reports

NPS Category Drug Identified	Number (#)	Percent of Drug Category** (%)	Percent of Total Reports (%)
Total Drug Reports*	**22,293**	**100.0%**	**100.0%**
Opioids Category	**6,764**	**100.0%**	**30.3%**
Heroin	**4,940**	**73.0%**	**22.2%**
Narcotic Analgesics	**1,700**	**25.1%**	**7.6%**
OXYCODONE	1,127	16.7%	5.1%
FENTANYL	163	2.4%	0.7%
BUPRENORPHINE	132	2.0%	0.6%
CODEINE	124	1.8%	0.6%
METHADONE	62	0.9%	0.3%
HYDROCODONE	55	0.8%	0.2%
MORPHINE	23	0.3%	0.1%
ACETYLFENTANYL	6	< 0.1%	< 0.1%
HYDROMORPHONE	5	< 0.1%	< 0.1%
OXYMORPHONE	2	< 0.1%	< 0.1%
ACETYLDIHYDROCODEINE	1	< 0.1%	< 0.1%
Narcotics	**124**	**1.8%**	**0.6%**
NALOXONE	124	1.8%	0.6%
Synthetic Cannabinoids Category	**378**	**100.0%**	**1.7%**
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	77	20.4%	0.3%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	74	19.6%	0.3%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	50	13.2%	0.2%
AB-FUBINACA	43	11.4%	0.2%
AB-PINACA	36	9.5%	0.2%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	30	7.9%	0.1%
5F-PB-22 (1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	10	2.6%	< 0.1%
MAB-CHMINACA (ADB-CHMINACA)	9	2.4%	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	8	2.1%	< 0.1%
5F-AB-PINACA	7	1.9%	< 0.1%
5-FLUORO AMB	5	1.3%	< 0.1%
ADB-PINACA	5	1.3%	< 0.1%
MDMB-FUBINACA	5	1.3%	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	5	1.3%	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	5	1.3%	< 0.1%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	3	0.8%	< 0.1%
UR-144 ((1-PENTYLINDOL-3-YL)-(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	3	0.8%	< 0.1%
AKB48 N-(5-FLUOROPENTYL)	2	0.5%	< 0.1%
EG 018 (NAPHTHALEN-1-YL(9-PENTYL-9H-CARBAZOL-3-YL)METHANONE)	1	0.3%	< 0.1%
Synthetic Cathinones Category	**33**	**100.0%**	**0.1%**
Synthetic Cathinones	**33**	**100.0%**	**0.1%**
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	27	81.8%	0.1%

NPS Category Drug Identified	Number (#)	Percent of Drug Category** (%)	Percent of Total Reports (%)
ALPHA-PYRROLIDINOPENTIOPHENONE (ALPHA-PVP)	4	12.1%	< 0.1%
4-CHLOROMETHCATHINONE (4-CMC; CLEPHEDRONE)	1	3.0%	< 0.1%
ALPHA-PYRROLIDINOBUTIOPHENONE (ALPHA-PBP)	1	3.0%	< 0.1%
Piperazines Category	**7**	**100.0%**	**< 0.1%**
Piperazines (Hallucinogen)	**1**	**14.3%**	**< 0.1%**
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	1	14.3%	< 0.1%
Piperazines (Stimulant)	**6**	**85.7%**	**< 0.1%**
N-BENZYLPIPERAZINE (BZP)	6	85.7%	< 0.1%
Tryptamines Category	**2**	**100.0%**	**< 0.1%**
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	2	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 to December 2015.

**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 18, 2016.

National Drug Early Warning System (NDEWS)
Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2016:
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.

Area Description Indicators

American Community Survey (ACS): Population Estimates, by Demographic and Socioeconomic Characteristics

Overview and Limitations

Data on demographic, social, and economic characteristics are based on 2010–2014 American Community Survey (ACS) 5-Year Estimates. 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; *2010–2014 American Community Survey 5-Year Estimates;* Tables DP02, DP03, and DP05; using American FactFinder; http://factfinder2.census.gov; Accessed on [5/24/2016]; 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

Substance Use Indicators

National Survey on Drug Use and Health (NSDUH): Substance Use Among Population 12 Years or Older

Overview and Limitations

NSDUH is an ongoing 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 derived from a hierarchical Bayes model-based small area estimation 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 to provide more precise estimates of substance use and mental health outcomes. [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 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 but 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 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 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 [8/5/2016].

*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 on [8/5/2016].

Youth Risk Behavioral Survey (YRBS): Substance Use Among Student Populations

Overview and Limitations

The Youth Risk Behavior Surveillance System (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. YRBSS also was developed to provide comparable national, State, territorial, and large urban school district data as well as comparable data among subpopulations of youths (e.g., racial/ethnic subgroups) and to monitor progress toward achieving national health objectives. The YRBSS monitors six categories of priority health risk behaviors among youth and young adults: 1) behaviors that contribute to unintentional injuries and violence; 2) tobacco use; 3) alcohol and other drug use; 4) sexual behaviors that contribute to unintended pregnancy and sexually transmitted infections; 5) unhealthy dietary behaviors; and 6) physical inactivity.[a] We have included selected drug and alcohol survey questions from the YRBSS.

One component of the Surveillance System is the school-based Youth Risk Behavior Survey (YRBS) which includes representative samples of high school students in the nation, States, tribes, and select large urban school district across the country. The ongoing surveys are conducted biennially; each cycle begins in July of the preceding even-numbered year (e.g., in 2010 for the 2011 cycle) when the questionnaire for the upcoming year is released and continues until the data are published in June of the following even-numbered year (e.g., in 2012 for the 2011 cycle).[a]

For States and large urban school districts, the YRBSs are administered by State and local education or health agencies. Each State, territorial, tribal, and large urban school district YRBS employs a two-stage, cluster sample design to produce a representative sample of students in grades 9–12 in its jurisdiction. All the data presented in these tables area based on weighted data. Weighted results are representative of all students in grades 9–12 attending public schools in each jurisdiction. According to CDC, "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."[a]

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 2009, approximately 4% of persons aged 16–17 years were not enrolled in a high-school program and had not completed high school.[b] 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.[c]

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.[d]

Notes about Data Terms

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), 1991–2013 High School Youth Risk Behavior Survey Data. Available at http://nccd.cdc.gov/youthonline/. Accessed on [3/12/2015].

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

[a]*Methodology of the Youth Risk Behavior Surveillance System— 2013* Report in the Centers for Disease Control and Prevention (CDC) *March 1, 2013 Morbidity and Mortality Weekly Report* (MMWR); 62(1). Available at http://www.cdc.gov/mmwr/pdf/rr/rr6201.pdf. Accessed on [4/10/2015].

[b]Chapman C, Laird J, Ifill N, KewalRamani A. Trends in high school dropout and completion rates in the United States: 1972–2009 (NCES 2012–006). Available at http://nces.ed.gov/pubs2012/2012006.pdf. Accessed on [2/11/2013].

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

[d]Eaton DK, Lowry R, Brener ND, Grunbaum JA, Kann L. 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.

Treatment for Substance Use Disorders

Treatment Admissions Data from Local Data Sources

Overview and Limitations

Drug treatment admissions data provide indicators of the health consequences of substance misuse and their impact on the treatment system.[a] Treatment admissions 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 also 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 made available to the NDEWS Coordinating Center by the NDEWS Sentinel Community Epidemiologist for each SCS. Calendar year 2015 treatment admissions data were available for 10 of 12 SCSs. Calendar Year 2015 data were not available for the Chicago Metro SCS; Fiscal Year 2015 for Chicago (not entire Chicago metro area) is provided. No treatment data for the Atlanta Metro SCS was available for 2015. See below for site-specific information about the data.

Site-Specific Notes about 2015 Treatment Data and Sources of the Data

❖ **Atlanta Metro**

Data Availability: Calendar year 2015 treatment data are not available for the Atlanta Metro SCS.

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, Pickents, 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: Only fiscal year data are available at this time.

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 Substance Use.

❖ **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 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.
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:
Admissions: Includes admissions to all 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 oxycodone/hydrocodone, nonprescription methadone, and other opiates.

Source: Data provided to the King County (Seattle Area) NDEWS SCE by the Washington State Department of Social and Health Services (DSHS), Division Behavioral Health and Recovery, Treatment Report and Generation Tool (TARGET).

❖ **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 and 2014 data) and the California Department of Drug and Alcohol Programs (2011 and 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 2016 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 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 4,810 in 2015. However, similar patterns of substance use were observed among those seeking treatment in 2014 and in 2015.

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: 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, 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 all admissions to programs receiving any public funds. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.

2011–2013: Data for Palm Beach County is not available for 2011-2013, therefore, 2011–2013 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 and the Broward Behavioral Health Coalition.

❖ **Texas**

Notes & Definitions:
Admissions: Includes all admissions reported to the Clinical Management for Behavioral Health Services (CMBHS) of the Department of State Health Services (DSHS). 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.
Synthetic Cannabinoids: DSHS collects data on "other Cannabinoids," which may not include all the synthetic cannabinoids.
Females: Calculated using formula "1 minus Male %."

Source: Data provided to the Texas NDEWS SCE by the Texas Department of State Health Services (DSHS).

❖ **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

Consequences of Drug Use Indicators

Drug Overdose (Poisoning) Deaths

Overview and Limitations

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 2016 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:

[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.

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-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%. 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., state, and county resident populations. The year 2010 populations are April 1 modified census counts. The year 2011–2014 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)

5-Year Percent Change: Change in age-adjusted rate between 2010 and 2014.

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 1999–2014*, available on the CDC WONDER Online Database, released 2015. Data compiled in the *Multiple cause of death 1999–2014*

were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved between December 16, 2015 and February 9, 2016, 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.

Availability Indicators

Drug Reports from the National Forensic Laboratory Information System (NFLIS)

Overview and Limitations

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 DEA describes NFLIS as:

> "a comprehensive information system that includes data from forensic laboratories that handle the Nation's drug analysis cases. The NFLIS participation rate, defined as the percentage of the national drug caseload represented by laboratories that have joined NFLIS, is currently over 97%. Currently, 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 2015 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 were included in the counts.
- ❖ **Texas:** The Austin Police Department laboratory closed, and no data were provided for 2015. The Houston Forensic Science Government Corporation (formerly Houston Police Department Crime Lab) lab was added in April 2014 and has been reporting data since then.

Notes about Data Terms

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. The data presented are a total count of first, second, and third listed reports for each selected drug item seized and analyzed.

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–December 2015. Data were queried from the DEA's NFLIS Data Query System (DQS) on May 18, 2016 using drug item submission date.

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 butyrl fentanyl).

A complete list of drugs included in the Other Fentanyls category that were reported to NFLIS during the January to December 2015 timeframe includes:

3-METHYLFENTANYL

ACETYL-ALPHA-METHYLFENTANYL

ACETYLFENTANYL

Beta-HYDROXYTHIOFENTANYL

BUTYRYL FENTANYL

P-FLUOROBUTYRYL FENTANYL (P-FBF)

P-FLUOROFENTANYL

Sources

*Data Sources***:** Adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Office of Diversion Control, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from NFLIS Data Query System (DQS) May 18, 2016.

*Overview/Methods/Limitations Sources***:** [a]Adapted by the NDEWS Coordinating Center from U.S. Drug Enforcement Administration (DEA), Office of Diversion Control. (2016) *National Forensic Laboratory Information System: Midyear Report 2015.* Springfield, VA: U.S. Drug Enforcement Administration. Available at: https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLIS_MidYear2015.pdf