

NDEWS *National Drug Early Warning System*

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

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

October 2016

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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.

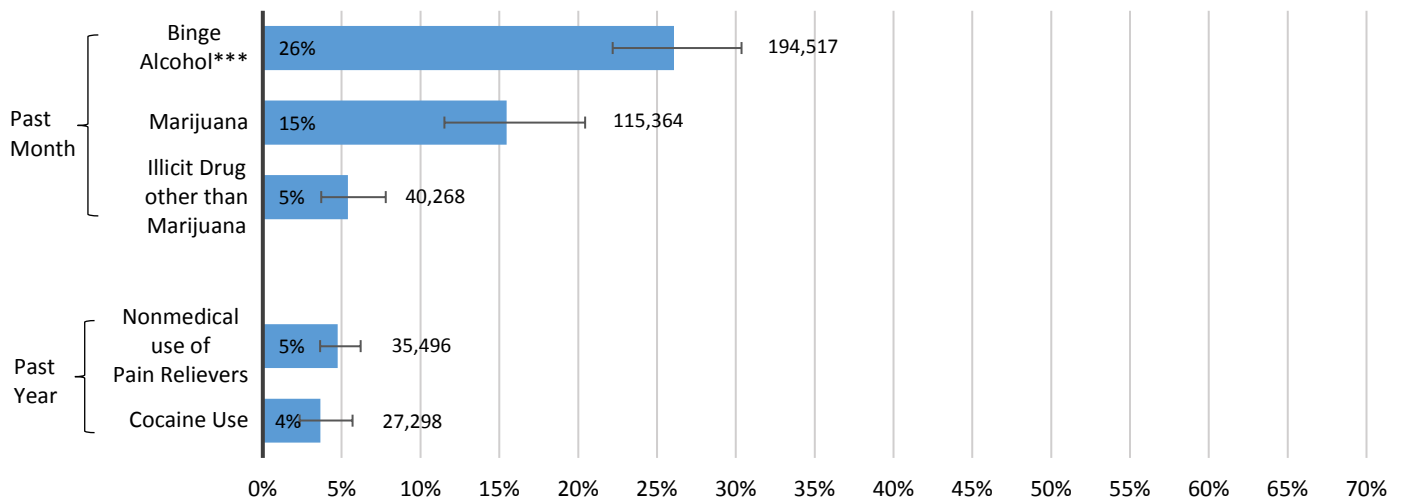
San Francisco County SCS Snapshot, 2016

Substance Use

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

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

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



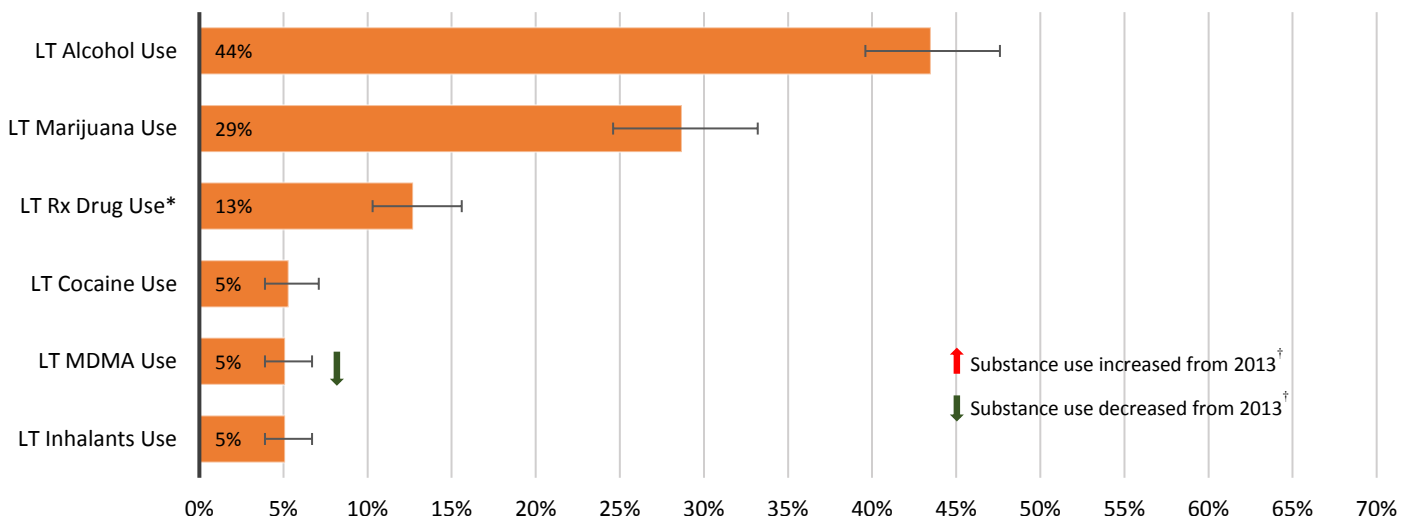
*U.S. Population: U.S. civilian non-institutionalized population. ^San Francisco: NSDUH Region 5R (San Francisco County). **Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (746,157) from Table C1 of the NSDUH Report. ***Binge Alcohol: Defined 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) Use of Selected Substances, San Francisco, 2015

Estimated Percent and 95% Confidence Interval



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

†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.

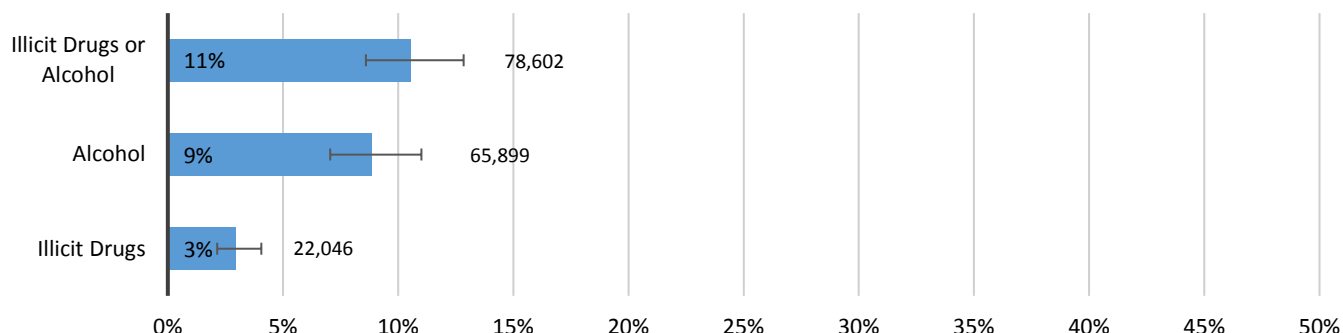
Source: Adapted by the NDEWS Coordinating Center from data provided by CDC, 1991-2015 High School YRBS data.

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, San Francisco^, 2012-2014

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

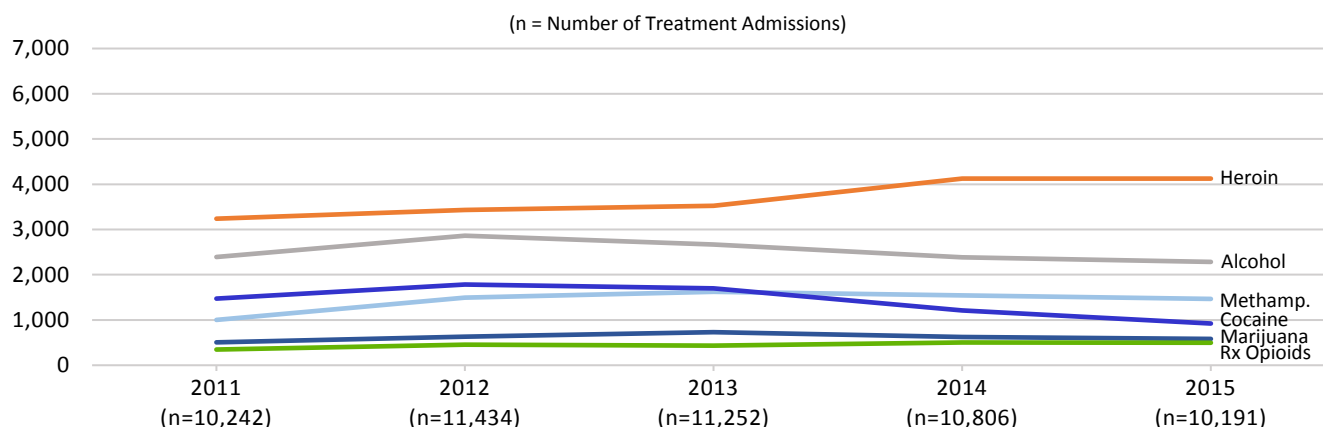


*U.S. Population: U.S. civilian non-institutionalized population. **Substance Use Disorders in Past Year: Persons are classified as having a substance use disorder in the past 12 months based on responses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. ^San Francisco: NSDUH Region 5R (San Francisco County). ***Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (746,157) from Table C1 of the NSDUH Report.

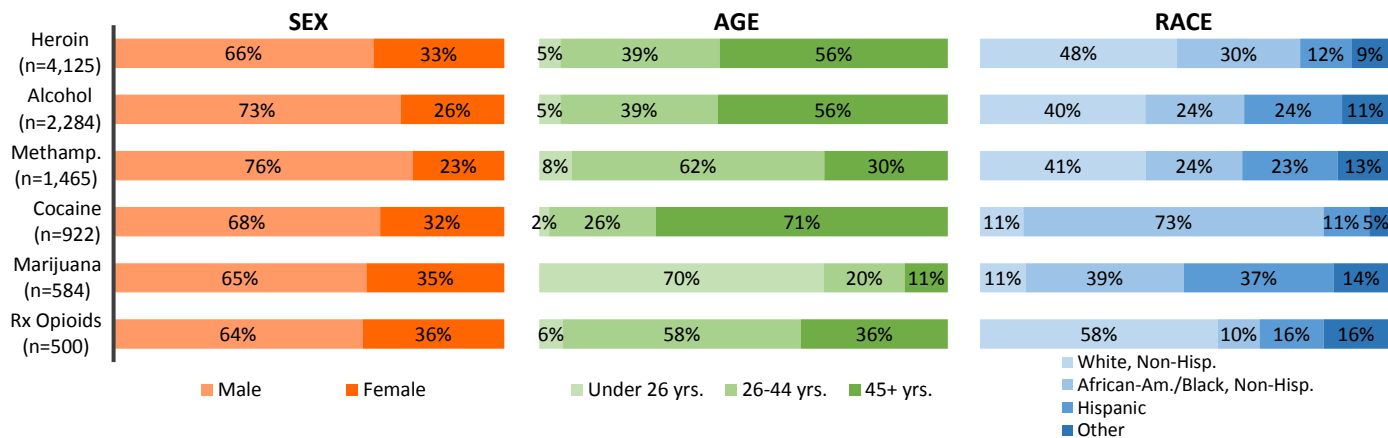
Source: Adapted by the NDEWS Coordinating Center from data provided by SAMHSA, NSDUH. Annual averages based on combined 2012 to 2014 NSDUH data.

Treatment Admissions Data from Local Sources

Trends in Treatment Admissions, by Primary Substance of Abuse, San Francisco, 2011-2015



Demographic Characteristics of Treatment Admissions, San Francisco, 2015



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.

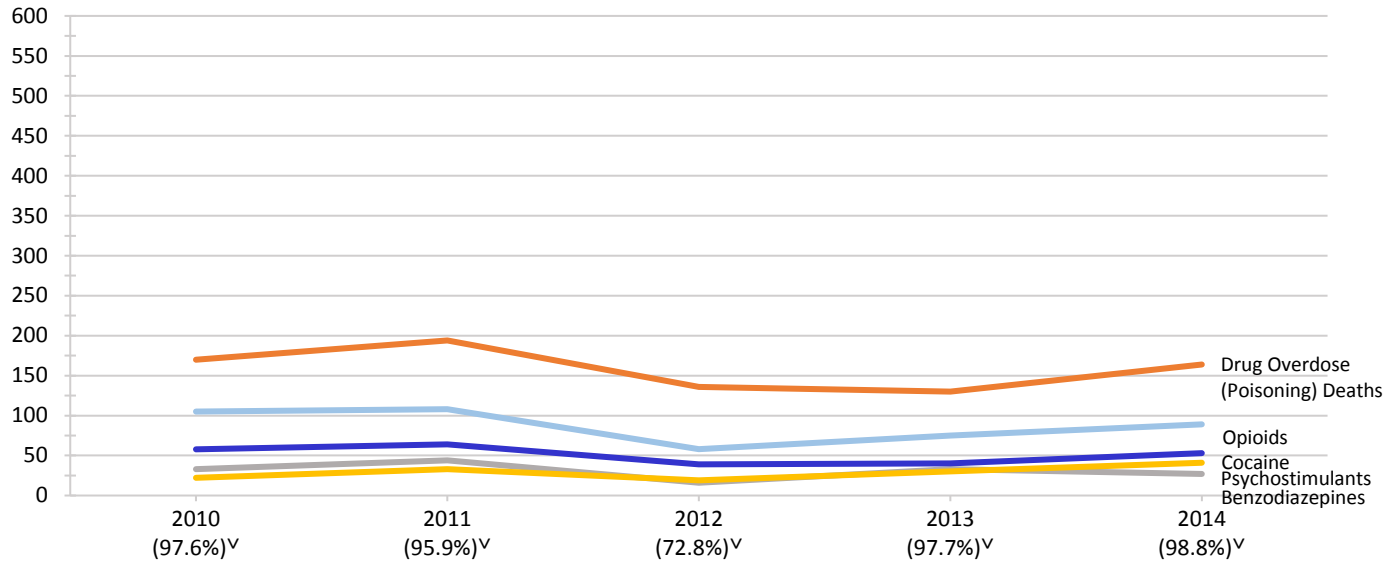
Source: Data provided to the San Francisco NDEWS SCE by the San Francisco Department of Public Health, Community Behavioral Health Services Division.

Drug Overdose (Poisoning) Deaths

National Vital Statistics System (NVSS) via CDC WONDER

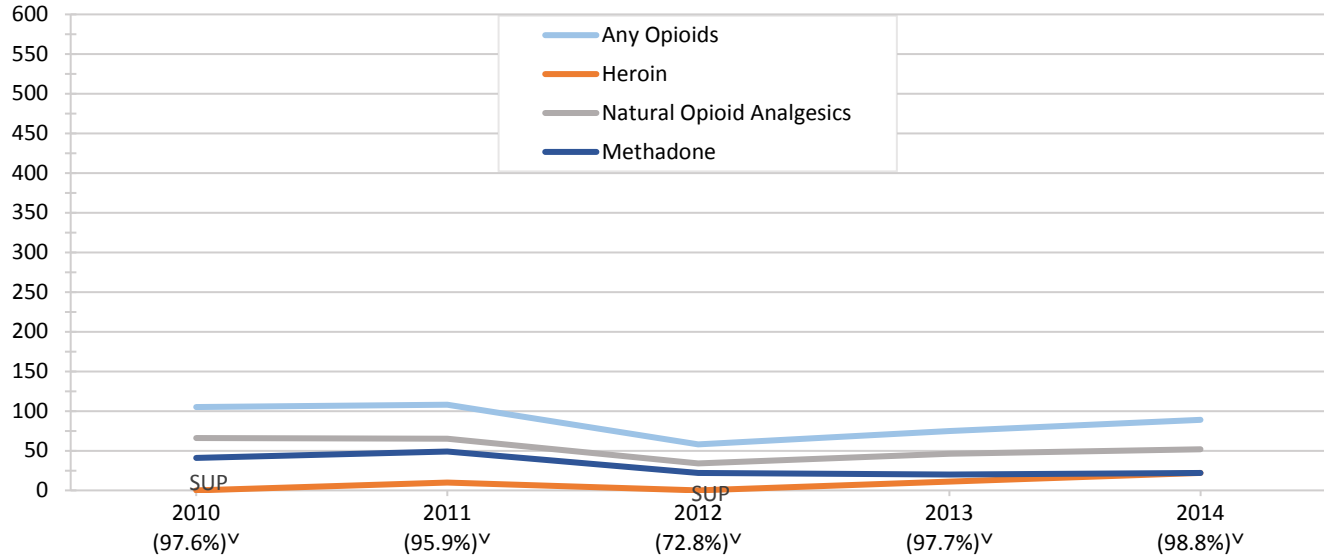
Trends in Drug Overdose (Poisoning) Deaths*, by Drug**, San Francisco^, 2010–2014

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



Trends in Opioid Overdose (Poisoning) Deaths*, by Opioid, San Francisco^, 2010–2014

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



*Drug Overdose (Poisoning) Deaths: Defined as deaths with ICD-10 underlying cause-of-death (UCOD) codes: X40-X44, X60-X64, X85, and Y10-Y14. **Drug Overdose (Poisoning) Deaths, by Drug: Drug overdose (poisoning) deaths with ICD-10 multiple cause-of-death (MCOD) T-codes: Benzodiazepines (T42.4); Cocaine (T40.5); Psychostimulants with Abuse Potential [excluding cocaine] (T43.6)—may include amphetamines, caffeine, MDMA, methamphetamine, and/or methylphenidate; Any Opioids (T40.0-T40.4, OR T40.6). Specific opioids are defined: Opium (T40.0); Heroin (T40.1); Natural Opioid Analgesics (T40.2)—may include morphine, codeine, and semi-synthetic opioid analgesics, such as oxycodone, hydrocodone, hydromorphone, and oxymorphone; Methadone (T40.3); Synthetic Opioid Analgesics [excluding methadone] (T40.4)—may include drugs such as tramadol and fentanyl; and Other and Unspecified Narcotics (T40.6). ^San Francisco: Comprised of San Francisco County. ^Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified: The percentage of drug overdose (poisoning) deaths with specific drugs mentioned varies considerably by state/catchment area. This statistic describes the annual percentage of drug overdose (poisoning) deaths that include at least one ICD-10 MCOD code in the range T36-T50.8. 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 San Francisco County^ 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	286	100%
Top 10 Drug Reports		
Cannabis	42	14.7%
Heroin	33	11.5%
Methamphetamine	32	11.2%
Cocaine	18	6.3%
Morphine	15	5.2%
Etizolam	13	4.5%
Lactose	11	3.8%
Oxymorphone	10	3.5%
Oxycodone	10	3.5%
Alprazolam	6	2.1%
Codeine	6	2.1%
Top 10 Total	196	68.5%
Selected Drugs/Drug Categories		
Opioids	91	31.8%
Fentanyl	1	0.3%
Other Fentanyl***	0	0.0%
Synthetic Cathinones	7	2.4%
Synthetic Cannabinoids	2	0.7%
2C Phenethylamines	0	0.0%
Piperazines	0	0.0%
Tryptamines	0	0.0%

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

Synthetic Cathinones (n=7)

Ethylone (29%)
alpha-PVP (29%)
Fluoromethcathinone (14%)
MDPBP (14%)
Methylone (14%)

Synthetic Cannabinoids (n=2)

AB-FUBINACA (50%)
XLR-11 (50%)

*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.

^San Francisco: Note catchment area is San Francisco County not the 5-county MSA. The San Francisco Police Department (SFPD) laboratory has been closed since 2010; however, beginning in January 2012, the Alameda Sheriff Department laboratory began report their SFPD cases to NFLIS. All available data from the SFPD were included in the counts above.

Percentages may not sum to 100 due to rounding. *Other Fentanyls are substances that are structurally related to fentanyl (e.g., acetylfentanyl and butyrfentanyl). 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) San Francisco Sentinel Community Site (SCS) Drug Use Patterns and Trends, 2016: SCE Narrative

Phillip Coffin, M.D., M.I.A.
San Francisco Department of Health

Highlights

- Numerous indicators suggest increasing use and consequences of **methamphetamine** in the City and County of San Francisco (CCSF). Substance use disorder (SUD) treatment admissions for methamphetamine have been consistently rising, as have hospitalizations involving methamphetamine and deaths, including methamphetamine as a causal agent. Anecdotal reports indicate methamphetamine use is prevalent among homeless and marginally housed individuals, although less frequent among men who have sex with men (MSM).
- Evidence also suggests an increase in **heroin** use in CCSF. The proportion of all SUD treatment admissions involving heroin continues to increase, and anecdotal reports suggest that, notwithstanding treatment-on-demand, there are many out-of-treatment heroin users in CCSF. Mortality from heroin remains low, although 2013 witnessed a modest increase for the first time in several years.
- **Prescription opioids** remain an uncommon reason for SUD treatment admissions, and there is evidence to suggest declining street use of these agents. Data from the California State prescription drug monitoring program (CURES) shows declining prescription of opioids in CCSF, and overdose death involving prescription opioids has declined since 2010.
- **Fentanyl** has affected CCSF sporadically. Although there has been only one identified episode of fentanyl sold as heroin, which is a limited problem possible due to the challenges in adulterating black tar heroin with fentanyl, there have since been two episodes of counterfeit pills containing fentanyl that resulted in multiple overdoses and several deaths.
- Long-term homelessness is an increasing concern for people who use substances in CCSF and a potential deterrent to seeking help for SUD. In addition, the high rate of homelessness among people who use substances, which is a problem exacerbated by real estate development and limited housing options, has forced much drug use into the public eye. This trend continues to raise concerns and conflicts for both people who use substances and other community residents.
- Indicators for other substances in CCSF, including **alcohol**, **cocaine**, **benzodiazepines**, **marijuana**, and **synthetics**, suggest relatively stable use.
- Numerous research studies have contributed to understanding substance use patterns in CCSF and initiatives, such as the citywide Hepatitis C Elimination Initiative and the San Francisco Department of Public Health Drug User Health Initiative, have emerged to address substance user health issues.

Changes in Legislation

As of January 1, 2016, all providers authorized to prescribe controlled substances were required to register with the California State prescription drug monitoring program (CURES). As a result, CURES implemented a new website including enhanced functionality and ease of access. CURES is not integrated into electronic medical records, however.

The San Francisco Department of Public Health (SFPDH) initiated the Drug User Health Initiative (DUHI) in 2015 to address health issues related to substance use in the City and County of San Francisco (CCSF). DUHI is a collaborative, department-wide effort to align services and systems to support consistently the health of people who use drugs and alcohol in San Francisco. It was developed through a broad-based community engagement and strategic planning process that included input from substance use treatment experts, community service providers, and drug users. The DUHI strategic plan identifies four priority areas: (1) harm reduction education and systems capacity building; (2) overdose prevention, education, and naloxone distribution; (3) syringe access and disposal; and (4) HIV/hepatitis C virus (HCV) prevention, screening, and treatment. HIV/HCV prevention guides the initiative's activities and provides a common set of performance measures and outcomes. DUHI's accomplishments include establishment of a Harm Reduction Training Institute; incorporation of harm reduction objectives into service provider contracts; expanded overdose prevention education and naloxone access via collaborations with SFPDH Primary Care, Police Department, Jail Health, and other partners; building of community support for syringe access and disposal by combatting stigma around public drug use and homelessness; funded community-based HIV prevention binge-drinking intervention for gay men and transgender women; and strengthened community and clinical capacity for HCV prevention, screening, and treatment.

Multiple stakeholders in CCSF also created the HCV Elimination Initiative of San Francisco in 2015, aiming to eliminate HCV in CCSF. The long-term goal of the HCV Elimination Initiative is to establish (1) city-wide, HCV community-based testing coverage for highly impacted populations and augmented surveillance infrastructure to track the progress of the HCV Initiative; (2) linkage to care and treatment access for all people living with HCV infection; and (3) prevention of infection for those at risk of HCV and reinfection in those cured of HCV. The Initiative will use existing services and will attempt to coordinate city-wide efforts. Current Medi-Cal guidelines allow for liberal access to HCV treatment, including treatment of active persons who inject drugs (PWIDs), which is essential for reducing incident infections.

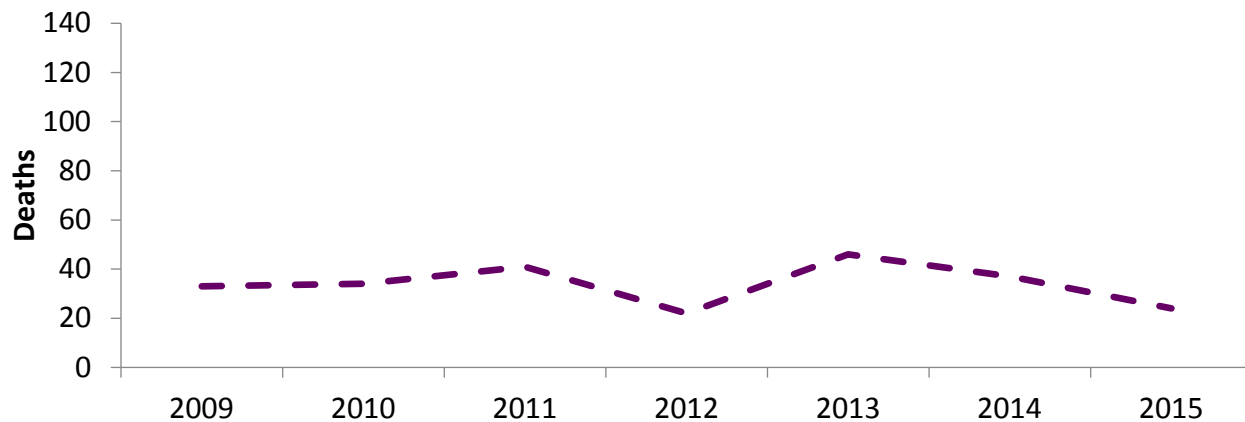
Substance Use Patterns and Trends

BENZODIAZEPINES

- Indicators for benzodiazepines in CCSF suggest relatively stable use.

Benzodiazepines have remained a rare indication for admission to substance use disorder (SUD) treatment in CCSF, representing just 0.1% of admissions in 2015. Most patients were White/non-Hispanic and 26–44 years of age; the most common secondary drug was alcohol. Benzodiazepines accounted for a similar proportion of drug seizures in both 2014 (7.3%) and 2015 (8.0%), which was higher than the U.S. proportion of 4.4% in the first half of 2015. Benzodiazepines are a causal agent in 20–50 deaths per year in CCSF, most of which also involve opioids (see Exhibit 1).

Exhibit 1. Benzodiazepine-Related Deaths in San Francisco City & County



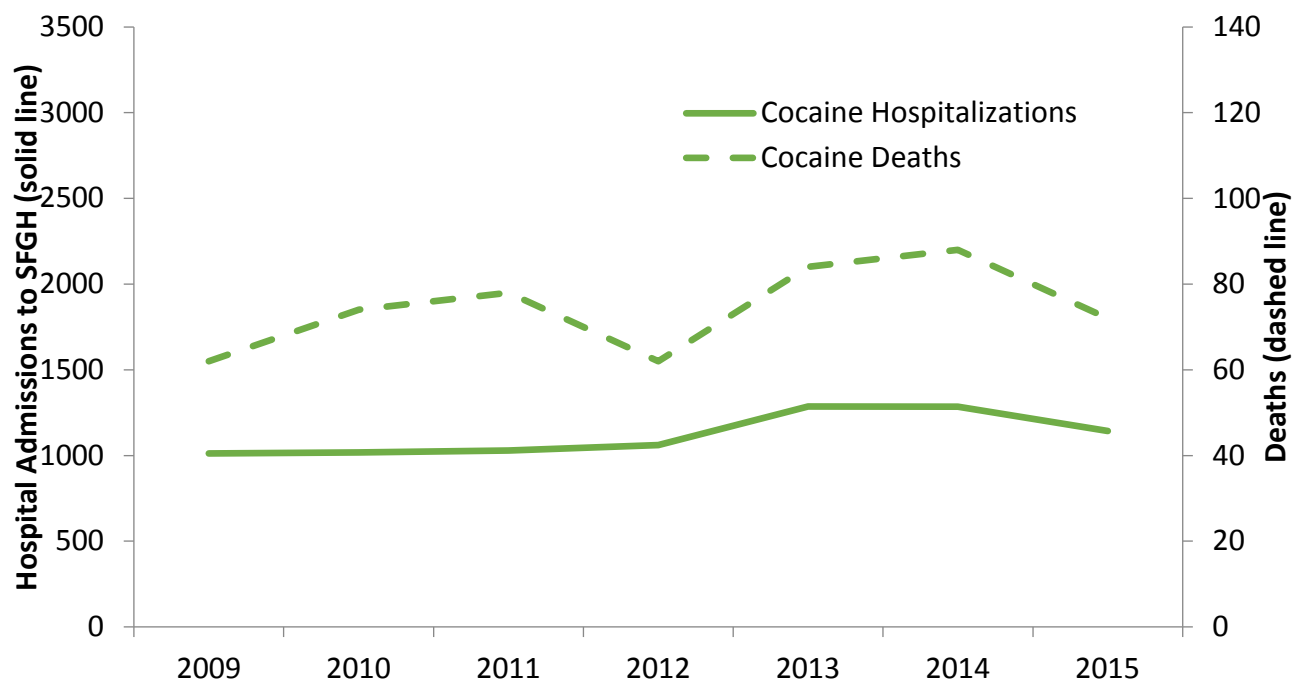
Source: Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete because of unclosed cases.

COCAINE

- Indicators for cocaine in CCSF suggest relatively stable use.

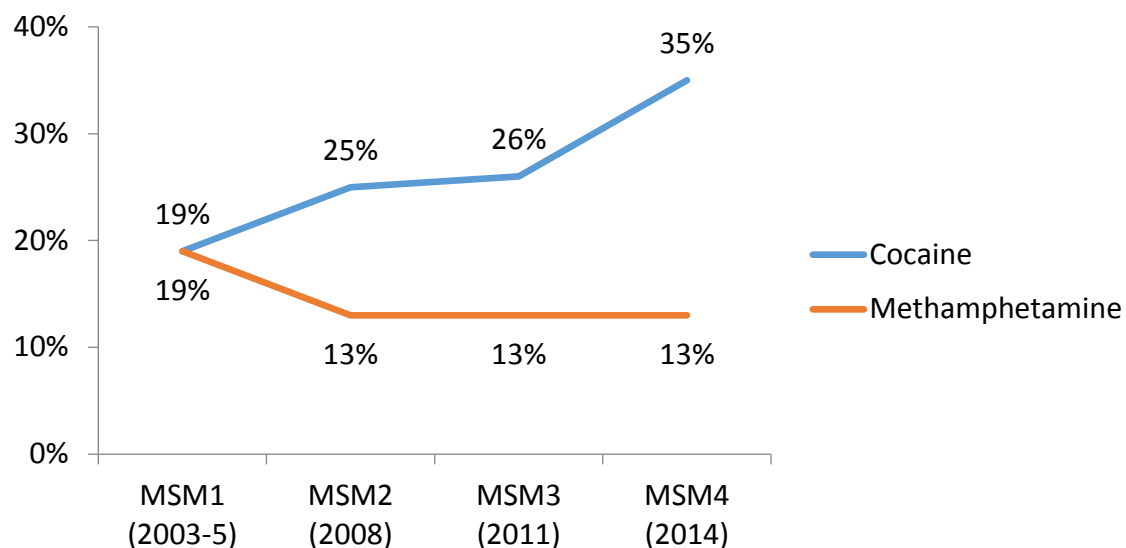
Treatment admissions involving cocaine/crack as the primary drug have been continuously declining in CCSF from a peak of 15.6% of admissions in 2012 to 9.0% of admissions in 2015. More than two thirds of admissions for cocaine use were male, nearly three quarters were Black/African American, and 71.5% were older than 45 years of age; 90.3% smoked the drug, and alcohol was the most common secondary drug. The rate of hospitalizations at the county facility (San Francisco General Hospital; SFGH) has been fairly stable, as has the number of deaths involving cocaine as a causal agent in CCSF (see Exhibit 2). Providers reported that, among persons who use stimulants and are homeless or marginally housed, crack/cocaine use is far less common than methamphetamine use, with the exception of those older than 60 years of age who may have a higher rate of crack/cocaine use. In contrast, there is evidence of increased cocaine use among men who have sex with men (MSM) in CCSF from the Centers for Disease Control and Prevention (CDC)-funded National HIV Behavioral Surveillance (NHBS; see Exhibit 3). Data from drug seizures seem unstable, as the proportion of seizures involving cocaine changed from 2.6% in 2014 to 6.3% in the 2015, which is slightly inconsistent with other indicators suggesting declining cocaine use. Cocaine was identified in 13.9% of drug seizures nationally in 2015.

Exhibit 2. Cocaine-Related Hospitalizations and Deaths in San Francisco



Source: Lifetime Clinical Record, San Francisco Department of Public Health, 2016; Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete because of unclosed cases.

Exhibit 3. Cocaine and Methamphetamine Use Among MSM in San Francisco per National HIV Behavioral Surveillance



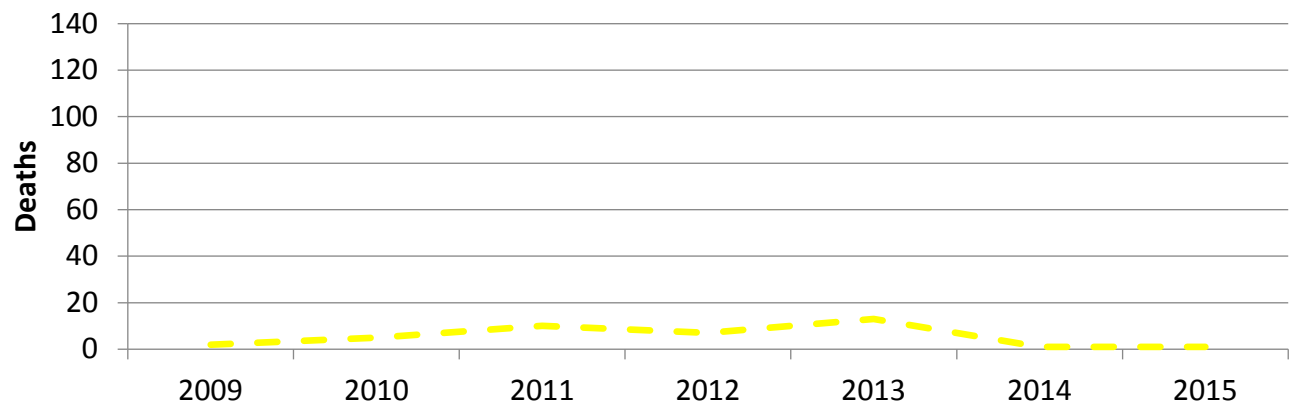
Source: Centers for Disease Control and Prevention (CDC), National HIV Behavioral Surveillance (NHBS).

MARIJUANA

- Indicators for marijuana in CCSF suggest relatively stable use.

Marijuana remains an uncommon reason for SUD treatment admission in CCSF, representing 5.7% of admissions in 2015. Approximately two thirds of admissions for marijuana were male, and most were African American/Black or Hispanic/Latino; almost half were younger than 18 years of age, and the most common secondary drug was alcohol. The proportion of drug seizures involving marijuana increased somewhat from 2014 (11.3%) to 2015 (14.7%). Cannabis was found in 26.4% of drug seizures nationally, which was higher than in CCSF. Marijuana is a rare cause of death in CCSF, implicated in only one death in 2015 based on a review of records of the California Electronic Death Reporting System (see Exhibit 4).

Exhibit 4. Cannabis-Related Deaths in San Francisco City & County



Source: Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete due to unclosed cases.

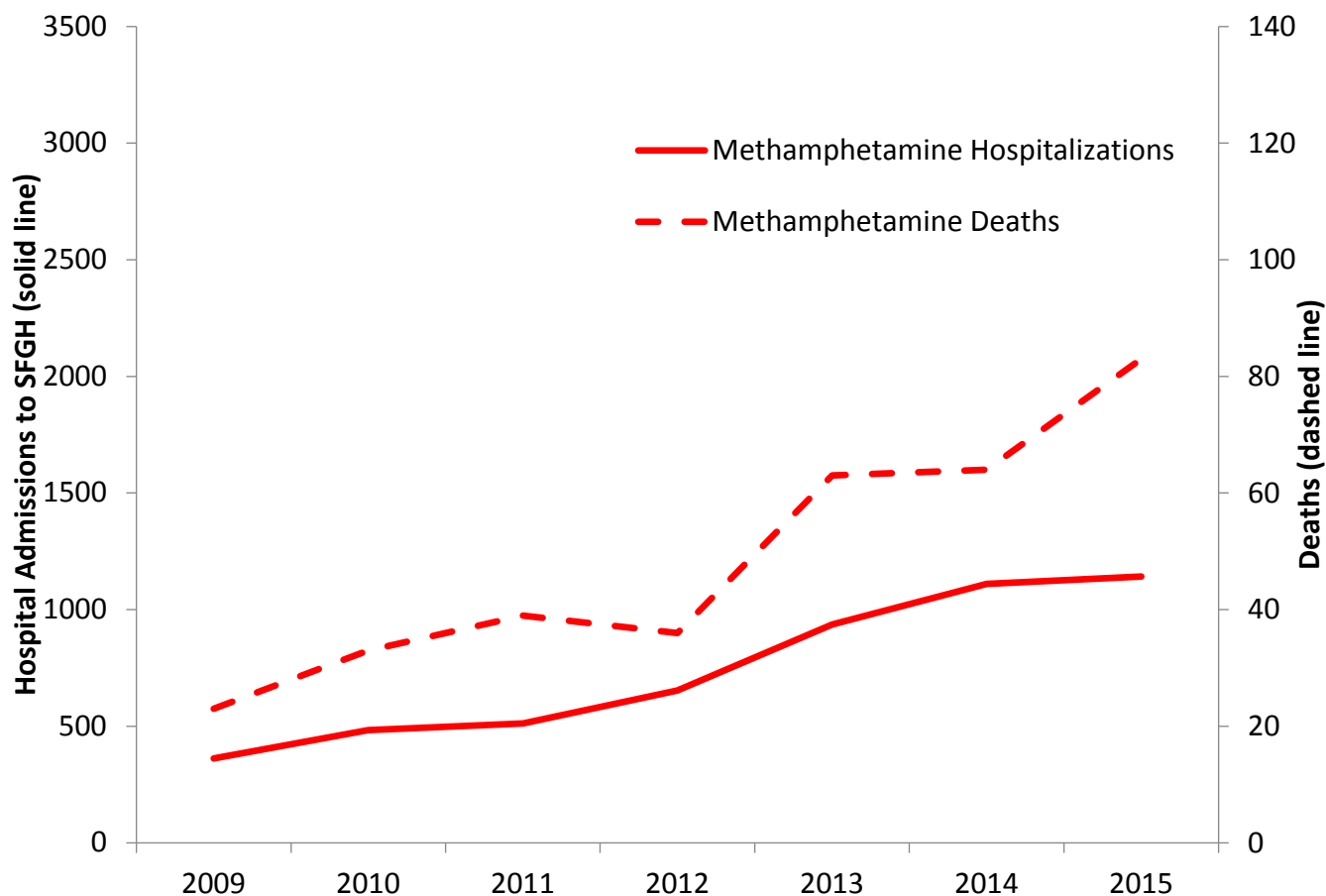
METHAMPHETAMINE

- Numerous indicators suggest increasing use and consequences of methamphetamine in the City and County of San Francisco (CCSF). Substance use disorder (SUD) treatment admissions for methamphetamine have been consistently rising, as have hospitalizations involving methamphetamine and deaths, including methamphetamine as a causal agent. Anecdotal reports indicate methamphetamine use is prevalent among homeless and marginally housed individuals, although less frequent among men who have sex with men (MSM).

Methamphetamine remains a significant contributor to SUD treatment admissions in CCSF, involving 14.4% of admissions in 2015. More than three quarters of admissions for methamphetamine were male, a plurality were White, most were 26–44 years of age, and nearly two thirds smoked the drug; the most common secondary drug was alcohol. The proportion of drug seizures involving methamphetamine was stable between 2014 (10.7%) and 2015 (11.2%), lower than the proportion of drug seizures including methamphetamine nationally (18.9%). These results are consistent with the steadily increasing number

of deaths involving methamphetamine. The number of SFGH hospitalizations involving methamphetamine has also increased consistently since 2009 as have the number of deaths involving methamphetamine as a causal agent; methamphetamine-involved deaths exceeded cocaine-involved deaths for the first time in 2015 (see Exhibit 5). Methamphetamine use is highly prevalent among homeless and marginally housed individuals in CCSF, as reported by more than 50% of new patients for homeless services during a three-month period in 2015. These data suggesting increased use or consequences of methamphetamine do not translate to the MSM community, which seems to have declining rates of methamphetamine use based on NHBS data.

Exhibit 5. Methamphetamine-Related Hospitalizations and Deaths, San Francisco



Source: Lifetime Clinical Record, San Francisco Department of Public Health, 2016; Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete because of unclosed cases.

NEW PSYCHOACTIVE SUBSTANCES (OTHER THAN OPIOIDS)

- Indicators for synthetics in CCSF suggest relatively stable use.

Synthetic stimulants continue to represent a rare cause for SUD treatment admissions in CCSF, including 0.1% of cases in 2015; there have been no cases of treatment admissions for synthetic cannabinoids. Synthetic cathinones were somewhat more frequently involved in drug seizures, increasing from 0.6% of seizures in 2014 to 2.4% in 2015. Synthetic cannabinoids represented 1.0% of drug seizures in 2014 and none in 2015.

OPIOIDS

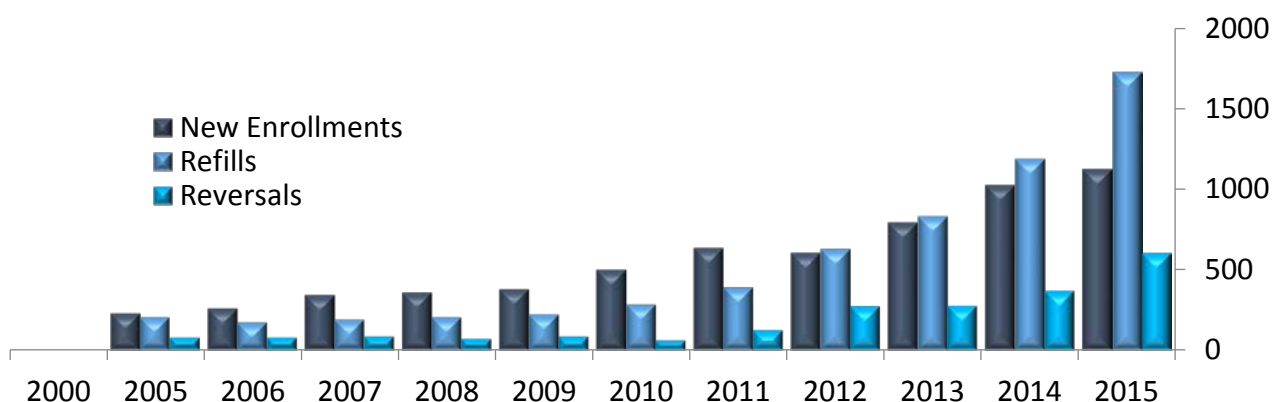
- Evidence also suggests an increase in heroin use in CCSF. The proportion of all SUD treatment admissions involving heroin continues to increase, and anecdotal reports suggest that, notwithstanding treatment-on-demand, there are many out-of-treatment heroin users in CCSF. Mortality from heroin remains low, although 2013 witnessed a modest increase for the first time in several years.
- Prescription opioids remain an uncommon reason for SUD treatment admissions, and there is evidence to suggest declining street use of these agents. Data from the California State prescription drug monitoring program (CURES) shows declining prescription of opioids in CCSF, and overdose death involving prescription opioids has declined since 2010.
- Fentanyl has affected CCSF sporadically. Although there has been only one identified episode of fentanyl sold as heroin, which is a limited problem possible due to the challenges in adulterating black tar heroin with fentanyl, there have since been two episodes of counterfeit pills containing fentanyl that resulted in multiple overdoses and several deaths.

Opioid use remains prominent in CCSF with ongoing evidence of increased heroin use. Heroin was the primary drug involved in 40.5% of SUD treatment admissions in 2015, which is a substantial increase from 30.0% of admissions in 2012. In contrast, prescription opioids were the primary drug involved in just 4.9% of SUD treatment admissions in 2015, which is a nominal increase from 4.0% in 2012. Two thirds of admissions involving heroin were male, nearly half were White, most were older than 45 years of age, and the majority injected the drug; cocaine was the most frequently cited secondary drug. For prescription opioids, most persons admitted were White, 26–44 years of age, and consumed the drug orally; heroin was the most frequently cited secondary drug. Opioids were involved in an increasing proportion of drug seizures from 2014 (26.5%) to 2015 (31.8%), which was higher than the proportion of seizures involving opioids nationally (20.9%). The proportions of seizures involving heroin (11.5% in CCSF and 12.2% nationally) were similar, although a larger proportion of seizures locally involved morphine (5.2% in CCSF and 0.5% nationally) and a smaller proportion involved fentanyl (0.3% in CCSF and 1.0% nationally).

CCSF has a robust program of community distribution of naloxone as well as a co-prescribing initiative for patients in safety net primary care clinics. The community distribution program has substantially increased naloxone distribution in recent years and has reported a growing number of overdose

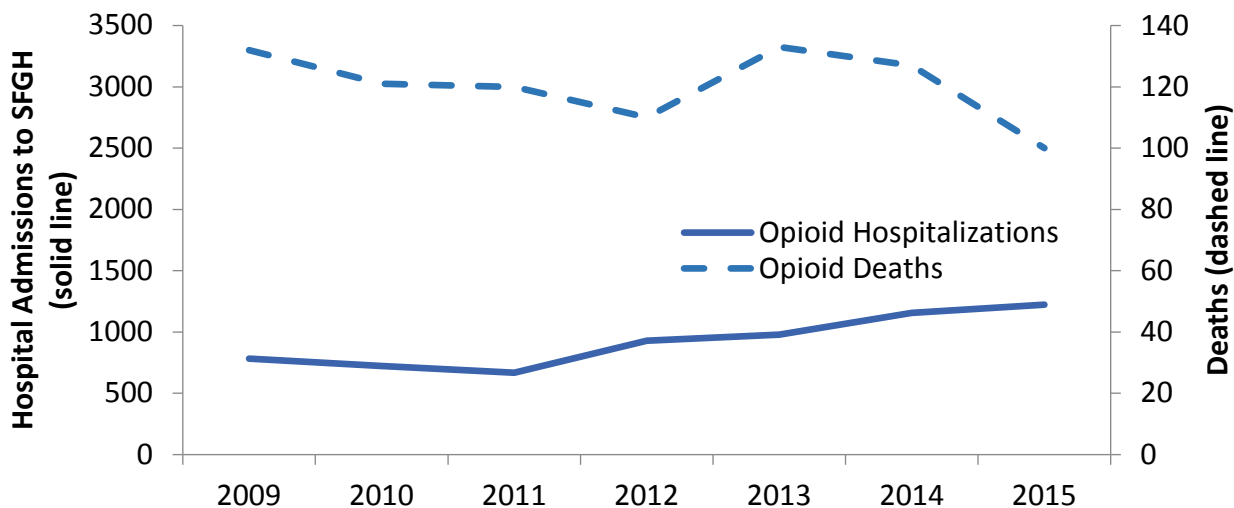
reversals reported by program clients (see Exhibit 6). In addition, the number of SFGH hospitalizations involving opioids has increased modestly since 2009 (see Exhibit 7). However, the number of deaths involving opioids as a causal agent has been stable. The number of deaths involving heroin reached a nadir of 10 cases in 2010 and rose to 35 in 2014 and 30 in 2015, whereas deaths involving prescription opioids declined from 111 in 2010 to 69 in 2015. Of note, there may be additional cases from 2015 that are not yet closed by the Office of the Chief Medical Examiner.

Exhibit 6. Naloxone Enrollments, Refills, and Reversal Reports to the Drug Overdose Prevention and Education Project, 2003–2015



Source: Drug Overdose Prevention and Education Project, 2016.

Exhibit 7. Opioid-Related Hospitalizations and Deaths in San Francisco



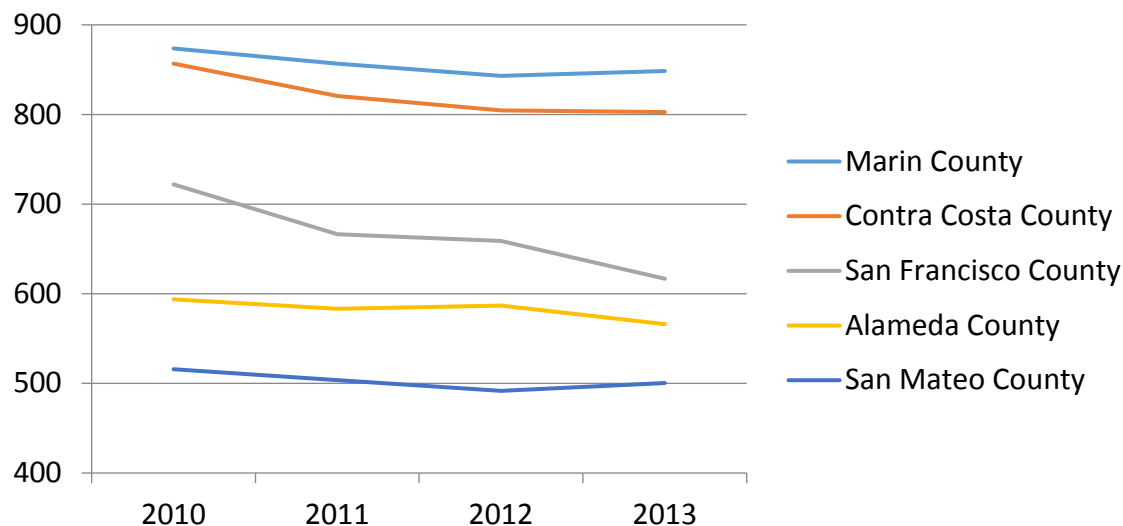
Source: Lifetime Clinical Record, San Francisco Department of Public Health, 2016; Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete because of unclosed cases.

Notwithstanding opioid use disorder treatment-on-demand, providers anecdotally reported a large and growing number of out-of-treatment heroin users who are homeless or marginally housed, with a notable proportion using both heroin and methamphetamine. The use of both heroin and

methamphetamine adds challenges in accessing SUD and other healthcare services, particularly for those who are homeless or marginally housed. The limited supply of affordable housing and the elimination of places such as vacant lots and squats have led to more heroin and other substance use by injection and smoking on streets, which have increased its public visibility. The chronicity of homelessness raises additional challenges for those with SUDs, and some providers believe this may impact motivation to seek or sustain abstinence.

Several shifts continue to occur in the local opioid market. First, opioid prescribing substantially declined from a peak in 2010 according to data from CURES (see Exhibit 8). The decline in CCSF has been steeper than in surrounding counties, which generally maintained a similar level of prescribing during this period. More recent data are expected to be available soon.

Exhibit 8. Morphine Milligram Equivalents of Opioids Prescribed Per Capita in Bay Area California Counties



Source: California State Prescription Drug Monitoring Program (CURES).

Second, the illicit drug market continues to evolve. There were two substantial episodes of fentanyl overdoses in 2015 and one in 2016 by the time of this writing.

1) On August 13, 2015, the San Francisco Department of Public Health issued a Health Advisory in response to more than 75 opioid overdoses that were reversed by lay witnesses in the month of July. These overdoses were related to use of a white powder sold as heroin, which was determined to be fentanyl by laboratory testing. People who use drugs initially alerted providers at syringe access and naloxone distribution programs to this concern, and interest in the product seemed to decline quickly as potential buyers learned that the high was short-lived and the risk of overdose was high.

2) On October 22, 2015, SFDPH issued a second Health Advisory responding to four individuals who had purchased Xanax® tablets off the street, one of whom died and one of whom required intensive care. The tablets were found to be counterfeit, containing primarily fentanyl. Although some tablets

contained only fentanyl, others also contained at least trace amounts of several other drugs, including etizolam, methadone, cocaine, methamphetamine, oxycodone, hydrocodone, alprazolam, acetaminophen, and levamisole. During the same time period, there were several similar cases of overdose involving counterfeit Xanax tablets in neighboring Marin and Pinole counties; the pills in these cases were not tested to confirm the presence of fentanyl.

3) Finally, in 2016, counterfeit “Norco” tablets containing fentanyl were implicated in at least 48 overdoses in Sacramento County, leading to a request from the California State Department of Health that hospitals and healthcare providers report any nonfatal or fatal overdoses involving fentanyl to local health departments, which would then forward them to the state. Several other northern California counties also reported counterfeit “Norco” overdoses, including two in CCSF. SFDPH issued a Health Advisory May 3, 2016, including this request for overdoses to be reported. Each health advisory disseminated in 2015 and 2016 also contained requests that providers encourage those who might access pills or drugs sold on the street to discourage the practice, ensure there is access to naloxone, and refer appropriate persons to substance use disorder treatment.

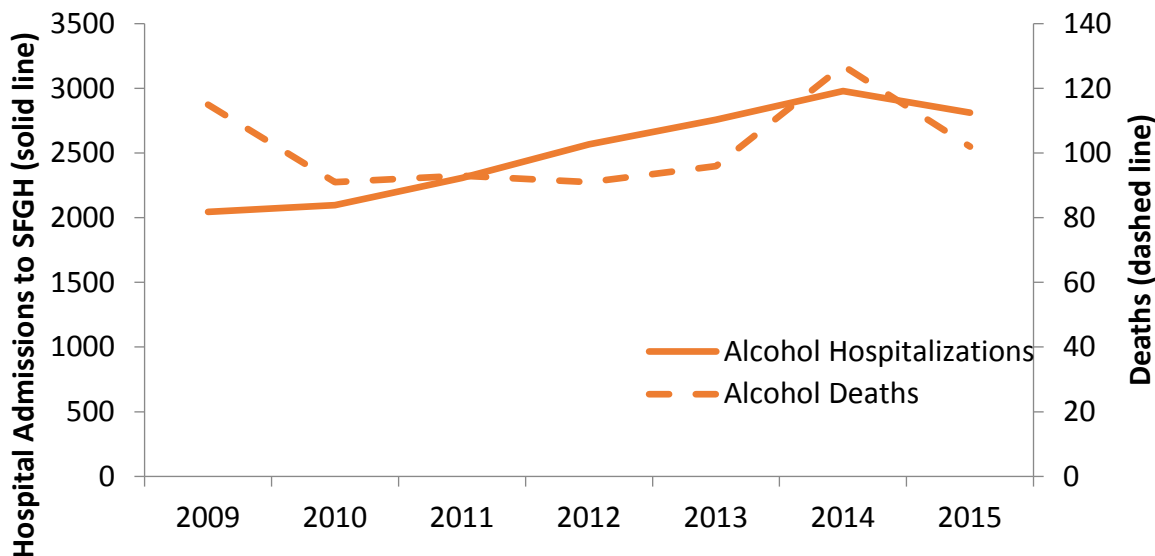
Of these three episodes of fentanyl overdoses in CCSF, the first affected persons seeking heroin and the other two affected persons seeking benzodiazepines or low-dose prescription opioids. The populations affected by these separate means of distribution were also distinct, with the former affecting persons largely linked with low-threshold drug service programs (i.e., syringe access programs, community naloxone distribution, and treatment-on-demand) and the latter affecting persons largely not connected with such services. The prevalence of black tar heroin in CCSF, which is more difficult than white powder heroin to adulterate with other powders, may provide some protection from fentanyl-laced heroin as seen in other parts of North America. Included in efforts to respond to counterfeit pills was reaching out to schools and universities, as well as to organizations such as DanceSafe, which provides harm-reduction services at parties.

ALCOHOL

- Indicators for alcohol in CCSF suggest relatively stable use.

Alcohol use remains a major issue in CCSF and is the second leading cause of SUD treatment admissions. Alcohol was the primary drug for 22.4% of SUD treatment admissions in CCSF in 2015, which is a stable figure compared with prior years. Nearly three quarters of SUD treatment admissions for alcohol were male, a plurality were White, and most were older than 45 years of age; the most common secondary substances were cocaine/crack and methamphetamine. Alcohol remained the most common substance resulting in hospital admissions at SFGH, with some evidence of increasing admissions in recent years but a fairly stable rate of alcohol-related deaths (see Exhibit 9).

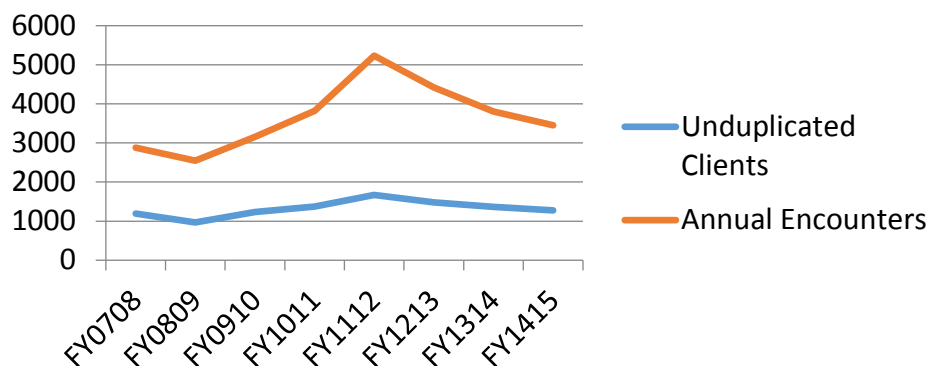
Exhibit 9. Alcohol-Related Hospitalizations and Deaths in San Francisco



Source: Lifetime Clinical Record, San Francisco Department of Public Health, 2016; Office of the Chief Medical Examiner, San Francisco, 2016. Mortality data from 2015 may be incomplete because of unclosed cases.

CCSF also has the Sobering Center, a 24/7 nurse-managed program providing support to individuals who are actively intoxicated on alcohol. A team including registered nurses, medical assistants, health workers, and respite workers serve clients through a pre-hospital diversion unit accepting clients 18+ years of age from both ambulance and police services. The Sobering Center has had a high, and a fairly consistent, number of clients in recent years.

Exhibit 10. CCSF Sobering Center Care by Fiscal Year (FY)



Source: Smith-Bernadin S, Kennel-Williams M. San Francisco Sobering Center Annual Report 2015. San Francisco Department of Public Health, San Francisco, CA, 2016.

Local Research Highlights

CCSF has a robust cadre of researchers focusing on substance use. The following includes a selection of relevant research conducted or published since early 2015.

SFDPH completed a pilot study of low-threshold, extended-release naltrexone (XR-NTX) for persons who heavily use emergency medical services and have alcohol use disorder. XR-NTX was delivered as a stand-alone intervention, and although the sample size was small, findings were consistent with prior studies in suggesting that a significant minority of patients receiving therapy experienced benefit, including a reduced urge to drink and reduced utilization of emergency medical services.

Results from an analysis of a naloxone co-prescribing initiative at safety net primary care clinics in CCSF have begun to be released. Investigators found that co-prescribing naloxone to patients treated with opioids long term for chronic pain was widely acceptable to patients, providers, and pharmacists and may result in ancillary benefits to the practice regarding opioid prescribing and opioid safety behaviors.

In-depth evaluation of lay naloxone data has provided insights into service provision in CCSF. First, data on clients returning for refills and reporting reversals demonstrate a strong correlation between being an active heroin or methamphetamine user and using naloxone to reverse an overdose (see Exhibit 11).¹ These results emphasize the importance of getting naloxone to substance users, who are the most likely to be present when an overdose occurs.

Exhibit 11. Multiple Logistic Regression Models Predicting Naloxone Refills and Reversals Among DOPE Project Participants Registered 2010–2013 (*N* = 1,972; Adapted from Rowe et al., 2015¹)

	Reversal [†]		
	AOR**	95% CI	<i>p</i> Value
Intercept	0.03*	(0.01, 0.05)	<0.001
Age	1.00	(0.99, 1.02)	0.620
Gender			
Male	—	—	—
Female	0.96	(0.70, 1.33)	0.825
Transgender/other	1.27	(0.42, 3.84)	0.666
Race			
European background/White	—	—	—
African American	0.62	(0.37, 1.03)	0.063
Latino	0.58	(0.31, 1.09)	0.091
Mixed/other race	1.13	(0.70, 1.82)	0.614
Homeless	0.95	(0.69, 1.30)	0.734
Prior overdose	1.14	(0.83, 1.57)	0.411
Witnessed overdose	2.73*	(1.73, 4.30)	<0.001
Use heroin	2.19*	(1.54, 3.13)	<0.001
Use methadone	0.99	(0.71, 1.37)	0.934
Use benzodiazepines	1.35	(0.94, 1.94)	0.108
Use other opioids	1.25	(0.89, 1.75)	0.203
Use cocaine/crack	1.04	(0.74, 1.46)	0.833
Use alcohol	0.72*	(0.52, 1.00)	0.049
Use methamphetamine	1.61*	(1.18, 2.19)	0.003
Use other drugs	0.97	(0.66, 1.43)	0.875

[†]All considered refills and reversals occurred between January 1, 2010 and December 31, 2013; **p* ≤ 0.05; **AOR=adjusted odds ratio

Second, as shown in Exhibits 12 and 13, most naloxone reversals occur close to naloxone distribution sites, whereas an increasing number of opioid overdose deaths in CCSF occur in regions of the city that lack naloxone services.²

Exhibit 12. Naloxone Reversals by Lay Persons Reporting to the Naloxone Distribution Program in CCSF from 2010 to 2012 (Adapted from Rowe et al., 2016²)

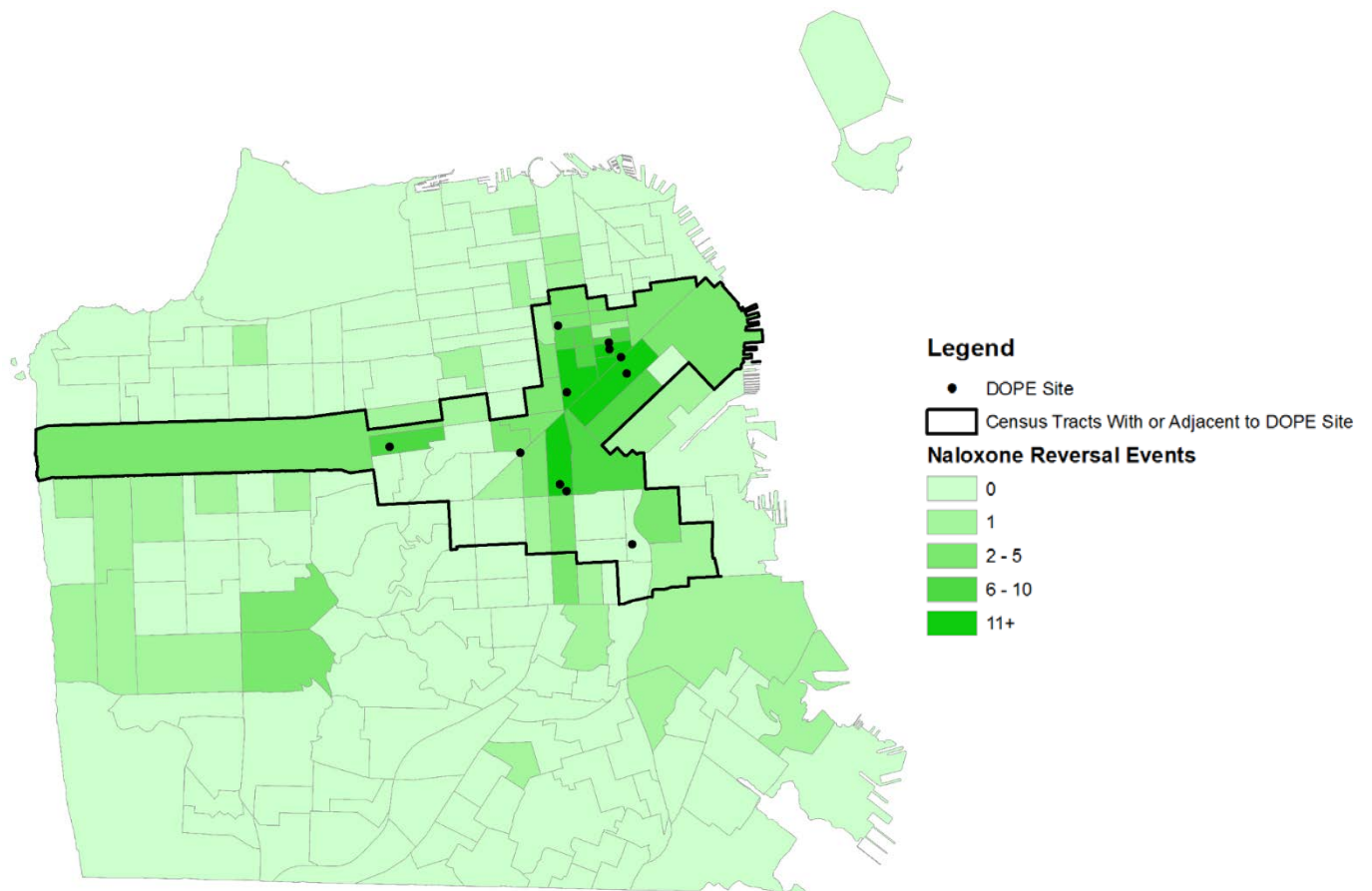
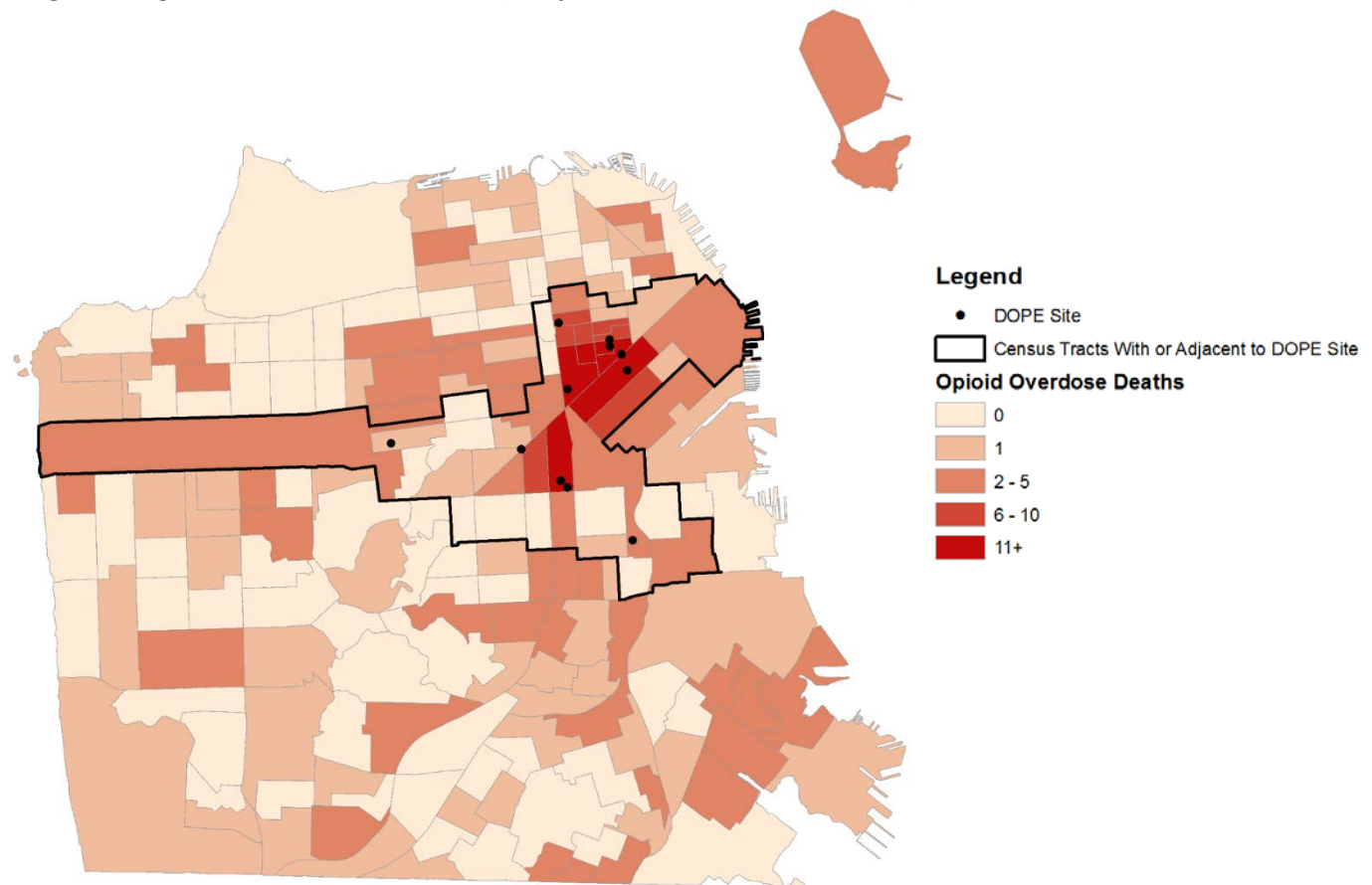


Exhibit 13. Opioid Overdose Deaths and Proximity to Census Tracts With Naloxone Distribution Programming in CCSF from 2010 to 2012 (Adapted from Rowe et al., 2016²)



Local investigators have also conducted epidemiologic investigations regarding opioid use in CCSF. A study of 483 PWIDs in CCSF found that those born before 1980 were more likely to initiate opioid use through prescription opioids than through heroin,³ which is consistent with findings from other U.S. sites.⁴ A study of 921 patients prescribed opioids for chronic pain found that 9% of urine samples were positive for promethazine, whereas only 50% of those individuals had prescriptions for promethazine. The same study also found that using methadone or having urine positivity for benzodiazepine without a prescription were both associated with promethazine-positive urine samples. As promethazine can potentiate and increase the risk of morbidity and mortality related to opioids, these results raise concerns.⁵

Preventing the initiation of injection is a public health goal in managing substance use. In a cohort of 602 PWIDs in CCSF and Los Angeles, investigators examined predictors of PWID-initiating people who use noninjection drugs in the process of injecting drugs. Having injected in front of noninjectors and having described injection to noninjectors were both independently associated with having initiated a person who used noninjection drugs into the practice of injecting drugs.⁶

Trauma is highly prevalent among persons who use drugs. In a cohort of 322 women who use methamphetamine in CCSF, investigators found an independent association between level of dependence on methamphetamine, history of rape as an adult, and elevated levels of trauma symptomology.⁷

Preliminary results from the NIH-funded pre-exposure prophylaxis (PrEP) demonstration project in CCSF; Miami, FL; and Washington, DC did not find an association between alcohol or stimulant use and poor adherence to PrEP.⁸ Although sample size and follow-up were limited, these results are notable given the established links between substance use, in particular binge alcohol and stimulant use, and HIV risk. The results suggest that substance use may not adversely affect PrEP adherence, which has implications for efforts aiming to expand PrEP availability and uptake.

Infectious Diseases Related to Substance Use

Annual HIV diagnoses have been declining steadily for more than ten years. As of December 31, 2015, there were 235 new diagnoses in 2015; nevertheless, this may be an underestimate because of delays in case reporting. The end-of-year numbers for 2013 and 2014 ultimately increased by 33 and 39, respectively, when incorporating cases that were reported after the end of each calendar year. If a similar increase is assumed for 2015, it is probable that the number of new HIV diagnoses in 2015 will continue the declining trend in San Francisco, from 312 diagnoses in 2014. In 2015, males accounted for the majority of new HIV diagnoses (88.1%). With regard to race/ethnicity, White individuals accounted for the largest proportion (40.0%), followed by Latinos (26.4%) and African Americans (17.0%). With regard to transmission category, gay or bisexual males accounted for 71.5% of diagnoses, whereas gay or bisexual PWIDs and other PWIDs accounted for 8.9% and 7.2%, respectively. Heterosexual transmission made up only 5.5% of new HIV diagnoses in CCSF in 2015.

Data on the number of hepatitis B virus (HBV) and hepatitis C virus (HCV) acute and chronic infections in San Francisco are not available for 2015. The most recent data available that are specific to chronic infections are from 2010 when there were 3,630 reported cases of chronic HBV (rate of 452.8 cases per 100,000) and 3,101 reported cases of chronic HCV (rate of 386.6 cases per 100,000). These numbers represent the incidence of newly reported cases in 2010, not incidence of infection. Although data on the number of chronic infections attributable to injection drug use are unavailable, 56% ($n = 50$) of a random sample of 90 persons with past or present HCV in 2010 reported injecting drugs in their lifetime. The most recent data available that are specific to acute infections are from 2012 when there were 3 new reported cases of acute HBV (rate = 0.4 per 100,000) and 1 new reported case of acute HCV (rate = 0.1 per 100,000). Data on the number of acute infections attributable to injection drug use are unavailable. In 2013, there were 1,282 reported cases of past or present HCV (rate of 153.1 cases per 100,000). Sixty-nine percent of these cases were male, and 47% were 55 years of age or older.

The U-Find-Out (UFO) study of PWIDs younger than 30 years of age estimates HCV incidence in this population to be 25.1/100 person-years; this rate did not significantly decline from 2000 to 2013.⁹

Data Sources

Data for this report were drawn from the following sources:

Treatment admissions data for San Francisco County were provided by the Community Behavioral Health Services Division of the San Francisco Department of Public Health (SFDPH) for calendar years 2011–2015. Treatment episodes include clients admitted in prior years who are still receiving services in a particular year (e.g., methadone maintenance clients).

Nonfatal overdose episode data and naloxone reversals were provided by Eliza Wheeler of the San Francisco Drug Overdose Prevention Education (DOPE) Project, a program of the Harm Reduction Coalition, 2015; with analyses conducted in Rowe C, Santos GM, Vittinghoff E, Wheeler E, Davidson P, Coffin PO. Predictors of participant engagement and naloxone utilization in a community-based naloxone distribution program. *Addiction*. 2015;110(8):1301-1310. DOI:10.1111/add.12961. PMID: 25917125.

Drug seizure data were provided by the National Forensic Laboratory Information System (NFLIS), Drug Enforcement Administration (DEA). Data were retrieved on Identified Drugs of Total Analyzed Drug Reports, San Francisco, 2014 and 2015, NFLIS, DEA. NFLIS methodology allows for the accounting of up to three drugs per item submitted for analysis. The data presented are a combined count including primary, secondary, and tertiary reports for each drug. The San Francisco catchment area used for the 2014 and 2015 NFLIS data includes only San Francisco County, whereas previous years included data for the five-county metropolitan statistical area.

Acquired immunodeficiency syndrome (AIDS) surveillance and human immunodeficiency virus (HIV) data were provided by the SFDPH, *HIV Epidemiology Section, Quarterly HIV/AIDS Surveillance Report, HIV/AIDS Cases Reported Through December 2014*, accessed at <http://www.sfdph.org/dph/files/reports/default.asp>.

Viral hepatitis data were provided by the SFDPH, Communicable Disease Control. *Chronic Hepatitis B and Hepatitis C Infection Surveillance Report 2010, San Francisco, February 2012*, accessed at <http://www.sfcdcp.org/document.html?id=749>.

Data for the top prescribed drugs were not yet available for this report at the time of writing because of recent changes in data sharing. The data will be provided by the California Department of Justice, Law Enforcement Support Program, Bureau of Criminal Identification and Investigative Services, from the Controlled Substance Utilization Review and Evaluation System (CURES), California Prescription Drug Monitoring Program (<http://oag.ca.gov/cures-pdmp>).

Drug use and health indicators among persons who inject drugs (PWIDs) and men who have sex with men (MSM) were provided by Henry Fisher Raymond of the San Francisco Department of Public Health from the Centers for Disease Control and Prevention-funded National HIV Behavioral Surveillance (NHBS).

Drug mortality data were taken from the National Vital Statistics System-Mortality data, with additional information provided by the California Electronic Death Record System; analyses conducted in Rowe C, Santos GM, Vittinghoff E, Wheeler E, Davidson P, Coffin PO. Neighborhood-level and spatial characteristics associated with lay naloxone reversal events and opioid overdose deaths. *J Urban Health*. 2016;93(1):117-130.

Other Sources:

1. Rowe C, Santos GM, Vittinghoff E, Wheeler E, Davidson P, Coffin PO. Predictors of participant engagement and naloxone utilization in a community-based naloxone distribution program. *Addiction*. 2015;110(8):1301-1310.
2. Rowe C, Santos GM, Vittinghoff E, Wheeler E, Davidson P, Coffin PO. Neighborhood-level and spatial characteristics associated with lay naloxone reversal events and opioid overdose deaths. *J Urban Health*. 2016;93(1):117-130.
3. Novak SP, Bluthenthal R, Wenger L, Chu D, Kral AH. Initiation of heroin and prescription opioid pain relievers by birth cohort. *Am J Public Health*. 2016;106(2):298-300.
4. Peavy KM, Banta-Green CJ, Kingston S, Hanrahan M, Merrill JO, Coffin PO. "Hooked on" prescription-type opiates prior to using heroin: Results from a survey of syringe exchange clients. *J Psychoactive Drugs*. 2012;44(3):259-265.
5. Lynch KL, Shapiro BJ, Coffa D, Novak SP, Kral AH. Promethazine use among chronic pain patients. *Drug Alcohol Depend*. 2015;150:92-97.
6. Bluthenthal RN, Wenger L, Chu D, et al. Factors associated with being asked to initiate someone into injection drug use. *Drug Alcohol Depend*. 2015;149:252-258.
7. Lutnick A, Harris J, Lorvick J, et al. Examining the associations between sex trade involvement, rape, and symptomatology of sexual abuse trauma. *J Interpers Violence*. 2015;30(11):1847-1863.
8. Liu AY, Cohen SE, Vittinghoff E, et al. Preexposure prophylaxis for HIV infection integrated with municipal- and community-based sexual health services. *JAMA Intern Med*. 2016;176(1):75-84.
9. Tsui JI, Evans JL, Lum PJ, Hahn JA, Page K. Association of opioid agonist therapy with lower incidence of hepatitis C virus infection in young adult injection drug users. *JAMA Intern Med*. 2014;174(12):1974-1981.

For additional information about the drugs and drug use patterns discussed in this report, please contact Phillip Coffin, M.D., M.I.A., San Francisco Department of Public Health, 25 Van Ness Ave, Suite 500, San Francisco, CA 94102, Phone: 415-437-6282, E-mail: phillip.coffin@sfdph.org.

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
San Francisco County, California
2010–2014 ACS 5-Year Estimates

	Estimate	Margin of Error
Total Population (#)	829,072	**
Age		
18 years and over (%)	86.6%	**
21 years and over (%)	83.7%	+/-0.1
65 years and over (%)	14.0%	+/-0.1
Median Age	38.6	
Race (%)		
White, Not Hisp.	41.4%	+/-0.1
Black/African American, Not Hisp.	5.5%	+/-0.1
Hispanic/Latino (of any race)	15.3%	**
American Indian/Alaska Native	0.2%	+/-0.1
Asian	33.3%	+/-0.2
Native Hawaiian/Pacific Islander	0.4%	+/-0.1
Some Other Race	0.5%	+/-0.1
Two or More Races	3.4%	+/-0.2
Sex (%)		
Male	50.8%	+/-0.1
Female	49.2%	+/-0.1
Educational Attainment (Among Population Aged 25+ Years) (%)		
High School Graduate or Higher	86.7%	+/-0.3
Bachelor's Degree or Higher	52.9%	+/-0.5
Unemployment (Among Civilian Labor Force Population Aged 16+ Years) (%)		
Percent Unemployed	7.6%	+/-0.3
Income (\$)		
Median Household Income (in 2014 inflation-adjusted dollars)	\$78,378	+/-1,490
Health Insurance Coverage (Among Civilian Noninstitutionalized Population) (%)		
No Health Insurance Coverage	10.0%	+/-0.3
Poverty (%)		
All People Whose Income in Past Year Is Below Poverty Level	13.3%	+/-0.4

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 San Francisco[^], 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: San Francisco	
	Estimated % (95% CI)*	Estimated #*
Used in Past Month		
Alcohol	60.64 (54.13 66.79)	452,449
Binge Alcohol**	26.07 (22.19 30.36)	194,517
Marijuana	15.46 (11.52 20.44)	115,364
Use of Illicit Drug Other Than Marijuana	5.40 (3.71 7.80)	40,268
Used in Past Year		
Cocaine	3.66 (2.33 5.69)	27,298
Nonmedical Use of Pain Relievers	4.76 (3.63 6.20)	35,496
Substance Use Disorders in Past Year***		
Illicit Drugs or Alcohol	10.53 (8.60 12.84)	78,602
Alcohol	8.83 (7.05 11.01)	65,899
Illicit Drugs	2.95 (2.14 4.06)	22,046

NOTES:

[^]**San Francisco:** NSDUH Substate Region 5R which comprises San Francisco 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 (746,157) 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 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 2b: Self-Reported Substance Use Behaviors Among Persons in *San Francisco*[^], by Age Group, 2012–2014
 Estimated Percent and 95% Confidence Interval (CI)*, Annual Averages Based on Combined 2012 to 2014 NSDUH Data

Substance Use Behaviors	Substate Region: San Francisco		
	12–17	18–25	26+
	Estimated Percent (95% CI)*	Estimated Percent (95% CI)*	Estimated Percent (95% CI)*
Used in Past Month			
Binge Alcohol**	—	—	24.82 (20.69 – 29.47)
Marijuana	—	—	—
Use of Illicit Drug Other Than Marijuana	—	9.35 (6.47 – 13.33)	4.98 (3.22 – 7.64)
Used in Past Year			
Cocaine	—	—	2.84 (1.58 – 5.04)
Nonmedical Use of Pain Relievers	—	9.49 (7.17 – 12.46)	4.15 (2.99 – 5.74)
Substance Use Disorder in Past Year***			
Illicit Drugs or Alcohol	—	22.50 (17.90 – 27.88)	9.34 (7.34 – 11.81)
Alcohol	—	18.28 (13.97 – 23.56)	7.97 (6.14 – 10.27)
Illicit Drugs	—	9.50 (6.94 – 12.88)	2.12 (1.36 – 3.29)

NOTES:

[^]**San Francisco:** NSDUH Substate Region 5R which comprises San Francisco 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-Related Behaviors Among *San Francisco* ^ 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	2013	<i>p</i> value	Male	Female	<i>p</i> value	White	Black	Hispanic	Asian
	Estimate (95% CI)	Estimate (95% CI)		Estimate (95% CI)	Estimate (95% CI)		Estimate (95% CI)	Estimate (95% CI)	Estimate (95% CI)	Estimate (95% CI)
Used in Past Month										
Alcohol	18.4 (15.5 - 21.8)	18.6 (16.3 - 21.1)	0.93	15.8 (12.6 - 19.6)	21.2 (17.8 - 25.1)	0.00	45.8 (35.6 - 56.2)	N/A	25.0 (19.9 - 30.9)	9.9 (7.7 - 12.8)
Binge Alcohol**	8.8 (7.2 - 10.8)	10.4 (8.8 - 12.3)	0.21	8.1 (6.2 - 10.5)	9.7 (7.6 - 12.3)	0.25	28.3 (19.4 - 39.3)	N/A	14.5 (10.3 - 20.1)	3.7 (2.3 - 5.8)
Marijuana	17.4 (13.9 - 21.5)	16.3 (13.6 - 19.3)	0.65	16.3 (12.6 - 20.8)	18.4 (14.4 - 23.3)	0.29	33.3 (22.5 - 46.2)	N/A	26.0 (21.1 - 31.5)	5.8 (3.5 - 9.4)
Ever Used in Lifetime										
Alcohol	43.5 (39.6 - 47.6)	46.0 (42.6 - 49.4)	0.36	40.7 (35.9 - 45.7)	46.3 (41.7 - 50.9)	0.04	66.8 (56.8 - 75.4)	N/A	56.1 (49.5 - 62.5)	31.9 (27.8 - 36.2)
Marijuana	28.7 (24.6 - 33.2)	28.2 (24.7 - 32.0)	0.87	26.9 (22.6 - 31.6)	30.7 (25.9 - 36.0)	0.07	51.8 (40.6 - 62.9)	N/A	46.8 (40.5 - 53.2)	10.6 (7.6 - 14.7)
Cocaine	5.3 (3.9 - 7.1)	6.5 (5.2 - 8.1)	0.24	5.1 (3.7 - 7.0)	4.8 (3.1 - 7.2)	0.78	12.5 (7.7 - 19.6)	7.2 (2.2 - 21.1)	8.8 (6.5 - 11.9)	1.9 (0.9 - 4.0)
Hallucinogenic Drugs	—	—	~	—	—	~	—	—	—	—
Synthetic Marijuana	—	—	~	—	—	~	—	—	—	—
Inhalants	5.1 (3.9 - 6.7)	5.9 (4.8 - 7.2)	0.40	4.7 (3.6 - 6.1)	5.1 (3.2 - 8.0)	0.73	9.0 (4.2 - 18.3)	5.5 (2.1 - 13.5)	8.7 (6.7 - 11.1)	2.7 (1.5 - 4.6)
Ecstasy also called "MDMA"	5.1 (3.9 - 6.7)	8.5 (6.7 - 10.6)	0.01	5.9 (4.2 - 8.1)	3.9 (2.6 - 5.8)	0.08	11.9 (7.3 - 19.0)	N/A	7.2 (5.1 - 10.0)	1.9 (1.1 - 3.3)
Heroin	2.4 (1.5 - 3.9)	3.0 (2.2 - 4.1)	0.40	2.1 (1.3 - 3.4)	1.9 (0.8 - 4.4)	0.74	5.4 (2.1 - 13.3)	4.5 (1.6 - 12.0)	3.9 (2.2 - 7.0)	0.8 (0.2 - 2.7)
Methamphetamine	3.8 (2.8 - 5.2)	4.0 (3.0 - 5.3)	0.80	4.4 (3.3 - 5.9)	2.5 (1.5 - 4.1)	0.01	7.1 (3.3 - 14.6)	3.0 (1.1 - 7.9)	6.9 (5.1 - 9.3)	1.8 (0.8 - 3.9)
Rx Drugs without a Doctor's Prescription	12.7 (10.3 - 15.6)	11.1 (9.3 - 13.3)	0.34	13.2 (10.4 - 16.7)	11.6 (9.2 - 14.5)	0.23	26.4 (19.2 - 35.2)	N/A	14.3 (10.6 - 19.0)	7.2 (5.1 - 10.2)
Injected Any Illegal Drug	—	—	~	—	—	~	—	—	—	—

NOTES:

^ **San Francisco:** Weighted data were available for San Francisco 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; **N/A:** <100 respondents for the subgroup.

* **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 1,953 with an overall response rate of 75%; the 2015 sample size was 2,181 with an 82% 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, *San Francisco* 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 (#)	10,242	100%	11,434	100%	11,252	100%	10,806	100%	10,191	100%
Primary Substance of Abuse (%)										
Alcohol	2,395	23.4%	2,863	25.0%	2,669	23.7%	2,385	22.1%	2,284	22.4%
Cocaine/Crack	1,473	14.4%	1,784	15.6%	1,701	15.1%	1,214	11.2%	922	9.0%
Heroin	3,239	31.6%	3,431	30.0%	3,524	31.3%	4,122	38.1%	4,125	40.5%
Prescription Opioids	347	3.4%	455	4.0%	430	3.8%	503	4.7%	500	4.9%
Methamphetamine	1,002	9.8%	1,495	13.1%	1,623	14.4%	1,545	14.3%	1,465	14.4%
Marijuana	506	4.9%	631	5.5%	731	6.5%	624	5.8%	584	5.7%
Benzodiazepines	16	0.2%	15	0.1%	17	0.2%	16	0.1%	12	0.1%
MDMA	29	0.3%	26	0.2%	21	0.2%	18	0.2%	12	0.1%
Synthetic Stimulants	6	0.1%	11	0.1%	20	0.2%	7	0.1%	12	0.1%
Synthetic Cannabinoids	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Other Drugs/Unknown	1,229	12.0%	723	6.3%	516	4.6%	372	3.4%	275	2.7%

NOTES:

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

unavail: Data not available.

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

Table 4b: Demographic and Drug Use Characteristics of Primary Treatment Admissions* for Select Substances of Abuse, San Francisco 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		Synthetic Stimulants	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Number of Admissions (#)	2,284	100%	922	100%	4,125	100%	500	100%	1,465	100%	584	100%	12	100%	12	100%
Sex (%)																
Male	1,674	73.3%	629	68.2%	2,743	66.5%	318	63.6%	1,118	76.3%	378	64.7%	8	66.7%	10	83.3%
Female	604	26.4%	293	31.8%	1,381	33.5%	181	36.2%	343	23.4%	206	35.3%	4	33.3%	2	16.7%
Race/Ethnicity (%)																
White, Non-Hisp.	924	40.5%	98	10.6%	1,987	48.2%	291	58.2%	595	40.6%	65	11.1%	7	58.3%	6	50.0%
African-Am/Black, Non-Hisp	552	24.2%	677	73.4%	1,244	30.2%	51	10.2%	345	23.5%	226	38.7%	1	8.3%	5	41.7%
Hispanic/Latino	547	23.9%	103	11.2%	515	12.5%	78	15.6%	341	23.3%	214	36.6%	3	25.0%	0	0.0%
Asian	64	2.8%	23	2.5%	54	1.3%	14	2.8%	74	5.1%	17	2.9%	1	8.3%	0	0.0%
Other	197	8.6%	21	2.3%	325	7.9%	66	13.2%	110	7.5%	62	10.6%	0	0.0%	1	8.3%
Age Group (%)																
Under 18	32	1.4%	1	0.1%	1	<0.1%	2	0.4%	0	0.0%	282	48.3%	0	0.0%	0	0.0%
18-25	85	3.7%	21	2.3%	212	5.1%	27	5.4%	116	7.9%	125	21.4%	1	8.3%	3	25.0%
26-44	881	38.6%	241	26.1%	1,607	39.0%	291	58.2%	906	61.8%	115	19.7%	7	58.3%	5	41.7%
45+	1,286	56.3%	659	71.5%	2,305	55.9%	180	36.0%	443	30.2%	62	10.6%	4	33.3%	4	33.3%
Route of Administration (%)																
Smoked	0	0.0%	833	90.3%	133	3.2%	20	4.0%	897	61.2%	568	97.3%	0	0.0%	5	41.7%
Inhaled	0	0.0%	62	6.7%	649	15.7%	40	8.0%	91	6.2%	2	0.3%	0	0.0%	1	8.3%
Injected	0	0.0%	6	0.7%	3,243	78.6%	60	12.0%	450	30.7%	1	0.2%	1	8.3%	1	8.3%
Oral/Other/Unknown	2,284	100.0%	21	2.3%	100	2.4%	380	76.0%	27	1.8%	13	2.2%	11	91.7%	5	41.7%
Secondary Substance (%)																
None	1,463	64.1%	420	45.6%	1,414	34.3%	207	41.4%	735	50.2%	292	50.0%	6	50.0%	4	33.3%
Alcohol	0	0.0%	252	27.3%	222	5.4%	31	6.2%	241	16.5%	160	27.4%	3	25.0%	2	16.7%
Benzodiazepines	1	<0.1%	2	0.2%	56	1.4%	17	3.4%	1	0.1%	10	1.7%	0	0.0%	0	0.0%
Cocaine/Crack	331	14.5%	0	0.0%	1,248	30.3%	42	8.4%	94	6.4%	34	5.8%	1	8.3%	0	0.0%
Heroin	47	2.1%	75	8.1%	0	0.0%	58	11.6%	114	7.8%	9	1.5%	0	0.0%	4	33.3%
Prescription Opioids	9	0.4%	8	0.9%	227	5.5%	52	10.4%	20	1.4%	12	2.1%	1	8.3%	0	0.0%
Methamphetamine	235	10.3%	62	6.7%	682	16.5%	48	9.6%	0	0.0%	48	8.2%	0	0.0%	0	0.0%
Marijuana	183	8.0%	101	11.0%	244	5.9%	41	8.2%	219	14.9%	0	0.0%	1	8.3%	2	16.7%

NOTES:

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

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 San Francisco SCE by the San Francisco Department of Public Health, Community Behavioral Health Services Division.

Table 5: Drug Overdose (Poisoning) Deaths*, by Drug and Year, San Francisco^, 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	170	21.1	18.3	194	23.9	21.5	136	16.5	13.8	130	15.5	13.6	164	19.2	16.4
Opioids[†]	105	13.0	11.4	108	13.3	12.0	58	7.0	6.0	75	9.0	7.7	89	10.4	8.6
Heroin	SUP	SUP	SUP	10	UNR	UNR	SUP	SUP	SUP	11	UNR	UNR	22	2.6	2.1
Natural Opioid Analgesics	66	8.2	7.1	65	8.0	7.1	34	4.1	3.5	46	5.5	4.8	52	6.1	5.0
Methadone	41	5.1	4.6	49	6.0	5.3	22	2.7	2.3	20	2.4	2.1	22	2.6	2.2
Synthetic Opioid Analgesics	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP
Benzodiazepines	33	4.1	3.6	44	5.4	4.9	16	UNR	UNR	33	3.9	3.6	27	3.2	2.6
Benzodiazepines AND Any Opioids	29	3.6	3.1	31	3.8	3.4	12	UNR	UNR	28	3.3	3.0	18	UNR	UNR
Benzodiazepines AND Heroin	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP
Psychostimulants															
Cocaine	58	7.2	6.1	64	7.9	7.0	39	4.7	4.0	40	4.8	4.1	53	6.2	5.3
Psychostimulants with Abuse Potential	22	2.7	2.6	33	4.1	3.5	19	UNR	UNR	30	3.6	3.1	41	4.8	4.2
Cannabis (derivatives)	10	UNR	UNR	10	UNR	UNR	SUP	SUP	SUP	16	UNR	UNR	11	UNR	UNR
Percent with Drugs Specified[†]	97.6%			95.9%			72.8%			97.7%			98.8%		

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.

^San Francisco: Comprised of San Francisco 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 *San Francisco*[^] 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*	286	100.0%
CANNABIS	42	14.7%
HEROIN	33	11.5%
METHAMPHETAMINE	32	11.2%
COCAINE	18	6.3%
MORPHINE	15	5.2%
ETIZOLAM	13	4.5%
LACTOSE	11	3.8%
OXYCODONE	10	3.5%
OXYMORPHONE	10	3.5%
ALPRAZOLAM	6	2.1%
CODEINE	6	2.1%
3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA)	5	1.7%
CLONAZEPAM	4	1.4%
HYDROCODONE	4	1.4%
HYDROMORPHONE	4	1.4%
PHENYLIMIDOTHIAZOLE ISOMER UNDETERMINED	4	1.4%
DIACETAMIDE	3	1.0%
GAMMA HYDROXY BUTYL LACTONE	3	1.0%
LIDOCAINE	3	1.0%
PHENACETIN	3	1.0%
PREGABALIN	3	1.0%
TAPENTADOL	3	1.0%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	2	0.7%
6-MONOACETYLMORPHINE	2	0.7%
ALPHA-PYRROLIDINOPENTIOFENONE (ALPHA-PVP)	2	0.7%
AMPHETAMINE	2	0.7%
DIMETHYLSULFONE	2	0.7%
TESTOSTERONE	2	0.7%
TRAMADOL	2	0.7%
5-APDB (5-(2-AMINOPROPYL)-2,3-DIHYDROBENZOFURAN)	1	0.3%
AB-FUBINACA	1	0.3%
BOLDENONE	1	0.3%
BUPRENORPHINE	1	0.3%
CYCLOBENZAPRINE	1	0.3%
DEXTROMETHORPHAN	1	0.3%
DICLOFENAC	1	0.3%
DICYCLOMINE	1	0.3%
DIPHENHYDRAMINE	1	0.3%
EMTRICITABINE	1	0.3%
ESTRADIOL	1	0.3%
ESZOPICLONE	1	0.3%
FAMOTIDINE	1	0.3%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
FENTANYL	1	0.3%
FEXOFENADINE	1	0.3%
FLUOROMETHCATHINONE	1	0.3%
GABAPENTIN	1	0.3%
GAMMA HYDROXY BUTYRATE	1	0.3%
HYDROCHLOROTHIAZIDE	1	0.3%
KETAMINE	1	0.3%
LOPERAMIDE	1	0.3%
LYSERGIC ACID DIETHYLAMIDE (LYSERGIDE)	1	0.3%
MDPBP (3',4'-METHYLENEDIOXY-ALPHA-PYRROLIDINOBTIOPHENONE)	1	0.3%
MEPERIDINE	1	0.3%
METFORMIN	1	0.3%
METHADONE	1	0.3%
METHYLPHENIDATE	1	0.3%
MODAFINIL	1	0.3%
NABUMETONE	1	0.3%
NALOXONE	1	0.3%
N-METHYL-3,4-METHYLENEDIOXYCATHINONE (METHYLONE)	1	0.3%
PHENYLEPHEDRINE	1	0.3%
RANITIDINE	1	0.3%
SILDENAFIL CITRATE (VIAGRA)	1	0.3%
TENAFOVIR DISOPROXIL	1	0.3%
TRAZODONE	1	0.3%
XLR11 N-(2-FLUOROPENTYL) ISOMER	1	0.3%

NOTES:

^**San Francisco:** Note catchment area is San Francisco County not the 5 county MSA.

Additional Note About Reporting Labs: The San Francisco Police Department (SFPD) laboratory has been closed since 2010; however, beginning in January 2012, the Alameda Sheriff Department laboratory began report their SFPD cases to NFLIS. All available data from the SFPD were included in the counts above.

***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 *San Francisco*[^] 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*	286	100.0%	100.0%
Opioids Category	91	100.0%	31.8%
Heroin	33	36.3%	11.5%
Narcotic Analgesics	55	60.4%	19.2%
MORPHINE	15	16.5%	5.2%
OXYCODONE	10	11.0%	3.5%
OXYMORPHONE	10	11.0%	3.5%
CODEINE	6	6.6%	2.1%
HYDROCODONE	4	4.4%	1.4%
HYDROMORPHONE	4	4.4%	1.4%
TRAMADOL	2	2.2%	0.7%
BUPRENORPHINE	1	1.1%	0.3%
FENTANYL	1	1.1%	0.3%
MEPERIDINE	1	1.1%	0.3%
METHADONE	1	1.1%	0.3%
Narcotics	3	3.3%	1.0%
6-MONOACETYLMORPHINE	2	2.2%	0.7%
NALOXONE	1	1.1%	0.3%
Synthetic Cathinones Category	7	100.0%	2.4%
Synthetic Cathinones	6	85.7%	2.1%
3,4-METHYLENEDIOXYETHYL CATHINONE (ETHYLONE)	2	28.6%	0.7%
ALPHA-PYRROLIDINOPENTIOPHENONE (ALPHA-PVP)	2	28.6%	0.7%
FLUOROMETHCATHINONE	1	14.3%	0.3%
MDPBP (3',4'-METHYLENEDIOXY-ALPHA-PYRROLIDINO BUTIOPHENONE)	1	14.3%	0.3%
Synthetic Cathinones (Hallucinogen)	1	14.3%	0.3%
N-METHYL-3,4-METHYLENEDIOXYCATHINONE (METHYLONE)	1	14.3%	0.3%
Synthetic Cannabinoids Category	2	100.0%	0.7%
AB-FUBINACA	1	50.0%	0.3%
XLR11 N-(2-FLUOROPENTYL) ISOMER	1	50.0%	0.3%

NOTES:

[^]**San Francisco:** Note catchment area is San Francisco County not the 5 county MSA.

Additional Note about Reporting Labs: The San Francisco Police Department (SFPD) laboratory has been closed since 2010; however, beginning in January 2012, the Alameda Sheriff Department laboratory began report their SFPD cases to NFLIS. All available data from the SFPD were included in the counts above.

***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: ^aAdapted 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, noninstitutionalized 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 methodology 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: ^aAdapted 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 are 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].

^bChapman 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].

^cCDC. Health risk behaviors among adolescents who do and do not attend school—United States, 1992. *MMWR* 1994;43:129–32.

^dEaton 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, Pickens, Pike, Rockdale, Spalding, and Walton counties.

Notes & Definitions:

Admissions: includes admissions to publicly-funded programs.

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

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

❖ **Chicago Metro**

Data Availability: 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:

^aNational 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>

^bNational 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:

¹Center 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>

²Goldberger, 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.

³World 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>

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

⁵Warner, 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 Fentanyl 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 Fentanyl 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: ^aAdapted 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