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

November 2017

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

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

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

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

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

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

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

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

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

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

The *SCS Snapshots* for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.
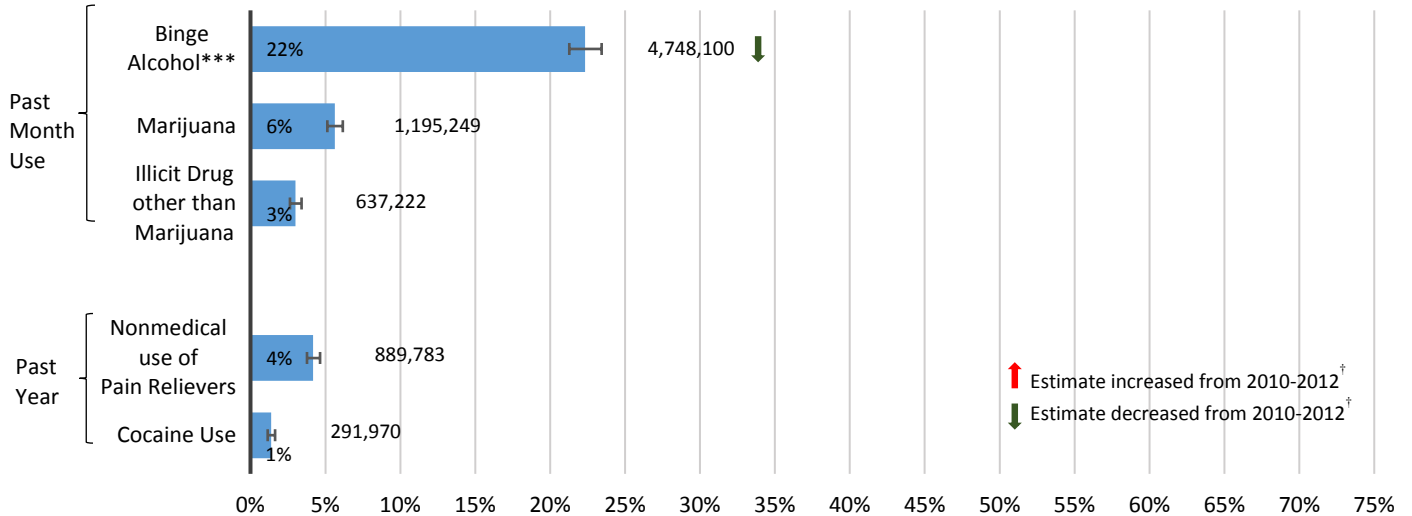
Texas SCS Snapshot, 2017

Substance Use

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

Persons 12+ Years Reporting Selected Substance Use, Texas, 2012-2014
Estimated Percent, 95% Confidence Interval, and Estimated Number of Persons**

*U.S. Population: U.S. civilian non-institutionalized population. **Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (21,255,571) from Table C1 of the NSDUH Report. ***Binge Alcohol: Defined as drinking five or more drinks on the same occasion. [†]Statistically significant change: p<0.05.
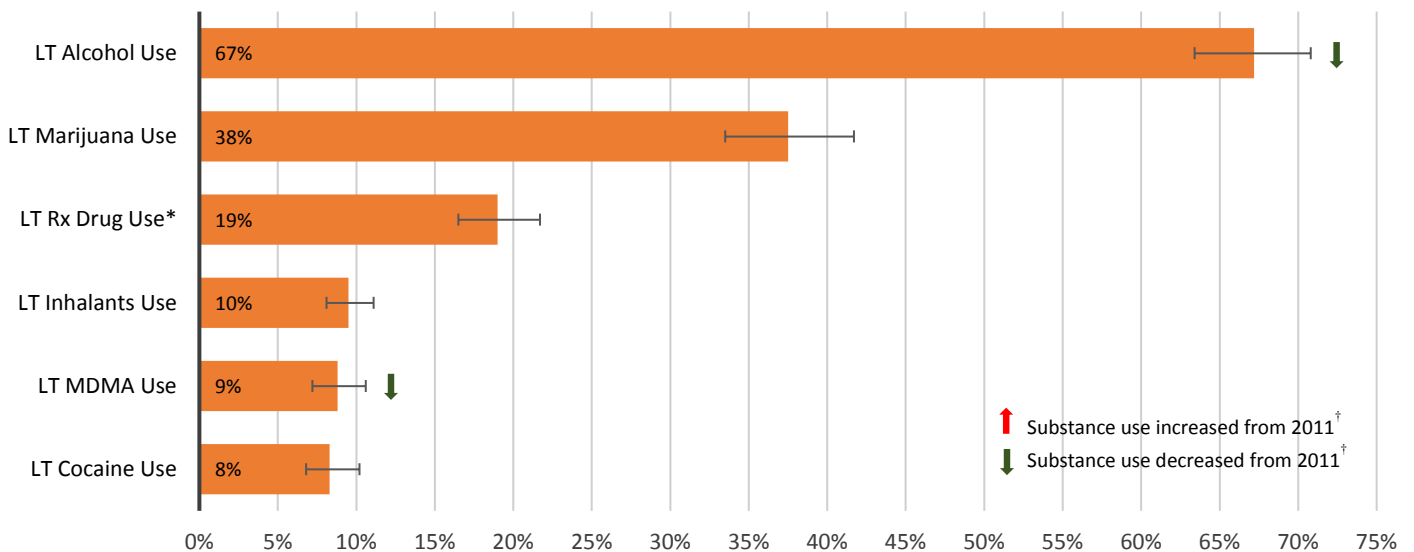**Source**: Adapted by the NDEWS Coordinating Center from data provided by SAMHSA, NSDUH. Annual averages based on combined 2012 to 2014 NSDUH data.

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

Public High School Students Reporting Lifetime (LT) Use of Selected Substances, Texas, 2013[1]
Estimated Percent and 95% Confidence Interval

[1]2013: 2015 YRBS data not available for Texas so 2013 YRBS data are presented.
*LT Rx Drug Use: Defined as ever took prescription drugs without a doctor's prescription.
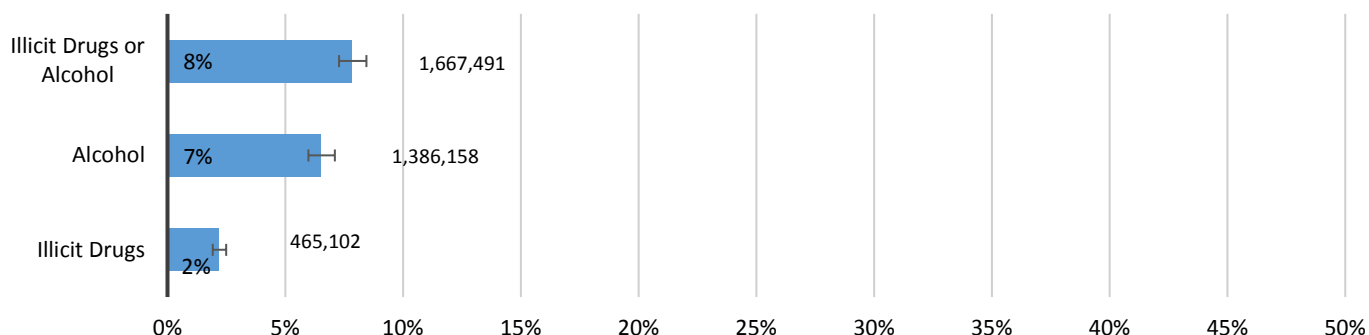[†]Statistically significant change: p<0.05 by t-test.
Source: Adapted by the NDEWS Coordinating Center from data provided by CDC, 2001-2013 high school YRBS data.

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, Texas, 2012-2014
Estimated Percent, 95% Confidence Interval, and Estimated Number of Persons***

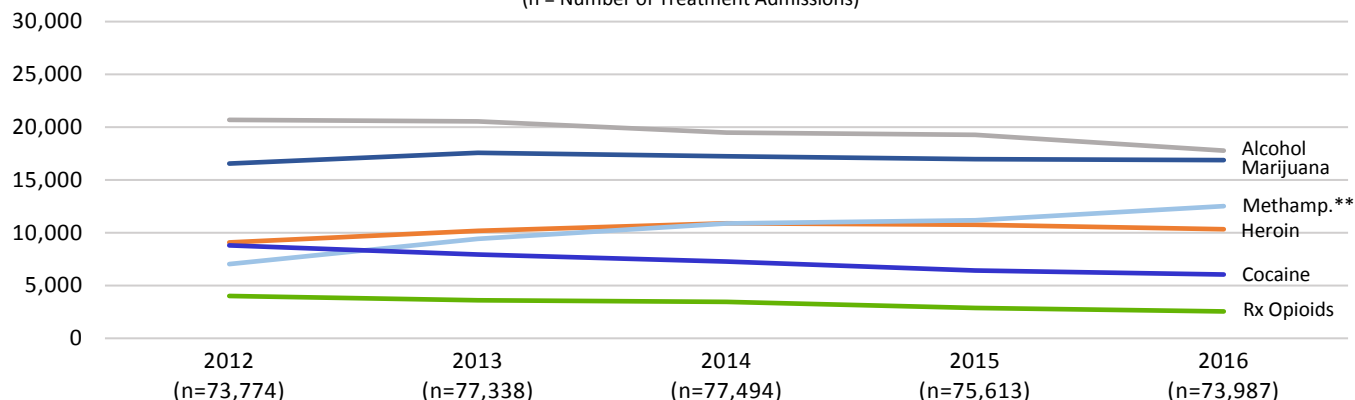|	
Illicit Drugs or Alcohol	8% — 1,667,491
Alcohol	7% — 1,386,158
Illicit Drugs	2% — 465,102

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

*U.S. Population: U.S. civilian non-institutionalized population. **Substance Use Disorders in Past Year: Persons are classified as having a substance use disorder in the past 12 months based on responses to questions that meet the criteria specified in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. ***Estimated Number: Calculated by multiplying the prevalence rate and the population estimate of persons 12+ years (21,255,571) 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.
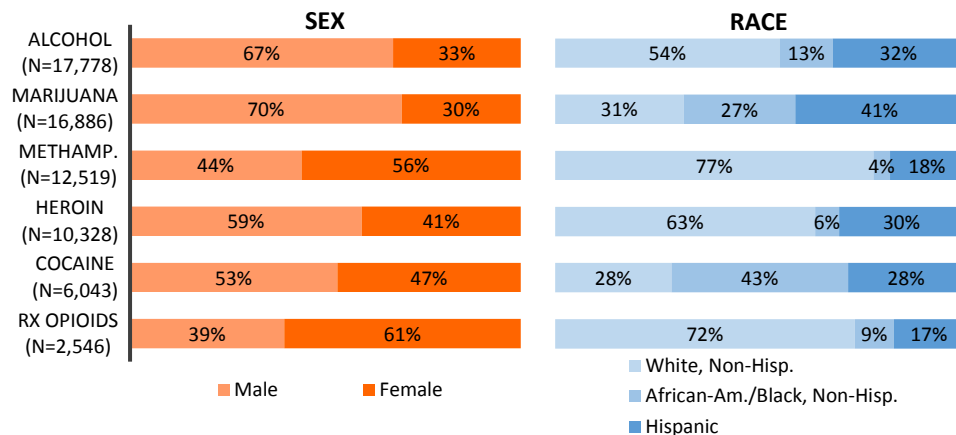
Treatment Admissions Data from Local Sources

Trends in Treatment Admissions*, by Primary Substance of Abuse, Texas, 2012-2016
(n = Number of Treatment Admissions)

Lines: Alcohol, Marijuana, Methamp.**, Heroin, Cocaine, Rx Opioids

Year	2012	2013	2014	2015	2016
	(n=73,774)	(n=77,338)	(n=77,494)	(n=75,613)	(n=73,987)

Demographic Characteristics of Treatment Admissions*, Texas, 2016

	SEX		RACE		
	Male	Female	White, Non-Hisp.	African-Am./Black, Non-Hisp.	Hispanic
ALCOHOL (N=17,778)	67%	33%	54%	13%	32%
MARIJUANA (N=16,886)	70%	30%	31%	27%	41%
METHAMP. (N=12,519)	44%	56%	77%	4%	18%
HEROIN (N=10,328)	59%	41%	63%	6%	30%
COCAINE (N=6,043)	53%	47%	28%	43%	28%
RX OPIOIDS (N=2,546)	39%	61%	72%	9%	17%

*Treatment Admissions: Includes all admissions reported to the Clinical Management for Behavioral Health Services (CMBHS) of the Department of State Health Services (DSHS). **Methamphetamine: Includes amphetamines and methamphetamine. 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.
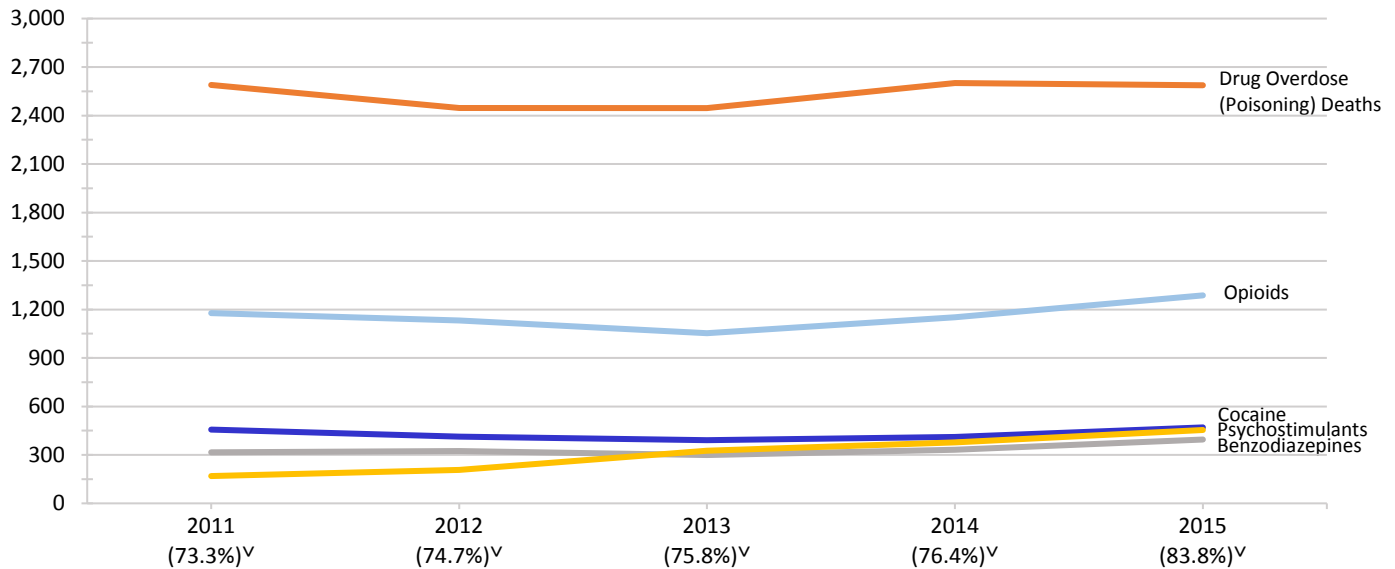**Source**: Data provided by the Texas NDEWS SCE and the Texas Department of State Health Services (DSHS).

Drug Overdose (Poisoning) Deaths

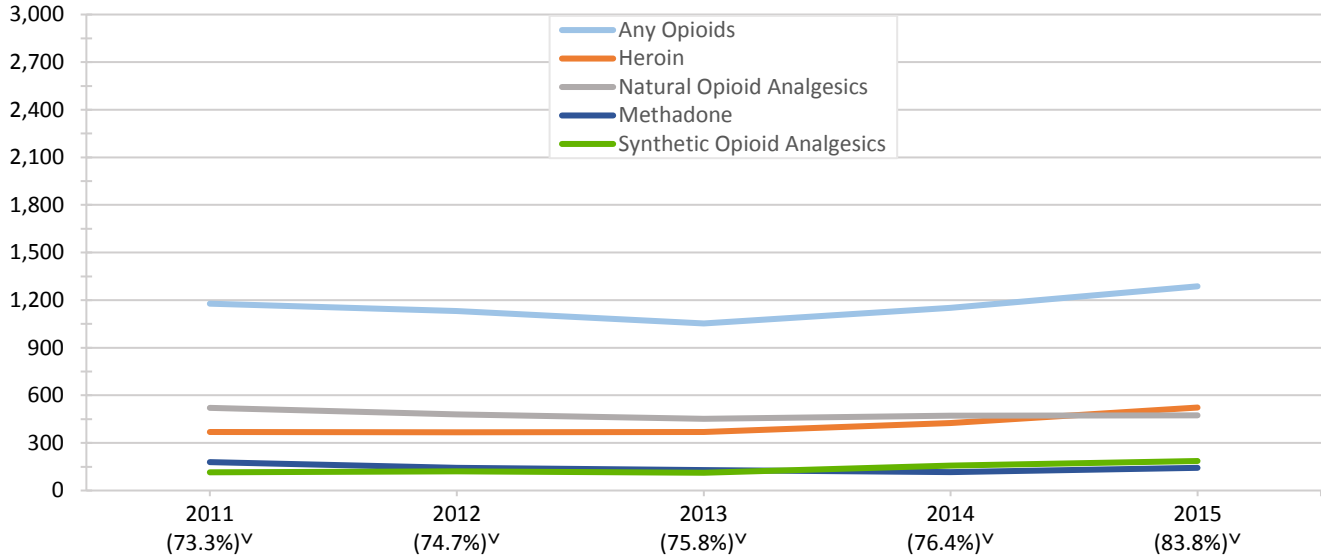## National Vital Statistics System (NVSS) via CDC WONDER

Trends in Drug Overdose (Poisoning) Deaths*, by Drug**, Texas, 2011–2015
(Number of Deaths and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified[v])

Drug Overdose (Poisoning) Deaths
Opioids
Cocaine
Psychostimulants
Benzodiazepines

	2011 (73.3%)[v]	2012 (74.7%)[v]	2013 (75.8%)[v]	2014 (76.4%)[v]	2015 (83.8%)[v]

Trends in Opioid Overdose (Poisoning) Deaths*, by Opioid, Texas, 2011–2015
(Number of Deaths, by Drug** and Percent of Drug Overdose (Poisoning) Deaths with Drug(s) Specified[v])

Any Opioids
Heroin
Natural Opioid Analgesics
Methadone
Synthetic Opioid Analgesics

	2011 (73.3%)[v]	2012 (74.7%)[v]	2013 (75.8%)[v]	2014 (76.4%)[v]	2015 (83.8%)[v]

*Drug Overdose (Poisoning) Deaths: Defined as deaths with ICD-10 underlying cause-of-death (UCOD) codes: X40-X44, X60-X64, X85, and Y10-Y14. **Drug Overdose (Poisoning) Deaths, by Drug: Drug overdose (poisoning) deaths with ICD-10 multiple cause-of-death (MCOD) T-codes: Benzodiazepines (T42.4); Cocaine (T40.5); Psychostimulants with Abuse Potential [excluding cocaine] (T43.6)—may include amphetamines, caffeine, MDMA, methamphetamine, and/or methylphenidate; Any Opioids (T40.0-T40.4, OR T40.6). Specific opioids are defined: Opium (T40.0); Heroin (T40.1); Natural Opioid Analgesics (T40.2)—may include morphine, codeine, and semi-synthetic opioid analgesics, such as oxycodone, hydrocodone, hydromorphone, and oxymorphone; Methadone (T40.3); Synthetic Opioid Analgesics [excluding methadone] (T40.4)—may include drugs such as tramadol and fentanyl; and Other and Unspecified Narcotics (T40.6). [v]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. See *Sentinel Community Site (SCS) Data Tables* and/or *Overview & Limitations* for additional information on mortality data.

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

Law Enforcement Drug Seizures

National Forensic Laboratory Information System (NFLIS)

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

Top 10 Drug Reports and Selected Drug Categories

Drug Identified	Number (#)	Percent of Total Drug Reports (%)
TOTAL Drug Reports	**124,023**	**100%**
Top 10 Drug Reports		
Methamphetamine	41,340	33.3%
Cannabis	25,500	20.6%
Cocaine	21,235	17.1%
Heroin	5,274	4.3%
Alprazolam	4,368	3.5%
No Controlled Drug Identified	3,277	2.6%
FUB-AMB	2,607	2.1%
5-Fluoro-ADB	1,890	1.5%
Hydrocodone	1,456	1.2%
Phencyclidine	1,124	0.9%
Top 10 Total	**108,071**	**87.1%**
New Psychoactive Substances (NPS) Drug Categories†		
Synthetic Cannabinoids	6,373	5.1%
Synthetic Cathinones	1,083	0.9%
Fentanyl and Other Fentanyls‡	174	0.1%
2C Phenethylamines	161	0.1%
Piperazines	102	<0.1%
Tryptamines	35	<0.1%
Any Opioid†	**9,298**	**7.5%**

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

Synthetic Cannabinoids
(n=6,373)

FUB-AMB (41%)
5-Fluoro-ADB (30%)
ADB-CHMINACA (6%)
5-Fluoro-AMB (5%)
AB-CHMINACA (4%)

Synthetic Cathinones
(n=1,083)

N-Ethylpentylone (54%)
Dibutylone (14%)
Ethylone (13%)
Pentylone (7%)
TH-PVP (4%)

Fentanyl and Other Fentanyls‡
(n=174)

Fentanyl (78%)
Furanyl Fentanyl (7%)
Acrylfentanyl (4%)
P-Fluoroisobutyryl Fentanyl (4%)
Acetylfentanyl (3%)
Valeryl Fentanyl (3%)
Butyryl Fentanyl (1%)

*Drug Report: Drug that is identified in law enforcement items, submitted to and analyzed by federal, state, or local forensic labs, and included in the NFLIS database. The NFLIS database allows for the reporting of up to three drugs per item submitted for analysis. The data presented are a total count of first, second, and third listed reports for each selected drug item seized and analyzed. The timeframe is January-December 2016.   ^The Austin Police Department laboratory resumed reporting for 2016. The Dallas Institute of Forensic Science is a new lab reporting all 2016 data to date.   **Select NPS Drug Categories: The 3 most prevalent NPS drug categories. Percentages may not sum to 100 due to either rounding, missing data and/or because not all possible categories are presented in the table.
†Drug Categories/Any Opioid: See *Sentinel Community Site (SCS) Data Table 6b* for a full list of the drug reports for each NPS and Opioid category.
‡Other Fentanyls are substances that are structurally related to fentanyl (e.g., acetylfentanyl and butyrl fentanyl). See *Notes About Data Terms* in *Overview and Limitations* section for a list of Other Fentanyls that were reported to NFLIS from the 12 NDEWS sites.
Source: Adapted by the NDEWS Coordinating Center from data provided by the U.S. Drug Enforcement Administration (DEA), Diversion Control Division, Drug and Chemical Evaluation Section, Data Analysis Unit. Data were retrieved from the NFLIS Data Query System (DQS) on May 28, 2017.

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

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

This *SCE Narrative* contains the following sections:

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

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

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

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Highlights

- **Methamphetamine** remains the major drug threat, according to half of the 18 DEA offices in Texas. There were 715 deaths due to methamphetamine in Texas in 2016, as compared with 539 due to heroin. Key indicators are far higher than when the drug was made from pseudoephedrine, and with the phenyl-2-proponone method, the drug is now 95% potent. Seizures at the Texas–Mexico border have increased by 103% since 2014. Methamphetamine in solution ("Liquid Meth"), which is easier to transport into the United States, is increasing and the price of methamphetamine has dropped by half. The relationship between methamphetamine and HIV is increasing, with the proportion of HIV cases resulting from men having sex with men now as high in Texas as it was in 1987 when HIV data were first reported.

- **Heroin** indicators are varied. Seizures along the Texas–Mexico border decreased 2%, although DEA-reported Mexican opium production is increasing to sustain the increasingly high levels of demand in the United States. Texas has not yet suffered the epidemic of overdoses seen in the northeast because the heroin in Texas is Mexican Black Tar which cannot easily be mixed with fentanyl. The purity of Black Tar is 45%-50% as compared to 80%-85% purity for Mexican-South American heroin in the northeast.

- **Other Opiates** such as fentanyl in Texas had previously involved transdermal patches, but rogue fentanyl powder began appearing in spring 2016 and more events are being reported. The drug is being mixed with other opiates and benzodiazepines, not heroin. In addition, the pattern of drinking codeine cough syrup, which was popular years ago, has returned recently with mentions of drinking not only codeine cough syrup ("Drank") but also of drinking promethazine syrup.

- **Benzodiazepines** comprise less than 5% of all items seized and identified, but the number of persons admitted to treatment with a primary problem with benzodiazepines is increasing. Alprazolam (Xanax®) is the most abused benzodiazepine, and in combination with hydrocodone and carisoprodol it is known as the Houston Cocktail or Holy Trinity.

- **Cocaine** indicators are mixed, with the number of toxicology items identified increasing, but the amount seized on the border and in treatment admissions decreasing. Crack cocaine and synthetic

cannabinoids remain drugs of choice among the homeless and those living in tent cities, but outreach workers report increased popularity of powder cocaine. Cocaine availability is expected to increase in the future as a result of increased acreage planted, decreased use of herbicides, and the FARC peace treaty in South America.

- **Marijuana** is ranked as the #1 threat by the other half of DEA offices in Texas because of the trafficking in and across Texas, not only north-south but also east-west. Seizures at the Texas–Mexico border are down 125% since 2014, but there is more domestic indoor and outdoor growing as well as more supply from states where the drug is legal or decriminalized. The demand for the drug has been influenced by changes in patterns of use with blunts and now electronic cigarettes and the "vaping" of hash oil and "shatter."

- The **synthetic cannabinoid and synthetic cathinone** situation has changed: Poison center cases involving both cannabinoids and cathinones have decreased while toxicology and treatment cases involving these synthetics have increased. The chemical formulations and characteristics of persons using cannabinoids continue to change, with more cases occurring among the homeless population.

- **PCP** remains a problem. The number of PCP items identified by forensic labs has increased, but poison center calls and treatment admissions are down. The pattern of dipping small cigarillos filled with synthetic cannabinoids into bottles of PCP continues, and overdoses from synthetic cannabinoids, which may be exacerbated by PCP, are occurring.

- Use of **novel psychoactive substances** including MDMA and the 2 C-xx phenethylamines change depending on availability of the drug and perceived effects. Use of these drugs was lower in 2016 than in previous years.

- Drug patterns on the **Texas Border** continue to show high levels of use of marijuana, steady levels of heroin, slight increases in methamphetamine, and decreasing admissions for cocaine. In comparison, treatment admissions in the nonborder area show increases in methamphetamine and heroin, level use of marijuana, and the same decrease in cocaine use.

Drug Use Patterns and Trends

METHAMPHETAMINE

- Methamphetamine remains the major drug threat, according to half of the 18 DEA offices in Texas. There were 715 deaths due to methamphetamine in Texas in 2016, as compared with 539 due to heroin. Key indicators are far higher than when the drug was made from pseudoephedrine, and with the phenyl-2-proponone method, the drug is now 95% potent. Seizures at the Texas–Mexico border have increased by 103% since 2014. Methamphetamine in solution ("Liquid Meth"), which is easier to transport into the United States, is increasing and the price of methamphetamine has dropped by half. The relationship between methamphetamine and HIV is increasing, with the proportion of HIV cases resulting from men having sex with men now as high in Texas as it was in 1987 when HIV data were first reported.

Methamphetamine indicators in 2016 were far higher than the levels seen before the pseudoephedrine precursor regulations were enacted in 2005–2006 (Exhibit 1). Methamphetamine is the major drug threat, according to half of the 18 DEA offices in Texas. Local "cooking" of ice using over-the-counter pseudoephedrine (PSE), which is available only in limited amounts with the "one pot" or "shake and bake" method, can produce very small amounts, and as of the second half of 2016, samples using ephedrine and pseudoephedrine reactions had disappeared from the DEA's Methamphetamine Profiling Program data set. Ninety-eight percent of the methamphetamine nationwide is now produced using Phenyl-2-Propanone (P2P).

Methamphetamine has two isomers: the *l* and *d* forms. The *d* form is a more powerful psychostimulant, with three to five times the central nervous system activity as the *l* form. Methamphetamine made with PSE never had more than 50% *d* form (50% potent), but when made with P2P, the potency is over 91% in 2016. A new Mexican P2P production process called the nitrostyrene method is the predominant method for samples now being identified by the DEA.

Between 2014 and 2016, there has been a 103% increase in methamphetamine seizures on the border. In addition, the El Paso Intelligence Center (EPIC) predicts a possible correlation between heroin and methamphetamine seizures as Mexican transnational criminal organizations (TCOs) and drug trafficking organizations (DTOs) actively pursue new user markets and expand into supplemental product lines to ensure their operating costs remain low and their profit margins remain high. According to the DEA, Mexican DTOs/TCOs have been switching their focus from methamphetamine to heroin primarily as a result of the current low price of methamphetamine in the United States. This has enabled the Mexican DTOs/TCOs to explore product diversification and new market areas where methamphetamine is not widely used in the United States. This diversification can be seen in the fact that 17% of the methamphetamine deaths in 2016 in Texas also involved heroin.

Exhibit 1 shows that the number of deaths involving the use of methamphetamine in 2016 (715) were higher than they have ever been, as compared to 539 deaths due to heroin in the same year. Methamphetamine admissions to treatment programs increased from 3% of all admissions in 1995 to

11% in 2007, dropped to 8% in 2009, and then rose to 17% of admissions in 2016. Route of administration was smoking (53%), injecting (33%), and inhaling (10%). Of these admissions, 77% were White, 18% were Hispanic, and 4% were Black. Average age was 33 and 44% were male (Data Table 4b). Of the female users of methamphetamine, 58% took the drug orally. Based on the author's previous research, females use methamphetamine for energy, to lose weight, and to counter depression, and there is a significant need to consider gender issues in methamphetamine treatment.

Methamphetamine represented 21% of all items analyzed by Texas forensic laboratories in 2005; in 2016, it comprised 33% of all the items examined. The price has been halved over the past two years, which has coincided with increased availability as a result of movement of methamphetamine in solution, which looks like an icy sludge ("liquid meth"), and the use of local conversion laboratories ("dry houses") on the U.S. side to reconstitute the drug from liquid to crystalline form.

Street outreach workers report there is a crystalline "blue meth" named after the "Breaking Bad" show, and methamphetamine combined with heroin is known on the streets as "La Diable." On the border, there are street-level wars over the sale of crystal meth and the decrease in profits from sale of heroin and cocaine.

HIV outreach workers in the state report crystal methamphetamine use is increasing among the Black gay community. It has become the major drug problem in some areas that previously were dominated by heroin. There were also reports of increasing syphilis cases among those using crystal methamphetamine and engaging in risky sex. Global positioning systems (GPS) such as "Grindr," "Scruff," and "Jack'd" were being used to meet anonymous partners. HIV outreach staff were also using these apps to find HIV clients at risk and to offer testing for HIV. DSHS reported that the proportion of men who have sex with men (MSM) and meet partners via phone applications increased from 23% in 2013 to 39% in 2014.

The CDC triennial HIV survey of users in Dallas found that the proportion of men who reported noninjection use of meth in the past year went from 9% in 2008 to 45% in 2014, and the case rate for early latent syphilis (infected within last year) for MSM went from 79.0 in 2007 to 210.1 in 2015.

OPIOIDS

- Heroin indicators are varied. Seizures along the Texas–Mexico border decreased 2%, although DEA-reported Mexican opium production is increasing to sustain the increasingly high levels of demand in the United States. Texas has not yet suffered the epidemic of overdoses seen in the northeast because the heroin in Texas is Mexican Black Tar which cannot easily be mixed with fentanyl. The purity of Black Tar is 45%-50% as compared to 80%-85% purity for Mexican-South American heroin in the northeast.

- Other Opiates such as fentanyl in Texas had previously involved transdermal patches, but rogue fentanyl powder began appearing in spring 2016 and more events are being reported. The drug is being mixed with other opiates and benzodiazepines, not heroin. In addition, the pattern of drinking codeine cough syrup, which was popular years ago, has returned recently with

mentions of drinking not only codeine cough syrup ("Drank") but also of drinking promethazine syrup.

Indicators of use, deaths, and poison center calls continued to rise, but seizures along the Texas–Mexico border decreased 10%. Nevertheless, DEA-reported Mexican opium production is increasing to sustain the increasingly high levels of demand in the United States. There have been initial episodes of powdered fentanyl from China, but the mixing of fentanyl with heroin has been rare in Texas because of the difficulty in mixing Black Tar heroin with the fentanyl.

Heroin

Heroin indicators in Texas are changing. Seizures along the Texas–Mexico border decreased 2%, although DEA-reported Mexican opium production is increasing to sustain the increasingly high levels of demand in the United States. Texas has not suffered the epidemic of overdoses seen in the northeast because the heroin in Texas is Mexican Black Tar, which cannot be easily mixed with fentanyl. Nevertheless, "white" heroin made in Mexico is becoming increasingly available. The primary types of heroin in Texas are Mexican black tar; powdered brown, which is black tar turned into a powder by combining it with diphenhydramine or Tylenol or other ingredients; and the Mexican white heroin. Analysis of the 2016 heroin deaths found only 3% of the heroin deaths also involved fentanyl.

EPIC predicts there is an association between heroin and methamphetamine trafficking based on seizures and on the switching of traffickers from methamphetamine to heroin because of the low price of methamphetamine and the ability of the traffickers to diversify into new markets where methamphetamine is not widely abused. EPIC reported an 11% decrease in heroin seizures on the Texas–Mexico border between 2014 and 2016. The decrease may include changing trafficking routes, the demand for a cheaper alternative to heroin, such as methamphetamine, and/or increasing use of synthetic opioids such as fentanyl, which can be purchased online. "Gray Death," which is a combination of heroin, fentanyl, UR-47700, and possibly carfentanil, and looks like concrete, has been identified in Texas.

Nationally, the creamy white heroin produced in Mexico, nicknamed "Alleged Mexican White" or "China White", is replacing the white Mexican-South American heroin in the markets in the Northeast. This Mexican-South American heroin is 80-85% pure, while the Mexican Black Tar is 45-50% pure.

The Dallas, El Paso, and Houston DEA field division all report heroin is moderately available and is stable.

The proportion of treatment admissions who are White has increased from 40% in 1974 to 63% in 2016, with 30% Hispanic and 6% African American in 2016. The average age of those seeking treatment in 2016 was 34 years old, as compared with 27 in 1974 and 59% were male. Route of administration was injection, 83%, and inhaling, 14%. The heroin death rate in Texas between 2012 and 2015, when adjusted for age, has remained level. While the number of cases has grown, the population has also grown. Indicators are trending downward as a result of the rescheduling of hydrocodone. The average age of those who died from heroin declined from 40 years old in 2008 to 37 years old in 2016. Calls to the Texas Poison Center Network, treatment admissions, and toxicology results of heroin all peaked in 2016 (Exhibit 2).

Other Opioids

The "other opioids" group excludes heroin but includes drugs such as methadone, oxycodone, hydrocodone, codeine, fentanyl, tramadol, and Dilaudid®. The indicators are trending downward as a result of the rescheduling of hydrocodone.

Oxycodone is less of a problem than hydrocodone and it has remained stable, as have buprenorphine and methadone numbers. Fentanyl abuse and misuse in Texas traditionally involved the transdermal patches, but fentanyl powder from China began appearing in Texas in 2016 and in June, 2017, a presumed batch of methamphetamine in Houston tested positive as carfentanil. However, the number of mentions of "fentanyl" in the death data has increased from 142 in 2015 to 176 in 2016. Only 4% of the overdose deaths involved fentanyl and heroin; 32% involved other opiates, and 2% involved fentanyl in combination with benzodiazepines.

Mentions of tramadol overdoses also increased and the number of deaths involving tramadol went from 97 in 2015 to 105 in 2016. At the same time, the number of fentanyl deaths went from 142 in 2015 to 176 in 2016. These deaths were also most likely to have involved other non-synthetic opiates (40%) or benzodiazepines (32%). Between 28% and 33% of all tramadol deaths also involved other opiates or benzodiazepines.

Exhibit 3 shows the indicators in the use of various opioids. Treatment admissions for other opioids from items analyzed by forensic laboratories have decreased over time because of the introduction of abuse-resistant tablets to deter crushing and inhaling, public information campaigns about abuse of prescription drugs, education for prescribers, legislation to decrease pill mills, and new legislation strengthening use of the Prescription Drug Monitoring Program (PDMP) by prescribers. Nevertheless, pill mills remain a problem. In July 2017, the National Health Care Fraud Takedown shut down a Houston pain clinic that saw between 60 and 70 people daily and issued medically unnecessary prescriptions for hydrocodone for approximately $300 cash per visit .In addition, the amount of tramadol being identified in NFLIS (including pills from Thailand) points to a need to monitor this Schedule IV substance more closely.

Since 2012, the proportion of patients admitted for primary problems with prescription opioids has decreased from 5% to 3% while the proportion with problems with heroin has increased from 12% to 14%. Of those patients admitted for problems with other opioids, 73% were white, 40% were male, and the average age was 35. Admissions for problems with heroin were less likely to be white (63%), not as likely to be male (60%), but of a similar age (34; Data Tables 4a and 4b).

BENZODIAZEPINES

- Benzodiazepines comprise less than 5% of all items seized and identified, but the number of persons admitted to treatment with a primary problem with benzodiazepines is increasing. Alprazolam (Xanax®) is the most abused benzodiazepine, and in combination with hydrocodone and carisoprodol it is known as the Houston Cocktail or Holy Trinity.

Benzodiazepines include diazepam (Valium®), alprazolam (Xanax®), flunitrazepam (Rohypnol®), clonazepam (Klonopin® or Rivotril®), flurazepam (Dalmane®), lorazepam (Ativan®), and chlordiazepoxide (Librium® and Librax®).

Exhibit 4, with data retrieved from the National Forensic Laboratory Information System (NFLIS), the Texas Poison Center Network, and the DHHS treatment admissions, shows the most popular benzodiazepine items identified in forensic laboratories in Texas, as well as the number of benzodiazepine deaths and number of treatment admissions for alprazolam. Alprazolam is the most abused benzodiazepine in terms of calls to poison centers and in combination with hydrocodone and carisoprodol it is known as the Houston Cocktail or Holy Trinity.

Of those entering treatment programs for problems with benzodiazepines, 58% were female, 59% were White, 29% were Hispanic, and the average age was 28 (Data Table 4b).

Counterfeit alprazolam from China and India was found by the DEA in the Houston area in 2015, and in 2017, reports have been received of fentanyl pressed to resemble alprazolam pills. Diphenhydramine or etizolam have also been put through pill presses to produce tablets that resemble alprazolam. Fentanyl and tramadol mixed with benzodiazepines are two of the most common drugs involved in opiate deaths.

COCAINE/CRACK

- Cocaine indicators are mixed, with the number of toxicology items identified increasing, but the amount seized on the border and in treatment admissions decreasing. Crack cocaine and synthetic cannabinoids remain drugs of choice among the homeless and those living in tent cities, but outreach workers report increased popularity of powder cocaine. Cocaine availability is expected to increase in the future as a result of increased acreage planted, decreased use of herbicides, and the FARC peace treaty in South America.

Cocaine and crack indicators, which had been trending downward, are changing. The El Paso Intelligence Center (EPIC) reports that the supply is shifting with an increase in the amounts of source and transit zone seizures resulting from the cessation of large-scale eradication of coca plants in Bolivia, Colombia, and Peru. Availability is high, but the source has been unstable as a result of cartel wars, and the amounts seized at the Texas–Mexico border were down 11% between 2014 and 2016. Street outreach workers report increased popularity of powder cocaine among the homeless. The synthetic cannabinoids are more popular than crack because of their cheaper cost, and both are used by vulnerable populations such as the homeless. Street outreach workers report more requests for "safe smoke" kits to use to smoke synthetic cannabinoids or crack cocaine.

Texas Poison Center Network calls involving cocaine peaked at 1,410 in 2006 and then declined to 477 in 2016 (Exhibit 5). Street outreach workers vary in their perceptions about the prevalence of crack cocaine use among the homeless, but injecting cocaine is reported, as is the use of cocaine and heroin ("Speedballs"). Of the heroin deaths in 2016, 22% were also positive for cocaine.

Cocaine (both crack and powder) represented 8% of all admissions to DSHS-funded treatment programs in 2016, which is down from a high of 32% in 1999. In 2016, of the cocaine admissions, 53% smoked crack, 43% inhaled cocaine, and 2% injected it. The average age of the cocaine inhalers was 33, average

age of injectors was 41, and average age of crack smokers was 44. Of the crack smokers, 55% were Black, while 63% of the cocaine injectors were White and 44% of the cocaine inhalers were Hispanic. Individuals with cocaine problems were the oldest of all the groups, at an average of 40 years of age (Data Table 4b).

Polydrug use with "speedballs" is common with cocaine. Cocaine was involved in 48% of the heroin deaths and in 23% of the methamphetamine deaths.

MARIJUANA

- Marijuana is ranked as the #1 threat by the other nine DEA offices in Texas because of the trafficking in and across Texas, not only north-south but also east-west. Seizures at the Texas–Mexico border are down 125% since 2014, but there is more domestic indoor and outdoor growing as well as more supply from states where the drug is legal or decriminalized. The demand for the drug has been influenced by changes in patterns of use with blunts and now electronic cigarettes and the "vaping" of hash oil and "shatter."

The National Institute on Drug Abuse's Potency Monitoring Project has reported delta-9-THC potency in combined U.S. marijuana and sinsemilla samples, which increased from 3.75% in 1995 to 10.99% in 2015. In 2016 the DEA noted an increase in high-grade marijuana imported into Texas from Colorado, and intelligence reports indicated the cartels that used to traffic in marijuana from Mexico are shifting toward more profitable drugs such as methamphetamine and heroin.

The use of blunts and cigarillos (cheap cigars split open with marijuana replacing the tobacco), flavored "wrapping papers," and "cones" have driven the increase in the use of marijuana. Terms used in the poison center reports in 2017 included "hash oil," "wax," "shatter," "dabs," or "budder," which are more recent ways of using marijuana, as well as older terms such as "wet" or "fry," which describe dipping the joint in formaldehyde with or without PCP. Street outreach workers have reported new names for marijuana: "gas," "cookie," or "kush" (a name often seen on some packets of synthetic cannabinoids).

The marijuana indicators have remained mixed since 1998 (Exhibit 6), and the variations may be a result of the changing market and patterns of use. Note that the Texas School Survey in 1988 reported that 31.5% of students in grades 7–12 had ever used marijuana and 68.5% had never used the drug. In 2016, 21.0% had ever used marijuana and 79.0% had never used it.

Of those admitted to treatment for problems with cannabis, 70% were male, 41% were Hispanic, and the average age was 25 (Data Table 4b).

NOVEL PSYCHOACTIVE SUBSTANCES (OTHER THAN OPIOIDS)

- The synthetic cannabinoid and synthetic cathinone situation has changed: Poison center cases involving both cannabinoids and cathinones have decreased while toxicology and treatment cases involving these synthetic have increased. The chemical formulations and characteristics of persons using cannabinoids continue to change, with more cases occurring among the homeless population.

- PCP remains a problem. The number of PCP items identified by forensic labs has increased, but poison center calls and treatment admissions are down. The pattern of dipping small cigarillos filled with synthetic cannabinoids into bottles of PCP continues, and overdoses from synthetic cannabinoids, which may be exacerbated by PCP, are occurring.

- Use of novel psychoactive substances including MDMA and the 2 C-xx phenethylamines change depending on availability of the drug and perceived effects. Use of these drugs was lower in 2016 than in previous years.

Synthetic Cannabinoids

Synthetic cannabinoids are compounds that mimic delta-9-THC but with different chemical structures that cannot be identified in standard commercial drug tests. The compounds had been developed by researchers to investigate the part of the brain responsible for hunger, memory, and temperature control. The products are known and sold under a wide variety of names, such as "K2" and "Spice." They had been available through gas stations and "head shops," but since they have been more tightly controlled, the most common source is now street dealers.

Exhibit 7 shows the number of synthetic cannabinoid items seized and analyzed by forensic laboratories or handled by poison centers between 2010 and 2016. Reporting of these events is not required, so this is an undercount of the cases that may have been seen in the emergency rooms but not reported to the poison center, and the toxicology lab exhibits only reflect those that involved a crime. The number of different types of these synthetics increased from 6 in 2010 to 42 in 2016. In addition, the varieties of the drugs changed each year. The chemical ingredients of cannabinoids in Texas have changed from JWH varieties in 2010 to AM-2201 in 2011 to UR-144 in 2012 to XLR-11 in 2013 and 2014 to AB-CHMINACA in 2015 to FUB-AMB in 2016.

The 2016 Texas School Survey of Drug and Alcohol Use reported that 10% of the students had ever used synthetic cannabinoids, 27.7% thought it would be impossible to obtain, 7.8% thought it would be very easy to obtain, and 82.1% thought it would be very dangerous for kids their age to use it.

From 2010 through 2016, the Texas Poison Center Network received 3,653 calls involving human exposures to synthetic cannabinoids. The variation in the number of cases reported by the poison centers by year may be a result of local "recipes" for mixing the raw ingredients that produce serious side effects or mislabeled or unknown precursor chemicals imported into the United States. The raw chemicals are shipped in from China or other countries and then mixed and placed in little bags locally for sale. Over time, the bags have changed from colorful foil packets to plain black baggies.

In 2016, 698 persons with a primary problem with "other cannabinoids" entered Texas treatment programs as compared with 457 in 2014 The average age was 26 years old, 40% were White, and 45% were Hispanic. Sixty-nine percent were male, and 49% used the substance daily. Forty-eight percent were unemployed, and 15% were homeless.

Based on the 299 cases reported by the poison centers between 2010 and 2016, the proportion of cases suffering a major effect from taking the drug appears to be increasing, with different effects reported over time, which is an indication of the changing chemical formulations in the cannabinoids.

HIV outreach workers reported an increasing use of "Spice," including mentions of the use of embalming fluid laced with synthetic cannabinoids. No information was reported as to whether the embalming fluid contained PCP or another synthetic substance. Street outreach workers also reported crack cocaine and "Kush" were popular among the homeless because of the low cost.

The largest number of synthetic cannabinoid exposures were reported in the public health region that includes Dallas and Fort Worth, followed by the region that includes Houston, and then by the Lower Rio Grande Valley region. HIV outreach workers in the Valley report handling 20–30 calls a day in Corpus Christi. The cases are being seen among the homeless population because of its low cost and among teenagers who find it easy to access. The prevalence of cases in the Valley may also reflect the importation of the raw chemicals from Mexico or the increases may reflect the movement of the epidemic to less populous areas outside the major metropolitan areas.

Synthetic Cathinones

Emerging psychoactive substances include the substituted or synthetic cathinones that are synthetic derivatives from the khat plant and are part of the phenethylamine structural class. The most common synthetic cathinones identified in Texas by DEA laboratories in 2016 included n-ethylpentylone, BK-DMBDB, ethylone, and pentylone.

These drugs are usually supplied as white crystalline powders, although they also are available in tablet form. They are sold over the Internet, and rescheduling has decreased sales through "head shops" and convenience stores, with street dealers now being the primary source of the drugs. The Texas Poison Center Network data show the number of human exposures to synthetic cathinones peaked in 2011 (Exhibit 7).

PCP

PCP remains a problem. Known as "Wet," "Wack," "PCP," or formaldehyde, marijuana joints or cigarillos filled with a synthetic cannabinoid can be dipped in formaldehyde that contains PCP, or PCP can be sprinkled on the joint or cigarette. Although PCP is not usually associated with the use of the new unknown psychoactive drugs, it is included in this section of the report because there have been serious reactions from unknown synthetic drugs that mimic the symptoms of PCP use, such as out-of-body strength, excited delirium, and nakedness. Similar symptoms may also be seen with NBOMe and some synthetic cathinones, but because of the difficulty in quickly identifying the substance, there may be confusion as to which drug is being seen on the street.

As Exhibit 8 shows, abuse of PCP is growing as measured by the number of items identified in forensic laboratories, but treatment admissions and poison center calls peaked in 2014 and have since fallen. In addition, the characteristics of the users have changed: In 2001, 73% were male, but in 2016, only 38% were male. Eighty percent were Black and 15% White.

Phenethylamines (2 C-xx)

A broad range of abused compounds share a common phenylethan-2-amine structure. Some are naturally occurring neurotransmitters (dopamine and epinephrine), whereas others are psychoactive

stimulants (amphetamine, including MDA), entactogens (MDMA), or hallucinogens (the 2 C-xx series of compounds).

Common street names for 2 C-B include "Nexus," "Bees," "Venus," "Bromo Mescaline," and BDM-PEA. It is known for having a strong physical component to its effects and a moderate duration. Other phenethylamines include 2 C drugs with a third letter of E, C, I, P, and T. Forensic laboratories in Texas in 2016 reported 161 items identified as 2 C-xx drugs, as compared with 532 in 2015.

MDMA

MDMA (Ecstasy), MDA, and Molly are classified as "other phenethylamines" (MDMA- 3,4 Methylene-dioxy-meth-amphetamine) or "amphetamine phenethylamines" (MDA- 3,4-Methylene-dioxyamphetamine (MDA), 5-APB (5-(2-aminopropyl benzofuran, etc.). Indicators of use have varied over time, as Exhibit 9 shows. After 2009, an ecstasy drought began because of the shortage of the raw ingredient, safrole oil, and the amount of MDMA identified in pills such as "Molly" began dropping. However, in 2017 the European Monitoring Centre for Drugs and Drug Addiction reported that the average content of MDMA in tablets had increased and high amounts of MDMA in some batches have been linked with harms and death.

"Molly" was originally a slang term for a very pure crystalline form of MDMA. Molly is often sold in a powder-filled capsule or in an Eppendorf tube, which is a small pipette. Because of the scarcity of MDMA, most Molly capsules contain little MDMA, and research has shown that mephedrone and methylone act on the brain like MDMA.

The Texas Poison Center Network reported a high of 310 calls in 2009 involving misuse or abuse of ecstasy, compared with 96 in 2016 (Exhibit 9). In 2016, there were 124 MDMA treatment admissions with an average age of 29 years. Half of the admissions were male and half were female. Approximately 18% were Hispanic and 57% were Black.

ABUSE PATTERNS ON THE TEXAS–MEXICO BORDER

Different patterns were seen in border and nonborder admissions to DSHS-funded treatment in 2016 (Exhibits 10 and 11). Drug patterns on the Texas-Mexico border continue to show high levels of marijuana use, steady levels of heroin, slight increases in methamphetamine, and decreasing admissions for cocaine. In comparison, treatment admissions in the nonborder area show increases in methamphetamine and heroin, level use of marijuana, and the same decrease in cocaine use. Note that admissions for heroin were similar for border and nonborder programs.

Infectious Diseases Related to Substance Abuse

Hepatitis C

Acute hepatitis C is primarily a disease of adults in Texas, but it affects adults of all ages. Only acute hepatitis C is reportable in Texas. In 2015, some 41% of all HCV cases were persons between the ages of 26 and 35.

Sexually Transmitted Diseases

Street outreach workers were reporting increasing numbers of syphilis cases among young men who have sex with men, along with reports of both males and females engaging in transactional sex for drugs or to obtain money. There were more reports of people using the Internet and classified ads to market their service, such as through the use of smartphone applications, like Grindr and Jack'd. DSHS reported that the proportion of men who have sex with men and who met partners via phone applications increased from 23% in 2013 to 39% in 2014.

The case rate statewide for chlamydia increased from 356.3 in 2007 to 493.9 in 2016. They were higher for females than for males, highest for persons between 20 and 24 years of age, and highest for Blacks in 2015. The case rates for gonorrhea increased from 132.1 in 2007 to 147.0 in 2016, and they were highest for males, Blacks, and those between 20 and 24 years of age. The case rates for syphilis were higher for males, Blacks, and those between 20–24 and 25–29 years of age. The case rate per 100,000 for early syphilis increased from 11.1 in 2007 to 16.4 in 2016. Men who reported having sexual contact with other men comprised 28% of all persons diagnosed with early syphilis, which encompasses primary, secondary, and early latent stages of syphilis. These are stages of syphilis that were acquired within the last 12 months.

The proportion of new HIV diagnoses among men who have sex with men (MSM) decreased from 71% in 1987 to 45% in 1999 before returning to 72% in 2016 (Exhibit 12). Of cases diagnosed in 2016 cases, 20% reported heterosexual mode of exposure and 6% reported intravenous drug use (IDU).

Just as the proportions of new HIV diagnoses involving IDUs or IDUs/MSM has decreased over time, the proportion of IDUs entering DSHS-funded treatment programs has also decreased, from 32% in 1988 to 19% in 2016. Persons diagnosed with HIV were increasingly likely to be people of color. Of the HIV cases in 2016, 38% were Black, 41% were Hispanic, and 22% were White, as compared with the Texas population, which was 12% Black, 32% Hispanic, and 73% White.

Exhibits

Exhibit 1. Texas Poison Control, Treatment Admissions, Toxicology Lab Exhibits, and Deaths: Methamphetamine, 1998–2016
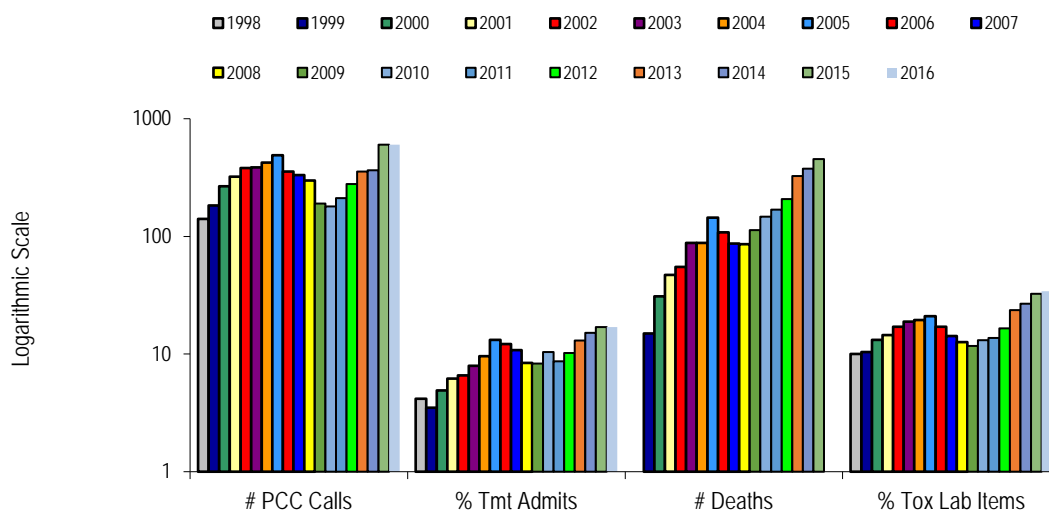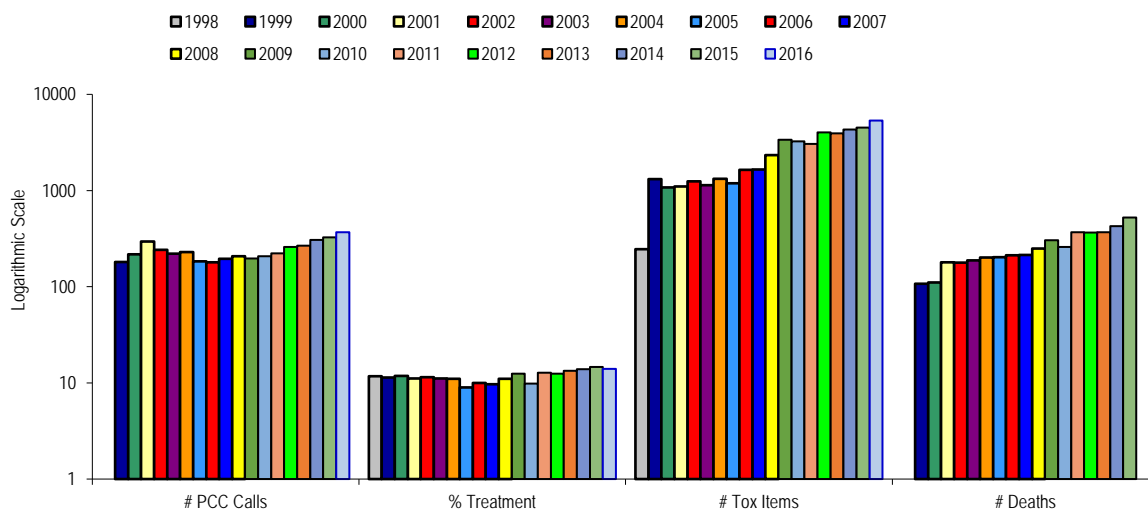

Exhibit 2. Texas Poison Control, Treatment Admissions, Toxicology Lab Exhibits, and Deaths: Heroin, 1998–2016
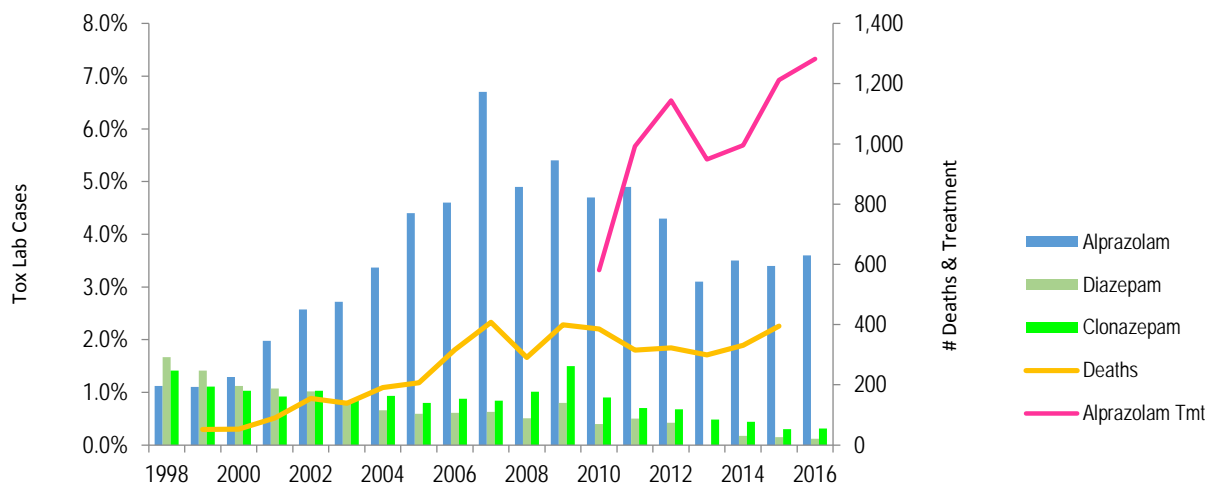

Source: DSHS and NFLIS

Exhibit 3. Indicators of Abuse of Opiates in Texas, 1999–2016

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Poison Control Center Calls of Abuse and Misuse																		
Buprenorphine		4	0	2	12	12	27	33	61	83	109	130	138	116	303	269	216	193
Fentanyl		3	1	3	11	17	11	139	155	120	143	109	132	110	98	120	100	94
Heroin	181	218	295	241	221	229	184	179	195	208	196	208	222	259	268	307	327	368
Hydrocodone		236	123	348	465	747	431	657	703	723	748	838	869	814	645	530	351	295
Methadone		81	96	138	141	199	233	216	246	218	187	214	159	174	151	168	153	210
Oxycodone		62	99	68	67	112	50	68	67	81	74	101	95	129	74	63	82	74
DSHS Treatment Admissions																		
Methadone	69	44	52	75	86	63	91	101	113	160	145	132	180	193	170	178	167	166
"Other Opiates"*	815	890	1,386	2084	2794	3433	3482	3903	4529	5221	5844	2679	2047	1851	1972	1923	1685	1593
Codeine													109	102	81	99	110	94
Hydrocodone													3102	3277	2972	2583	2272	1896
Hydromorphone													222	275	211	188	195	184
Oxycodone													342	323	326	323	282	351
Heroin													9542	9416	10459	10461	10989	10822
Deaths with Mention of Substance (DSHS)																		
Other Opioids	118	151	214	307	360	359	401	564	515	440	534	540	521	480	452	471	473	519
Synthetic Narcotics	49	46	77	117	76	94	86	111	118	86	166	156	114	121	112	157	186	239
Methadone	24	50	89	136	155	160	199	223	195	173	177	180	179	142	128	116	144	142
Heroin	107	111	179	178	188	201	203	212	214	250	305	260	368	367	369	425	523	539
Drug Exhibits Identified by Forensic Toxicology Laboratories (NFLIS)																		
Buprenorphine	9	12	6	10	11	6	6	13	25	43	89	137	133	89	73	96	105	83
Hydrocodone	530	661	1,010	1162	1701	2038	2166	3201	3835	3663	4242	5358	4939	4026	2682	2997	1756	1459
Methadone	20	23	52	62	79	150	184	204	251	302	288	288	318	321	266	225	236	196
Oxycodone	41	77	150	164	232	309	339	335	333	397	456	528	458	452	371	426	479	614
Tramadol	16	20	43	31	61	81	96	106	118	144	178	240	244	264	196	276	256	313
Heroin	246	1310	1081	1103	1241	1135	1320	1188	1643	1660	2338	3247	5341	4018	3918	4311	4520	5274
Fentanyl	3	1	8	6	3	14	8	23	17	47	15	17	27	21	16	33	49	136
Distribution of Controlled Substances by Manufacturer (ARCOS)-Dosage/100K Texas Population																		
Buprenorphine								62	102	176	231	230	274	315	360	379	393	402
Hydrocodone								14694	17670	17861	19290	16887	18695	17835	12889	16001	12140	11471
Oxycodone								4423	5536	4935	5107	4464	4669	4739	4660	4757	5177	5329
Methadone								2530	2677	2700	2743	2373	2272	2108	2378	2385	2401	2221

*"Other Opiates" refers to all other opioids until 2010; starting in 2011 specific opioids are reported.

Exhibit 4. Benzodiazepines as Percentage of All Items Identified by Toxicology Labs, Number of Benzodiazepine Deaths, and Alprazolam Cases Admitted to Treatment, 1998–2016

Source: NFLIS & DSHS

Exhibit 5. Texas Poison Control, Treatment Admissions, Toxicology Lab Exhibits, and Deaths: Cocaine, 1999–2016
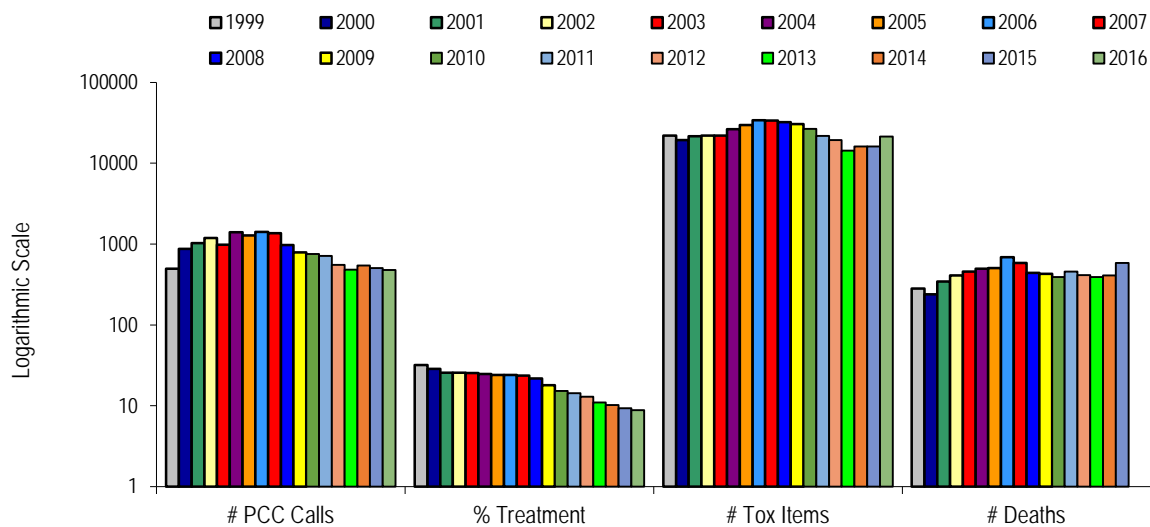
Source: DSHS and NFLIS

Exhibit 6. Texas Poison Control Calls, Treatment Admissions, and Toxicology Lab Exhibits: Marijuana, 1998–2016
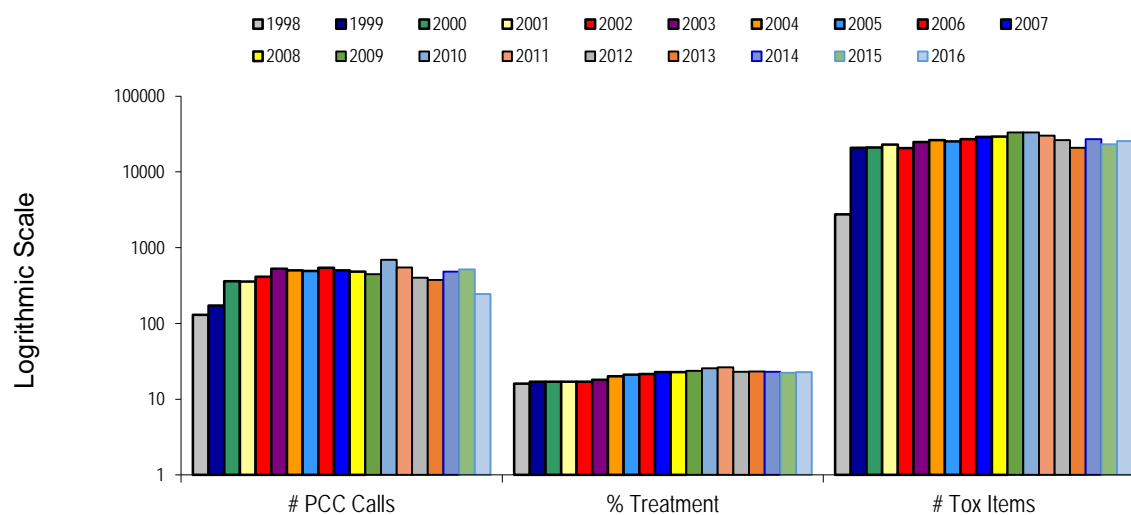
Exhibit 7. Texas Poison Center (PCC) Calls, Toxicology Lab Exhibits, and Treatment Admissions: Synthetic Drugs, 2010–2016
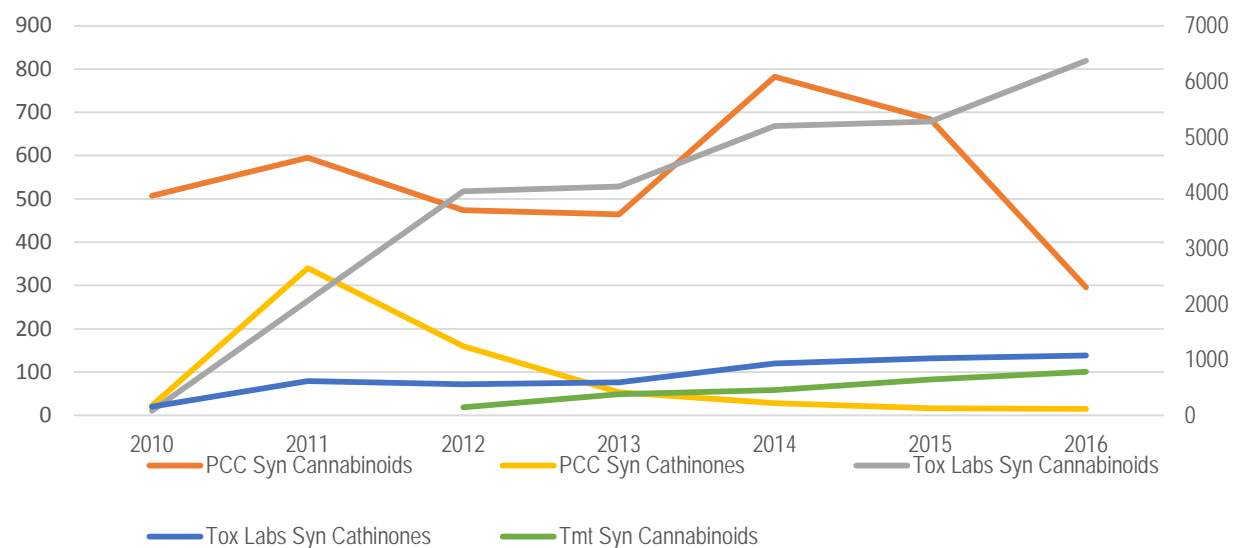
Exhibit 8. Texas Poison Center Calls, Treatment Admissions, and Lab Exhibits: PCP, 1998–2016
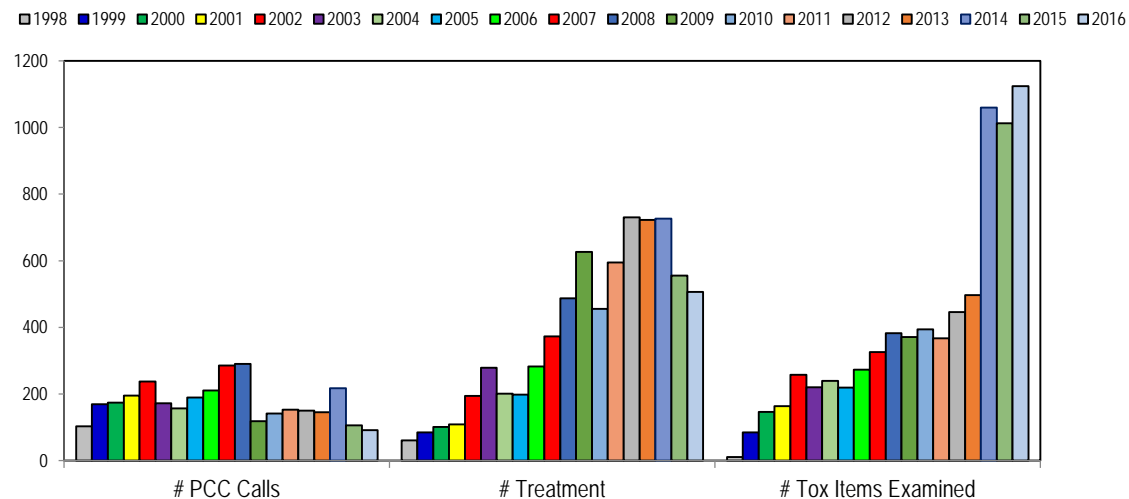
Sources: DSHS & NFLIS

Exhibit 9. Texas Poison Centers, Treatment Admissions, and Toxicology Lab Exhibits for MDMA (Phenethylamine Amphetamines), 1998–2016
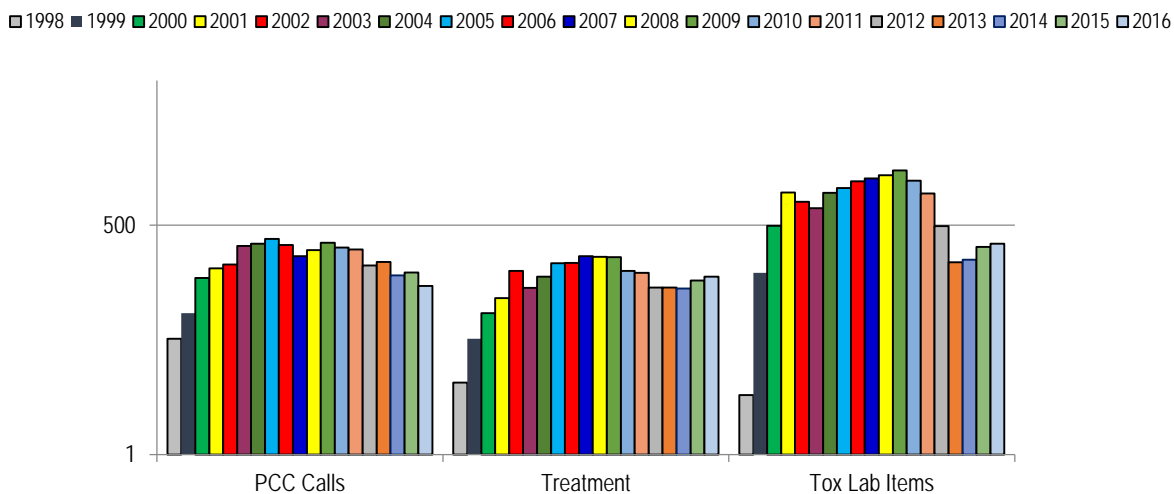
Exhibit 10. Admissions to Texas DSHS-Funded Treatment: Border, 1996–2016
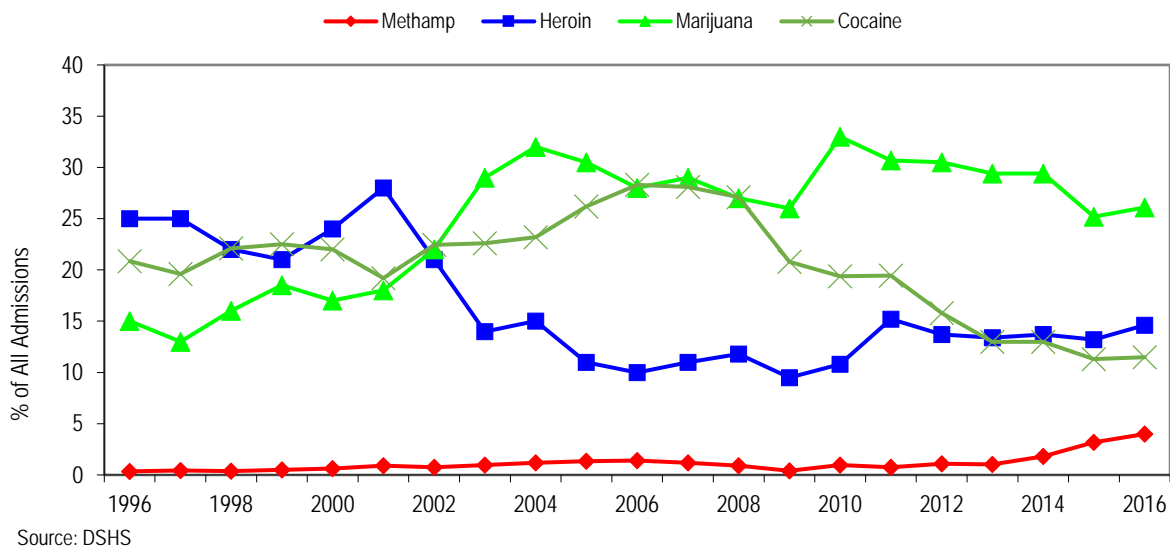
Source: DSHS

Exhibit 11. Admissions to Texas DSHS-Funded Treatment: Nonborder, 1996–2016
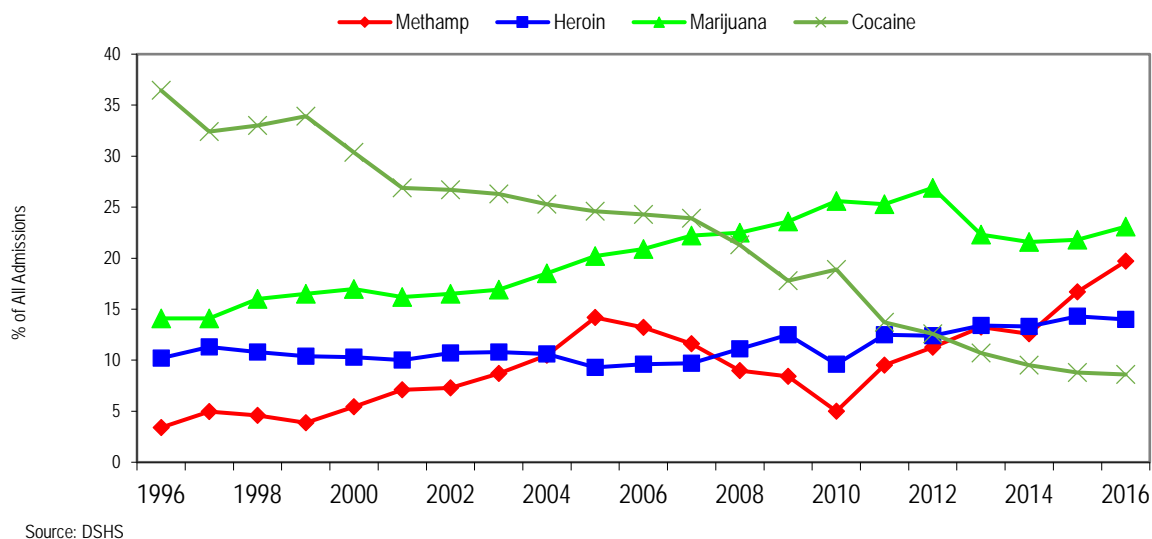
Source: DSHS

Exhibit 12. New HIV Cases in Texas by Mode of Exposure, 1987–2016
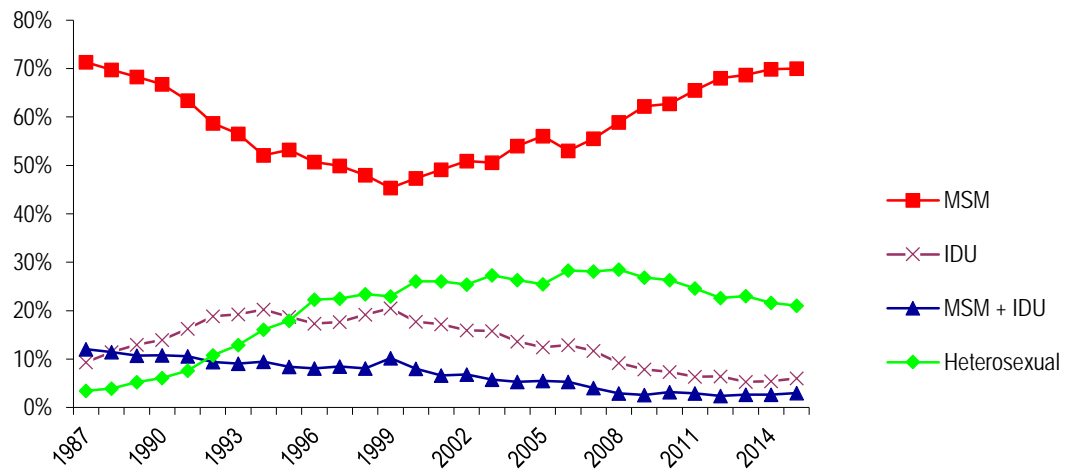
Source: DSHS

Data Sources

Data for this report were drawn from the following sources:

Student substance use data came from reports on the Texas School Survey of Drug and Alcohol, 2016, which was provided by Abigail Cameron of the Department of State Health Services (DSHS): http://www.texasschoolsurvey.org/Report

Poison center data came from the Texas Poison Center Network, DSHS, for 1998 through 2016, courtesy of Mathias Forrester.

Treatment data were provided by the DSHS data system on clients admitted to treatment in DSHS-funded facilities from January 1, 1987, through December 31, 2016. Analysis of the 2016 data was conducted by Lesli San Jose of the DSHS Decision Support Program and by the author.

Information on drug mortality through 2016 came from the Bureau of Vital Statistics, DSHS, courtesy of Lyudmilla Baskin. These data are classified as "provisional," meaning the 2016 data are not final but subject to revision as more reports are received.

Information on seized drugs identified by laboratory tests came from forensic laboratories in Texas, which reported results from analyses of substances for 1998 through 2016 that involved a crime to the National Forensic Laboratory Information System (NFLIS) of the Drug Enforcement Administration (DEA). The drugs reported include not only the first drug reported in a case of multiple substances but also the second and third drugs in any combination.

Information on methamphetamine purity and potency through the second half of 2016 came from the Methamphetamine Profiling Program of the DEA.

Price, trafficking, distribution, and supply information were gathered from 2016 reports on Trends in the Traffic Report System from the Dallas, El Paso, and Houston Field Divisions (FDs) of the DEA.

**Reports by users and street outreach workers** on drug trends for the second quarter of 2017 were reported to DSHS by workers at local HIV (human immunodeficiency virus) counseling and testing programs across the state.

Sexually transmitted disease and AIDS (acquired immunodeficiency syndrome) data through 2016 were provided by Emily Rowlinson of DSHS.

Data on kilograms seized on the Southwest Texas–Mexico border between 2014 and 2016 came from reports from the El Paso Intelligence Center (EPIC).

Potency of marijuana came from the Marijuana Potency Monitoring Project, University of Mississippi, National Center for Natural Products Research, Research Institute of Pharmaceutical Sciences. Table 77 Quarterly Report #134, Potency Monitoring Program (September 2016) for data from 1995 to 2015.

Contact Information: For additional information about the drugs and drug use patterns discussed in this report, please contact Jane C. Maxwell, Ph.D., Research Professor, Steve Hicks School of Social Work, The University of Texas at Austin., Phone: 512–656-3361, Fax: 512– 232–0617, E-mail: jcmaxwell@austin.utexas.edu.

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
State of Texas
2011–2015 ACS 5-Year Estimates

	Estimate	Margin of Error
Total Population (#)	**26,538,614**	******
Age		
18 years and over (%)	73.4%	+/-0.1
21 years and over (%)	69.0%	+/-0.1
65 years and over (%)	11.2%	+/-0.1
Median Age (years)	34.1	+/-0.1
Race (%)		
White, Not Hisp.	43.8%	+/-0.1
Black/African American, Not Hisp.	11.6%	+/-0.1
Hispanic/Latino (of any race)	38.4%	**
American Indian/Alaska Native, Not Hisp.	0.2%	+/-0.1
Asian, Not Hisp.	4.2%	+/-0.1
Native Hawaiian/Pacific Islander, Not Hisp.	0.1%	+/-0.1
Some Other Race	0.1%	+/-0.1
Two or More Races	1.5%	+/-0.1
Sex (%)		
Male	49.6%	+/-0.1
Female	50.4%	+/-0.1
Educational Attainment (*Among Population Aged 25+ Years***) (%)**		
High School Graduate or Higher	81.9%	+/-0.1
Bachelor's Degree or Higher	27.6%	+/-0.2
Unemployment (*Among Civilian Labor Force Population Aged 16+ Years***) (%)**		
Unemployment Rate	7.0%	+/-0.1
Income ($)		
Median Household Income (in 2015 inflation-adjusted dollars)	$53,207	+/-174
Health Insurance Coverage (*Among Civilian Noninstitutionalized Population***) (%)**		
No Health Insurance Coverage	20.6%	+/-0.1
Poverty (%)		
All People Whose Income in Past 12 Months Is Below Poverty Level	17.3%	+/-0.1

NOTES:

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

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

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

Table 2a: Self-Reported Substance Use Behaviors
Among Persons 12+ Years in *Texas*, 2012–2014
Estimated Percent, 95% Confidence Interval, and Estimated Number*
Annual Averages Based on Combined 2012 to 2014 NSDUH Data

Substance Use Behaviors	Texas	
	Estimated % (95% CI)*	Estimated #*
Used in Past Month		
Alcohol	47.21 (45.92 − 48.50)	10,034,155
Binge Alcohol**	22.34 (21.28 − 23.44)	4,748,100
Marijuana	5.62 (5.13 − 6.16)	1,195,249
Use of Illicit Drug Other Than Marijuana	3.00 (2.63 − 3.41)	637,222
Used in Past Year		
Cocaine	1.37 (1.15 − 1.64)	291,970
Nonmedical Use of Pain Relievers	4.19 (3.77 − 4.64)	889,783
Substance Use Disorders in Past Year*		
Illicit Drugs or Alcohol	**7.84 (7.28 − 8.45)**	**1,667,491**
Alcohol	6.52 (5.98 − 7.10)	1,386,158
Illicit Drugs	2.19 (1.92 − 2.49)	465,102

NOTES:

*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 (21,255,571) 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 *Texas*, 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	Texas					
	12–17		18–25		26+	
	Estimated Percent (95% CI)*		Estimated Percent (95% CI)*		Estimated Percent (95% CI)*	
Used in Past Month						
Binge Alcohol**	6.03	(5.30 – 6.86)	34.89	(33.16 – 36.65)	22.35	(21.03 – 23.73)
Marijuana	6.21	(5.46 – 7.06)	14.53	(13.32 – 15.84)	3.87	(3.32 – 4.51)
Use of Illicit Drug Other Than Marijuana	3.94	(3.33 – 4.66)	5.73	(4.97 – 6.59)	2.35	(1.94 – 2.84)
Used in Past Year						
Cocaine	0.75	(0.54 – 1.04)	3.88	(3.25 – 4.62)	1.00	(0.75 – 1.32)
Nonmedical Use of Pain Relievers	5.01	(4.35 – 5.76)	8.55	(7.61 – 9.59)	3.25	(2.79 – 3.79)
Substance Use Disorder in Past Year***						
Illicit Drugs or Alcohol	5.52	(4.81 – 6.34)	15.82	(14.55 – 17.18)	6.69	(6.02 – 7.42)
Alcohol	3.07	(2.60 – 3.63)	12.58	(11.49 – 13.76)	5.89	(5.24 – 6.60)
Illicit Drugs	3.57	(2.97 – 4.27)	5.52	(4.77 – 6.37)	1.36	(1.08 – 1.72)

NOTES:
*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 *Texas* ^ Public High School Students, 2013[1]
Estimated Percent and 95% Confidence Interval (CI)
2011 and 2013 YRBS*

Substance Use Behaviors	2013 vs 2011			2013 by Sex			2013 by Race		
	2013	2011		Male	Female		White	Black	Hispanic
	Percent		p-value	Percent		p-value	Percent		
	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	36.1 (32.5 - 39.9)	39.7 (37.4 - 42.2)	0.09	35.9 (30.8 -41.4)	36.2 (33.1 -39.6)	0.90	43.3 (38.7 -48.0)	24.8 (20.4 -29.9)	34.3 (30.1 -38.8)
Binge Alcohol**	21.0 (17.5 - 25.0)	23.5 (21.1 - 26.0)	0.25	22.2 (17.5 -27.7)	19.9 (16.9 -23.2)	0.25	27.5 (23.1 -32.4)	10.3 (7.1 - 14.7)	19.6 (16.3 -23.4)
Marijuana	20.5 (17.9 - 23.2)	20.8 (18.2 - 23.6)	0.87	22.0 (19.0 -25.3)	18.9 (16.2 -21.9)	**0.03**	18.5 (14.6 -23.0)	22.5 (17.6 -28.3)	21.5 (17.6 -25.9)
Ever Used in Lifetime									
Alcohol	67.2 (63.4 - 70.8)	72.7 (69.9 - 75.4)	**0.02**	64.8 (58.9 -70.2)	69.7 (66.0 -73.2)	0.11	72.9 (68.9 -76.5)	60.3 (51.1 -68.9)	65.6 (61.2 -69.7)
Marijuana	37.5 (33.5 - 41.7)	40.5 (36.8 - 44.3)	0.27	40.0 (35.5 -44.6)	35.1 (30.7 -39.8)	**0.02**	34.3 (29.0 -40.1)	40.3 (34.0 -46.9)	39.8 (33.8 -46.1)
Cocaine	8.3 (6.8 - 10.2)	9.4 (8.1 - 11.0)	0.29	11.2 (8.8 - 14.2)	5.3 (4.2 - 6.7)	**0.00**	5.8 (4.2 - 8.0)	5.7 (2.9 - 10.7)	10.2 (8.3 - 12.5)
Hallucinogenic Drugs	—	—	~	—	—	~	—	—	—
Inhalants	9.5 (8.1 - 11.1)	11.4 (10.1 - 12.9)	0.05	9.5 (7.4 - 12.0)	9.5 (7.7 - 11.6)	1.00	8.4 (6.6 - 10.6)	9.1 (5.9 - 13.7)	10.0 (8.3 - 12.1)
Ecstasy also called "MDMA"	8.8 (7.2 - 10.6)	11.9 (10.0 - 14.1)	**0.02**	10.1 (8.3 - 12.2)	7.5 (5.7 - 9.7)	**0.02**	7.8 (6.0 - 10.2)	7.9 (4.0 - 15.0)	9.4 (7.0 - 12.6)
Heroin	3.8 (2.5 - 5.7)	3.3 (2.6 - 4.1)	0.57	5.5 (3.5 - 8.6)	1.9 (1.0 - 3.4)	**0.00**	2.1 (1.3 - 3.5)	5.0 (2.1 - 11.5)	3.7 (2.4 - 5.7)
Methamphetamine	4.8 (3.5 - 6.6)	5.0 (4.3 - 5.9)	0.80	6.4 (4.5 - 9.0)	3.2 (2.1 - 5.0)	**0.01**	3.8 (2.8 - 5.2)	7.5 (3.5 - 15.4)	4.1 (2.6 - 6.5)
Rx Drugs without a Doctors Prescription	19.0 (16.5 - 21.7)	22.1 (19.7 - 24.7)	0.08	20.8 (17.9 -24.1)	17.0 (14.1 -20.4)	**0.03**	20.6 (17.0 -24.8)	17.5 (12.9 -23.4)	17.8 (14.3 -22.0)
Injected Any Illegal Drug	2.9 (1.9 - 4.3)	3.1 (2.5 - 3.9)	0.71	3.9 (2.5 - 6.0)	1.8 (1.0 - 3.5)	**0.03**	2.3 (1.3 - 3.9)	2.4 (1.1 - 5.1)	3.0 (1.9 - 4.7)

NOTES:

[1]2013: 2015 YRBS data not available for Texas so 2013 data is presented.

'—' = Data not available; ~ = P-value not available; **N/A =** < 100 respondents for the subgroup.

^Texas: weighted data were available for Texas in 2011 and 2013; 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.

*Sample Frame for the 2011 and 2013 YRBS: sampling frame consisted of public schools with students in at least one of grades 9-12. The sample size for 2011 was 4,209 with an overall response rate of 72%; the 2013 sample size was 3,181 with a 61% overall response rate.

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

Table 4a: Trends in Admissions* to Programs Treating Substance Use Disorders, Texas, 2012-2016
Number of Admissions and Percentage of Admissions with Selected Substances Cited as Primary Substance of Abuse at Admission, by Year and Substance

	Calendar Year									
	2012		2013		2014		2015		2016	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Total Admissions (#)	73,774	100%	77,338	100%	77,494	100%	75,613	100%	73,987	100%
Primary Substance of Abuse (%)										
Alcohol	20,691	28.0%	20,556	26.6%	19,495	25.2%	19,283	25.5%	17,778	24.0%
Cocaine/Crack	8,801	11.9%	7,927	10.2%	7,269	9.4%	6,410	8.5%	6,043	8.2%
Heroin	9,082	12.3%	10,186	13.2%	10,895	14.1%	10,747	14.2%	10,328	14.0%
Prescription Opioids	4,010	5.4%	3,617	4.7%	3,458	4.5%	2,867	3.8%	2,546	3.4%
Methamphetamine**	7,031	9.5%	9,418	12.2%	10,873	14.0%	11,193	14.8%	12,519	16.9%
Marijuana	16,552	22.4%	17,571	22.7%	17,233	22.2%	16,968	22.4%	16,886	22.8%
Benzodiazepines	1,279	1.7%	1,182	1.5%	1,202	1.6%	1,282	1.7%	1,337	1.8%
MDMA	92	0.1%	90	0.1%	90	0.1%	92	0.1%	124	0.2%
Synthetic Stimulants	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Synthetic Cannabinoids	145	0.2%	379	0.5%	457	0.6%	646	0.9%	698	0.9%
Other Drugs/Unknown	6,091	8.3%	6,412	8.3%	6,522	8.4%	6,125	8.1%	5,728	7.7%

NOTES:

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

**Methamphetamine: Includes amphetamines and methamphetamine.

unavail: Data not available.

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

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

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

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

	Primary Substance																		
	Alcohol		Cocaine/Crack		Heroin		Prescription Opioids		Meth-amphetamine**		Marijuana		Benzo-diazepines		Synthetic Stimulants		Synthetic Cannabinoids***	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Number of Admissions (#)	17,778	100%	6,043	100%	10,328	100%	2,546	100%	12,519	100%	16,886	100%	1,337	100%	#	100%	698	100%
Sex (%)																		
Male	11,977	67.4%	3,207	53.1%	6,128	59.3%	1,005	39.5%	5,492	43.9%	11,744	69.5%	564	42.2%	unavail	unavail	479	68.6%
Female	5,801	32.6%	2,836	46.9%	4,200	40.7%	1,541	60.5%	7,027	56.1%	5,142	30.5%	773	57.8%	unavail	unavail	219	31.4%
Race/Ethnicity (%)																		
White, Non-Hisp.	9,612	54.1%	1,700	28.1%	6,500	62.9%	1,845	72.5%	9,602	76.7%	5,235	31.0%	785	58.7%	unavail	unavail	282	40.4%
African-Am/Black, Non-Hisp	2,266	12.7%	2,583	42.7%	599	5.8%	240	9.4%	500	4.0%	4,551	27.0%	144	10.8%	unavail	unavail	97	13.9%
Hispanic/Latino	5,609	31.6%	1,692	28.0%	3,125	30.3%	433	17.0%	2,237	17.9%	6,876	40.7%	389	29.1%	unavail	unavail	313	44.8%
Asian	77	0.4%	20	0.3%	20	0.2%	0	0.0%	23	0.2%	73	0.4%	0	0.0%	unavail	unavail	0	0.0%
Other	214	1.2%	48	0.8%	84	0.8%	28	1.1%	157	1.3%	151	0.9%	19	1.4%	unavail	unavail	6	0.9%
Age Group (%)																		503
18-25	1,998	11.2%	586	9.7%	2,019	19.5%	328	12.9%	2,312	18.5%	4,473	26.5%	349	26.1%	unavail	unavail	182	26.1%
26-44	9,391	52.8%	3,162	52.3%	6,568	63.6%	1,714	67.3%	8,429	67.3%	5,141	30.4%	684	51.2%	unavail	unavail	284	40.7%
45+	6,130	34.5%	2,150	35.6%	1,665	16.1%	470	18.5%	1,527	12.2%	660	3.9%	78	5.8%	unavail	unavail	37	5.3%
Average Age	39		40		34		35		33		25		28		unavail		26	
Route of Administration (%)																		
Smoked	62	0.3%	3,197	52.9%	228	2.2%	10	0.4%	6,668	53.3%	16,584	98.2%	6	0.4%	unavail	unavail	685	98.1%
Inhaled	18	0.1%	2,590	42.9%	1,410	13.7%	58	2.3%	1,240	9.9%	14	<0.1%	30	2.2%	unavail	unavail	0	0.0%
Injected	8	<0.1%	148	2.4%	8,602	83.3%	187	7.3%	4,118	32.9%	7	<0.1%	4	0.3%	unavail	unavail	0	0.0%
Oral/Other/Unknown	17,690	99.5%	108	1.8%	88	0.9%	2,291	90.0%	493	3.9%	281	1.7%	1,297	97.0%	unavail	unavail	13	1.9%
None	9,448	53.1%	2,054	34.0%	4,045	39.2%	844	33.2%	4,640	37.1%	7,545	44.7%	213	15.9%	unavail	unavail	242	34.7%
Alcohol	8	<0.1%	1,761	29.1%	907	8.8%	292	11.5%	1,822	14.6%	3,773	22.3%	184	13.8%	unavail	unavail	54	7.7%
Cocaine/Crack	2,391	13.4%	119	2.0%	1,244	12.0%	122	4.8%	739	5.9%	1,381	8.2%	98	7.3%	unavail	unavail	60	8.6%
Heroin	308	1.7%	109	1.8%	3	<0.1%	115	4.5%	396	3.2%	132	0.8%	45	3.4%	unavail	unavail	6	0.9%
Prescription Opioids	296	1.7%	55	0.9%	641	6.2%	196	7.7%	325	2.6%	311	1.8%	135	10.1%	unavail	unavail	5	0.7%
Methamphetamine**	1,314	7.4%	295	4.9%	1,407	13.6%	272	10.7%	76	0.6%	1,365	8.1%	159	11.9%	unavail	unavail	64	9.2%
Marijuana	3,205	18.0%	1,327	22.0%	939	9.1%	276	10.8%	3,627	29.0%	8	<0.1%	401	30.0%	unavail	unavail	223	31.9%
Benzodiazepines	431	2.4%	124	2.1%	924	8.9%	345	13.6%	417	3.3%	1,504	8.9%	18	1.3%	unavail	unavail	26	3.7%
Synthetic Stimulants	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail	unavail
Synthetic Cannabinoids***	85	0.5%	34	0.6%	31	0.3%	5	0.2%	95	0.8%	314	1.9%	18	1.3%	unavail	unavail	2	0.3%

NOTES:

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

**Methamphetamine: Includes amphetamines and methamphetamine.

***HHSC collects data on "Other **Cannabinoids**", which may not include all the synthetic cannabinoids.

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 (and category frequencies may not add to drug total because not all possible categories are presented in the table)

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

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

	2011			2012			2013			2014			2015		
	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate	Number (#)	Crude Rate	Age-Adjusted Rate
Drug Poisoning Deaths	**2,589**	**10.1**	**10.1**	**2,447**	**9.4**	**9.4**	**2,446**	**9.2**	**9.3**	**2,601**	**9.6**	**9.7**	**2,588**	**9.4**	**9.4**
Opioids‡	**1,178**	**4.6**	**4.6**	**1,131**	**4.3**	**4.4**	**1,053**	**4.0**	**4.0**	**1,151**	**4.3**	**4.3**	**1,287**	**4.7**	**4.7**
Heroin	368	1.4	1.4	367	1.4	1.4	369	1.4	1.4	425	1.6	1.6	523	1.9	1.9
Natural Opioid Analgesics	521	2.0	2.0	480	1.8	1.8	452	1.7	1.7	471	1.7	1.7	473	1.7	1.7
Methadone	179	0.7	0.7	142	0.5	0.6	128	0.5	0.5	116	0.4	0.4	144	0.5	0.5
Synthetic Opioid Analgesics	114	0.4	0.5	121	0.5	0.5	112	0.4	0.4	157	0.6	0.6	186	0.7	0.7
Benzodiazepines	**315**	**1.2**	**1.2**	**323**	**1.2**	**1.2**	**299**	**1.1**	**1.1**	**331**	**1.2**	**1.2**	**395**	**1.4**	**1.4**
Benzodiazepines **AND** Any Opioids	254	1.0	1.0	264	1.0	1.0	234	0.9	0.9	248	0.9	0.9	315	1.1	1.1
Benzodiazepines **AND** Heroin	36	0.1	0.1	42	0.2	0.2	27	0.1	0.1	43	0.2	0.2	72	0.3	0.3
Psychostimulants															
Cocaine	457	1.8	1.8	412	1.6	1.6	391	1.5	1.5	411	1.5	1.5	470	1.7	1.7
Psychostimulants with Abuse Potential	169	0.7	0.7	207	0.8	0.8	326	1.2	1.2	377	1.4	1.4	454	1.7	1.7
Cannabis (derivatives)	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**SUP**	**11**	**UNR**	**UNR**	**23**	**0.1**	**0.1**
Percent with Drugs Specified‡	73.3%			74.7%			75.8%			76.4%			83.8%		

NOTES:

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

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

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

‡**Opioids:** Includes any of these MCOD codes T40.0-T40.4, or T40.6
  Heroin (T40.1); *Natural Opioid Analgesics* (T40.2) - Including morphine and codeine, and semi-synthetic opioid analgesics, including drugs such as oxycodone, hydrocodone, hydromorphone, and oxymorphone; *Methadone* (T40.3); *Synthetic Opioid Analgesics* (T40.4) - Other than methadone, including drugs such as tramadol and fentanyl; *Other and Unspecified Narcotics* (T40.6)

Benzodiazepines: (T42.4)
  Benzodiazepines AND *Any Opioids* (T42.4 AND T40.0-T40.4, or T40.6)
    Benzodiazepines AND *Heroin* (T42.4 AND T40.1)

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

Cannabis (derivatives): (T40.7)

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

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

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

Table 6a: Drug Reports* for Items Seized by Law Enforcement in Texas in 2016
DEA National Forensic Laboratory Information System (NFLIS)
Number of Drug-Specific Reports and Percent of Total Analyzed Drug Reports

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
Total Drug Reports	**124,023**	**100.0%**
METHAMPHETAMINE	41,340	33.3%
CANNABIS	25,500	20.6%
COCAINE	21,235	17.1%
HEROIN	5,274	4.3%
ALPRAZOLAM	4,368	3.5%
NO CONTROLLED DRUG IDENTIFIED	3,277	2.6%
FUB-AMB	2,607	2.1%
5-FLUORO-ADB	1,890	1.5%
HYDROCODONE	1,456	1.2%
PHENCYCLIDINE	1,124	0.9%
PROMETHAZINE	1,015	0.8%
PHENYLIMIDOTHIAZOLE ISOMER UNDETERMINED	924	0.7%
AMPHETAMINE	784	0.6%
OXYCODONE	612	0.5%
CAFFEINE	593	0.5%
N-ETHYLPENTYLONE	582	0.5%
ACETAMINOPHEN	576	0.5%
CODEINE	516	0.4%
NON-CONTROLLED NON-NARCOTIC DRUG	378	0.3%
MAB-CHMINACA (ADB-CHMINACA)	351	0.3%
CARISOPRODOL	325	0.3%
CLONAZEPAM	325	0.3%
DIMETHYLSULFONE	316	0.3%
5-FLUORO AMB	313	0.3%
DIPHENHYDRAMINE	312	0.3%
TRAMADOL	312	0.3%
3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA)	302	0.2%
PSILOCIN	300	0.2%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	279	0.2%
MORPHINE	255	0.2%
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	239	0.2%
LISDEXAMFETAMINE	230	0.2%
METHADONE	229	0.2%
LIDOCAINE	193	0.2%
TESTOSTERONE	173	0.1%
DIBUTYLONE (BETA-KETO-N,N-DIMETHYL-1,3-BENZODIOXOLYLBUTANAMINE; BK-DMBDB)	153	0.1%
HYDROMORPHONE	146	0.1%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	141	0.1%
FENTANYL	136	0.1%
2-(4-IODO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-I-NBOME)	129	0.1%
AB-FUBINACA	122	< 0.1%
DIAZEPAM	122	< 0.1%
LYSERGIC ACID DIETHYLAMIDE (LYSERGIDE)	121	< 0.1%
GAMMA HYDROXY BUTYRATE	119	< 0.1%
BARBITAL	117	< 0.1%
ETIZOLAM	116	< 0.1%
3,4-METHYLENEDIOXYAMPHETAMINE (MDA)	115	< 0.1%
METHYLPHENIDATE	111	< 0.1%
TRAZODONE	105	< 0.1%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	90	< 0.1%
CYCLOBENZAPRINE	87	< 0.1%
BUPRENORPHINE	83	< 0.1%
BENZOCAINE	82	< 0.1%
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	81	< 0.1%
IBUPROFEN	80	< 0.1%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
QUETIAPINE	77	< 0.1%
NICOTINE	76	< 0.1%
PENTYLONE (ß-KETO-METHYLBENZODIOXOLYLPENTANAMINE)	74	< 0.1%
6-MONOACETYLMORPHINE	71	< 0.1%
LORAZEPAM	70	< 0.1%
SILDENAFIL CITRATE (VIAGRA)	69	< 0.1%
BUSPIRONE	66	< 0.1%
CANNABIDIOL	62	< 0.1%
TETRAHYDROCANNABINOLS	58	< 0.1%
GABAPENTIN	53	< 0.1%
5F-AB-PINACA	52	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	51	< 0.1%
ZOLPIDEM	51	< 0.1%
DEXTROMETHORPHAN	50	< 0.1%
AB-PINACA	46	< 0.1%
CLONAZOLAM	46	< 0.1%
HYDROXYZINE	46	< 0.1%
NAPROXEN	42	< 0.1%
METHOCARBAMOL	41	< 0.1%
GUAIFENESIN	40	< 0.1%
3',4'-TETRAMETHYLENE-ALPHA-PYRROLIDINOVALEROPHENONE (TH-PVP)	38	< 0.1%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	38	< 0.1%
MDMB-FUBINACA	37	< 0.1%
SERTRALINE	37	< 0.1%
EMB-FUBINACA	36	< 0.1%
TIZANIDINE	36	< 0.1%
NANDROLONE	35	< 0.1%
OXYMORPHONE	34	< 0.1%
AMOXICILLIN	33	< 0.1%
CATHINONE	33	< 0.1%
U-47700	33	< 0.1%
KETAMINE	32	< 0.1%
ASPIRIN	31	< 0.1%
CITALOPRAM	31	< 0.1%
AKB48 N-(5-FLUOROPENTYL)	30	< 0.1%
DIMETHYLTRYPTAMINE (DMT)	30	< 0.1%
TRENBOLONE	30	< 0.1%
5-FLUORO SDB-005	29	< 0.1%
NALOXONE	28	< 0.1%
NICOTINAMIDE	27	< 0.1%
FLUOXETINE	26	< 0.1%
ALPHA-PYRROLIDINOPENTIOPHENONE (ALPHA-PVP)	25	< 0.1%
MDMB-CHMICA (MMB-CHMINACA)	25	< 0.1%
TOLUENE	25	< 0.1%
METHANDROSTENOLONE (METHANDIENONE)	24	< 0.1%
STANOZOLOL	24	< 0.1%
PHENTERMINE	23	< 0.1%
AMITRIPTYLINE	22	< 0.1%
4-CHLOROMETHCATHINONE (4-CMC; CLEPHEDRONE)	21	< 0.1%
MMB-CHMICA (METHYL 2-(1-(CYCLOHEXYLMETHYL)-1H-INDOLE-3-CARBOXAMIDO)-3-METHYLBUTANOATE)	20	< 0.1%
OXANDROLONE	19	< 0.1%
1,4-BUTANEDIOL	17	< 0.1%
BUPROPION	17	< 0.1%
METHORPHAN	17	< 0.1%
PV9	17	< 0.1%
2-(4-BROMO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-B-NBOMe)	16	< 0.1%
BOLDENONE	16	< 0.1%
CLONIDINE	16	< 0.1%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
MELATONIN	16	< 0.1%
PSEUDOEPHEDRINE	16	< 0.1%
MITRAGYNINE	15	< 0.1%
TRIMETHOPRIM	15	< 0.1%
ADD'L SUBSTAN.BELVD.PRESNT-NOT IDEN	14	< 0.1%
AKB48 (N-(1-ADAMANTYL)-1-PENTYL-1H-INDAZOLE-3-CARBOXAMIDE)	14	< 0.1%
FDU-PB-22 (NAPHTHALEN-1-YL 1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	14	< 0.1%
LISINOPRIL	14	< 0.1%
4-CHLORO-2,5-DIMETHOXYAMPHETAMINE (DOC)	13	< 0.1%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	13	< 0.1%
FURANYL FENTANYL	13	< 0.1%
HYDROCHLOROTHIAZIDE	13	< 0.1%
PAROXETINE	13	< 0.1%
SULFAMETHOXAZOLE	13	< 0.1%
CETIRIZINE	12	< 0.1%
METOPROLOL	12	< 0.1%
TADALAFIL	12	< 0.1%
4-FLUOROPHENYLPIPERAZINE (pFPP)	11	< 0.1%
ATORVASTATIN	11	< 0.1%
DOXYLAMINE	11	< 0.1%
LORATADINE	11	< 0.1%
MIRTAZAPINE	11	< 0.1%
ONDANSETRON	11	< 0.1%
BUTALBITAL	10	< 0.1%
DROSTANOLONE	10	< 0.1%
ESCITALOPRAM	10	< 0.1%
FUROSEMIDE	10	< 0.1%
NOSCAPINE	10	< 0.1%
PROPRANOLOL	10	< 0.1%
2-(4-CHLORO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-C-NBOME)	9	< 0.1%
5-EAPB (1-(BENZOFURAN-5-YL)-N-ETHYLPROPAN-2-AMINE)	9	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	9	< 0.1%
BACLOFEN	9	< 0.1%
FUB-144 ((1-(4-FLUOROBENZYL)-1H-INDOL-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	< 0.1%
OMEPRAZOLE	9	< 0.1%
PSILOCYBIN/PSILOCYN	9	< 0.1%
TEMAZEPAM	9	< 0.1%
UR-144 ((1-PENTYLINDOL-3-YL)-(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	< 0.1%
5-FLUORO NPB-22	8	< 0.1%
BENZOYLECGONINE	8	< 0.1%
DESCHLOROKETAMINE	8	< 0.1%
DRONABINOL	8	< 0.1%
OLANZAPINE	8	< 0.1%
OXYMETHOLONE	8	< 0.1%
SALVINORIN-A	8	< 0.1%
VENLAFAXINE	8	< 0.1%
ACRYLFENTANYL	7	< 0.1%
CEPHALEXIN	7	< 0.1%
CHLORPHENIRAMINE	7	< 0.1%
LEVOTHYROXINE	7	< 0.1%
P-FLUOROISOBUTYRYL FENTANYL	7	< 0.1%
PHENACETIN	7	< 0.1%
SYNTHETIC ANTICHOLINERGICS	7	< 0.1%
TAPENTADOL	7	< 0.1%
CARBAMAZEPINE	6	< 0.1%
CHLORDIAZEPOXIDE	6	< 0.1%
EPHEDRINE	6	< 0.1%

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

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
MANNITOL	6	< 0.1%
METFORMIN	6	< 0.1%
METHYLENEDIOXYPYROVALERONE (MDPV)	6	< 0.1%
MONOACETYLMORPHINE	6	< 0.1%
PHENYTOIN	6	< 0.1%
PREGABALIN	6	< 0.1%
PROCAINE	6	< 0.1%
ZOPICLONE	6	< 0.1%
ACETYLFENTANYL	5	< 0.1%
ARIPIPRAZOLE	5	< 0.1%
ATENOLOL	5	< 0.1%
ATOMOXETINE	5	< 0.1%
BROMAZEPAM	5	< 0.1%
CLINDAMYCIN	5	< 0.1%
DICLOFENAC	5	< 0.1%
JWH-018 (1-PENTYL-3-(1-NAPHTHOYL)INDOLE)	5	< 0.1%
LACTOSE	5	< 0.1%
LAMOTRIGINE	5	< 0.1%
MAGNOLOL	5	< 0.1%
MAM-2201 (1-(5-FLUOROPENTYL)-3-(4-METHYL-1-NAPHTHOYL)INDOLE)	5	< 0.1%
METRONIDAZOLE	5	< 0.1%
NAXALONE	5	< 0.1%
PAPAVERINE	5	< 0.1%
RISPERIDONE	5	< 0.1%
TAMOXIFEN	5	< 0.1%
VALERYL FENTANYL	5	< 0.1%
1-METHYL-4-BENZYLPIPERAZINE (MBZP)	4	< 0.1%
3-METHOXYPHENCYCLIDINE (3-MEO-PCP)	4	< 0.1%
5F-PB-22 (1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	4	< 0.1%
5-MAPB (1-(BENZOFURAN-5-YL)-N-METHYLPROPAN-2-AMINE)	4	< 0.1%
ACYCLOVIR	4	< 0.1%
AMLODIPINE	4	< 0.1%
CYPROHEPTADINE	4	< 0.1%
DOXEPIN	4	< 0.1%
ETHANOL	4	< 0.1%
ISOBUTYL NITRITE	4	< 0.1%
LEVETIRACETAM	4	< 0.1%
MESCALINE	4	< 0.1%
MMB2201	4	< 0.1%
MODAFINIL	4	< 0.1%
N-BENZYLPIPERAZINE (BZP)	4	< 0.1%
PREDNISONE	4	< 0.1%
PROPOXYPHENE	4	< 0.1%
SDB-005	4	< 0.1%
TENOCYCLIDINE	4	< 0.1%
25I-NBOH	3	< 0.1%
2-METHYL-4'-(METHYLTHIO)-2-MORPHOLINOPROPIOPHENONE	3	< 0.1%
CHLOROETHCATHINONE	3	< 0.1%
CIPROFLOXACIN	3	< 0.1%
CLAVULANATE	3	< 0.1%
DAPOXETINE	3	< 0.1%
DEHYDROCHLORMETHYLTESTOSTERONE	3	< 0.1%
DEXMETHYLPHENIDATE	3	< 0.1%
DEXTROPROPOXYPHENE	3	< 0.1%
DICYCLOMINE	3	< 0.1%
DOCUSATE	3	< 0.1%
DOXYCYCLINE	3	< 0.1%
ETODOLAC	3	< 0.1%
GAMMA HYDROXY BUTYL LACTONE	3	< 0.1%
INDOMETHACIN	3	< 0.1%
MELOXICAM	3	< 0.1%

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

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
METHENOLONE	3	< 0.1%
METHYLTESTOSTERONE	3	< 0.1%
NIACINAMIDE	3	< 0.1%
NICOTINIC ACID	3	< 0.1%
OXCARBAZEPINE	3	< 0.1%
PENICILLIN	3	< 0.1%
PSILOCYBINE	3	< 0.1%
PX 2 ((R)-N-(1-AMINO-1-OXO-3-PHENYLPROPAN-2-YL)-1-(5-FLUOROPENTYL)-1H-INDAZOLE-3-CARBOXAMIDE)	3	< 0.1%
RANITIDINE	3	< 0.1%
SIBUTRAMINE	3	< 0.1%
TOPIRAMATE	3	< 0.1%
VALPROIC ACID	3	< 0.1%
2,5-DIMETHOXY-4-IODOPHENETHYLAMINE (2C-I)	2	< 0.1%
4-BROMO-2,5-DIMETHOXYPHENETHYLAMINE (2C-B)	2	< 0.1%
4-CHLORO-ALPHA-PYRROLIDINOVALEROPHENONE (4-CHLORO-ALPHA-PVP)	2	< 0.1%
4-FLUOROAMPHETAMINE (4-FA)	2	< 0.1%
4-METHOXYMETHCATHINONE (METHEDRONE)	2	< 0.1%
4-METHOXYPHENYLPIPERAZINE(MeOPP)	2	< 0.1%
4-METHYL-ALPHA-ETHYLAMINOPENTIOPHENONE	2	< 0.1%
5-FLUORO ADB-PINACA	2	< 0.1%
ALPHA-PYRROLIDINOPROPIOPHENONE (ALPHA-PPP)	2	< 0.1%
AM-2201 (1-(5-FLUOROPENTYL)-3-(1-NAPHTHOYL)INDOLE)	2	< 0.1%
AM2201 BENZIMIDAZOLE ANALOG	2	< 0.1%
AMMONIA	2	< 0.1%
BENAZEPRIL	2	< 0.1%
BROMPHENIRAMINE	2	< 0.1%
CELECOXIB	2	< 0.1%
DILTIAZEM	2	< 0.1%
DIMETHYLONE (3,4-METHYLENEDIOXYDIMETHYLCATHINONE; bk-MDDMA)	2	< 0.1%
DIVALPROEX	2	< 0.1%
DIVALPROEX SODIUM	2	< 0.1%
DONEPEZIL	2	< 0.1%
ESZOPICLONE	2	< 0.1%
FEXOFENADINE	2	< 0.1%
FLUBROMAZOLAM	2	< 0.1%
GASOLINE	2	< 0.1%
HALOPERIDOL	2	< 0.1%
INOSITOL	2	< 0.1%
JWH-019 (1-HEXYL-3-(1-NAPHTHOYL)INDOLE)	2	< 0.1%
JWH-250 (1-PENTYL-3-(2-METHOXYPHENYLACETYL)INDOLE)	2	< 0.1%
LETROZOLE	2	< 0.1%
LEVOFLOXACIN	2	< 0.1%
LIGHT PETROLEUM DISTILLATE	2	< 0.1%
LOPERAMIDE	2	< 0.1%
LOVASTATIN	2	< 0.1%
MESTEROLONE	2	< 0.1%
METHYLPREDNISOLONE	2	< 0.1%
METOCLOPRAMIDE	2	< 0.1%
MONTELUKAST SODIUM	2	< 0.1%
NITROFURANTOIN	2	< 0.1%
NITROUS OXIDE	2	< 0.1%
NORTRIPTYLINE	2	< 0.1%
PENTOBARBITAL	2	< 0.1%
PETHIDINE	2	< 0.1%
PEYOTE	2	< 0.1%
PHENETHYLAMINE	2	< 0.1%
PHENOBARBITAL	2	< 0.1%
PHENYLEPHRINE	2	< 0.1%
PRAMIPEXOLE	2	< 0.1%
PROMAZINE	2	< 0.1%

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

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
PROTONIX (PANTOPRAZOLE)	2	< 0.1%
PX 1 ((S)-N-(1-AMINO-1-OXO-3-PHENYLPROPAN-2-YL)-1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXAMIDE)	2	< 0.1%
QUININE	2	< 0.1%
RANOLAZINE	2	< 0.1%
ROPINIROLE	2	< 0.1%
TETRAHYDROZOLINE	2	< 0.1%
THEBAINE	2	< 0.1%
TRIAMTERENE	2	< 0.1%
XYLAZINE	2	< 0.1%
2-MAPB (N,A-DIMETHYL-2-BENZOFURANETHANAMINE)	1	< 0.1%
3,4-METHYLENEDIOXY-N,N-DIMETHYLAMPHETAMINE (MDMMA)	1	< 0.1%
3-CHLOROMETHCATHINONE (3-CMC)	1	< 0.1%
4-CHLORO-ALPHA-PYRROLIDINOPROPIOPHENONE (4-CHLORO-ALPHA-PPP)	1	< 0.1%
4-HYDROXY-N-METHYL-N-ETHYLTRYPTAMINE (4-HO-MET)	1	< 0.1%
4-HYDROXY-N-METHYL-N-ISOPROPYLTRYPTAMINE (4-HO-MIPT)	1	< 0.1%
4-METHYL-N-ETHYLCATHINONE (4-MEC)	1	< 0.1%
5-APDB (5-(2-AMINOPROPYL)-2,3-DIHYDROBENZOFURAN)	1	< 0.1%
5-FLUORO ABICA	1	< 0.1%
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	1	< 0.1%
5-METHOXY-N-METHYL-N-ISOPROPYLTRYPTAMINE (5-MEO-MIPT)	1	< 0.1%
ABACAVIR SULFATE	1	< 0.1%
ALLOPURINOL	1	< 0.1%
ALPHA-METHYLTRYPTAMINE	1	< 0.1%
ALPHA-PYRROLIDINOHEXANOPHENONE (ALPHA-PHP)	1	< 0.1%
AMILORIDE	1	< 0.1%
ARTICAINE	1	< 0.1%
BUTYLONE (ß-KETO-N-METHYLBENZO-DIOXYLPROPYLAMINE)	1	< 0.1%
BUTYRYL FENTANYL	1	< 0.1%
CALCIUM CARBONATE	1	< 0.1%
CANNABINOL	1	< 0.1%
CAPSAICIN	1	< 0.1%
CARBIDOPA	1	< 0.1%
CARVEDILOL	1	< 0.1%
CATHINE	1	< 0.1%
CEFDINIR	1	< 0.1%
CEFEPODOXIMINE	1	< 0.1%
CHLOROQUINE	1	< 0.1%
CHLORPROMAZINE	1	< 0.1%
CLENBUTEROL	1	< 0.1%
CLOMIPHENE	1	< 0.1%
CLOPIDOGREL	1	< 0.1%
CLORAZEPATE	1	< 0.1%
CLOTRIMAZOLE	1	< 0.1%
COBICISTAT	1	< 0.1%
DEXBROMPHENIRAMINE	1	< 0.1%
DIAMINO-DIPHENYL SULFONE (DAPSONE)	1	< 0.1%
DICLAZEPAM	1	< 0.1%
DICLOXACILLIN	1	< 0.1%
DIETHYLPROPION	1	< 0.1%
DIHYDROCODEINE	1	< 0.1%
DIOXANE	1	< 0.1%
DIPENTYLONE (N,N-DIMETHYLPENTYLONE)	1	< 0.1%
DIPYRONE	1	< 0.1%
DULOXETINE	1	< 0.1%
ENALAPRIL	1	< 0.1%
ESOMEPRAZOLE	1	< 0.1%
ESTRADIOL	1	< 0.1%
FENPROPOREX	1	< 0.1%
FLUOXYMESTERONE	1	< 0.1%
FOLIC ACID	1	< 0.1%
GLIPIZIDE	1	< 0.1%

Drug Identified	Number (#)	Percent of Total Drug Reports* (#)
HYDROXYCHLOROQUINE	1	< 0.1%
HYDROXYUREA (HYDROXYCARBAMIDE)	1	< 0.1%
HYOSCYAMINE	1	< 0.1%
ISONIAZID	1	< 0.1%
JWH-081 ([1-PENTYL-3-[1-(4-METHOXY)NAPHTHOYL]INDOLE])	1	< 0.1%
JWH-122 (1-PENTYL-3-(4-METHYL-1-NAPHTHOYL)INDOLE)	1	< 0.1%
JWH-203 (1-PENTYL-3-(2-CHLOROPHENYLACETYL)INDOLE)	1	< 0.1%
LAMIVUDINE	1	< 0.1%
LEVOCETIRIZINE	1	< 0.1%
LEVODOPA	1	< 0.1%
LITHIUM CARBONATE	1	< 0.1%
LOSARTAN POTASSIUM	1	< 0.1%
MECLIZINE	1	< 0.1%
MEGESTROL ACETATE	1	< 0.1%
MENTHOL	1	< 0.1%
MESTANOLONE (17ALPHA-METHYL-17BETA-HYDROXY-5ALPHA-ANDROSTAN-3-ONE)	1	< 0.1%
METAXALONE	1	< 0.1%
METHOXETAMINE (MXE; 2-(3-METHOXYPHENYL)-2-(ETHYLAMINO)CYCLOHEXANONE)	1	< 0.1%
METHYLTRIENOLONE (17A-METHYL-17ß-HYDROXYESTRA-4,9-11-TRIEN-3-ONE)	1	< 0.1%
MEXEDRONE	1	< 0.1%
MIDAZOLAM	1	< 0.1%
N,N-DIMETHYLAMPHETAMINE	1	< 0.1%
NAPHAZOLINE	1	< 0.1%
NEBIVOLOL	1	< 0.1%
NEGATIVE RESULTS - TESTED FOR SPECIFIC DRUGS	1	< 0.1%
N-ETHYL HEXEDRONE	1	< 0.1%
N-METHYL-3,4-METHYLENEDIOXYCATHINONE (METHYLONE)	1	< 0.1%
OCLACITINIB	1	< 0.1%
OPIUM	1	< 0.1%
OSELTAMIVIR PHOSPHATE	1	< 0.1%
OXYBUTYNIN	1	< 0.1%
PENTAZOCINE	1	< 0.1%
PENTEDRONE (2-(METHYLAMINO)-1-PHENYLPENTAN-1-ONE)	1	< 0.1%
PHENIBUT	1	< 0.1%
PHENYLPIRACETAM	1	< 0.1%
POTASSIUM CHLORIDE	1	< 0.1%
PRAVASTATIN SODIUM	1	< 0.1%
PRAZIQUANTEL (BILTRICIDE)	1	< 0.1%
PROPYLENE GLYCOL (1,2-PROPANEDIOL)	1	< 0.1%
PYRIDOXINE	1	< 0.1%
SIMVASTATIN	1	< 0.1%
SITAGLIPTIN	1	< 0.1%
SODIUM BICARBONATE	1	< 0.1%
SPIRONOLACTONE	1	< 0.1%
STANOLONE (DIHYDROTESTOSTERONE)	1	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	1	< 0.1%
TRIHEXYPHENIDYL	1	< 0.1%
VALACYCLOVIR	1	< 0.1%
VERAPAMIL	1	< 0.1%
WARFARIN	1	< 0.1%
YANGONIN	1	< 0.1%
ZIPRASIDONE	1	< 0.1%

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

NOTES:

Important Note About Reporting Labs: The Austin Police Department laboratory resumed reporting for 2016. Dallas Institute of Forensic Science is a new lab reporting all 2016 data to date.

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

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

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

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

Drug Identified, by Selected Drug Category**	Number (#)	Percent of Drug Category (%)	Percent of Total Reports (%)
Total Drug Reports*	**124,023**	**100.0%**	**100.0%**
Opioids Category	**9,298**	**100.0%**	**7.5%**
Heroin	**5,274**	**56.7%**	**4.3%**
Narcotic Analgesics	**3,879**	**41.7%**	**3.1%**
HYDROCODONE	1,456	15.7%	1.2%
OXYCODONE	612	6.6%	0.5%
CODEINE	516	5.5%	0.4%
TRAMADOL	312	3.4%	0.3%
MORPHINE	255	2.7%	0.2%
METHADONE	229	2.5%	0.2%
HYDROMORPHONE	146	1.6%	0.1%
FENTANYL	136	1.5%	0.1%
BUPRENORPHINE	83	0.9%	< 0.1%
OXYMORPHONE	34	0.4%	< 0.1%
U-47700	33	0.4%	< 0.1%
MITRAGYNINE	15	0.2%	< 0.1%
FURANYL FENTANYL	13	0.1%	< 0.1%
ACRYLFENTANYL	7	< 0.1%	< 0.1%
P-FLUOROISOBUTYRYL FENTANYL	7	< 0.1%	< 0.1%
ACETYLFENTANYL	5	< 0.1%	< 0.1%
VALERYL FENTANYL	5	< 0.1%	< 0.1%
PROPOXYPHENE	4	< 0.1%	< 0.1%
DEXTROPROPOXYPHENE	3	< 0.1%	< 0.1%
PETHIDINE	2	< 0.1%	< 0.1%
THEBAINE	2	< 0.1%	< 0.1%
BUTYRYL FENTANYL	1	< 0.1%	< 0.1%
DIHYDROCODEINE	1	< 0.1%	< 0.1%
OPIUM	1	< 0.1%	< 0.1%
PENTAZOCINE	1	< 0.1%	< 0.1%
Narcotics	**145**	**1.6%**	**0.1%**
6-MONOACETYLMORPHINE	71	0.8%	< 0.1%
NALOXONE	28	0.3%	< 0.1%
METHORPHAN	17	0.2%	< 0.1%
NOSCAPINE	10	0.1%	< 0.1%
BENZOYLECGONINE	8	< 0.1%	< 0.1%
MONOACETYLMORPHINE	6	< 0.1%	< 0.1%
PAPAVERINE	5	< 0.1%	< 0.1%
Synthetic Cannabinoids Category	**6,373**	**100.0%**	**5.1%**
FUB-AMB	2,607	40.9%	2.1%
5-FLUORO-ADB	1,890	29.7%	1.5%
MAB-CHMINACA (ADB-CHMINACA)	351	5.5%	0.3%
5-FLUORO AMB	313	4.9%	0.3%
AB-CHMINACA (N-[(1S)-1-(AMINOCARBONYL)-2-METHYLPROPYL]-1-(CYCLOHEXYLMETHYL)-1H-INDAZOLE-3-CARBOXAMIDE)	279	4.4%	0.2%
XLR-11 (1-(5-FLUOROPENTYL-1H-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	239	3.8%	0.2%
AB-FUBINACA	122	1.9%	< 0.1%
NM2201 (NAPHTHALEN-1-YL 1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLATE)	90	1.4%	< 0.1%
5F-AB-PINACA	52	0.8%	< 0.1%
PB-22 (1-PENTYL-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	51	0.8%	< 0.1%
AB-PINACA	46	0.7%	< 0.1%
ADB-FUBINACA (N-(1-AMINO-3,3-DIMETHYL-1-OXOBUTAN-2-YL)-1-(4-FLUOROBENZYL)-1H-INDAZOLE-3-CARBOXAMIDE)	38	0.6%	< 0.1%
MDMB-FUBINACA	37	0.6%	< 0.1%
EMB-FUBINACA	36	0.6%	< 0.1%
AKB48 N-(5-FLUOROPENTYL)	30	0.5%	< 0.1%
5-FLUORO SDB-005	29	0.5%	< 0.1%
MDMB-CHMICA (MMB-CHMINACA)	25	0.4%	< 0.1%
MMB-CHMICA (METHYL 2-(1-(CYCLOHEXYLMETHYL)-1H-INDOLE-3-CARBOXAMIDO)-3-METHYLBUTANOATE)	20	0.3%	< 0.1%
AKB48 (N-(1-ADAMANTYL)-1-PENTYL-1H-INDAZOLE-3-CARBOXAMIDE)	14	0.2%	< 0.1%

Drug Identified, by Selected Drug Category**	Number (#)	Percent of Drug Category (%)	Percent of Total Reports (%)
FDU-PB-22 (NAPHTHALEN-1-YL 1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	14	0.2%	< 0.1%
FUB-PB-22 (QUINOLIN-8-YL-1-(4-FLUOROBENZYL)-1H-INDOLE-3-CARBOXYLATE)	13	0.2%	< 0.1%
AKB48 N-(4-FLUOROBENZYL)	9	0.1%	< 0.1%
FUB-144 ((1-(4-FLUOROBENZYL)-1H-INDOL-3-YL)(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	0.1%	< 0.1%
UR-144 ((1-PENTYLINDOL-3-YL)-(2,2,3,3-TETRAMETHYLCYCLOPROPYL)METHANONE)	9	0.1%	< 0.1%
5-FLUORO NPB-22	8	0.1%	< 0.1%
JWH-018 (1-PENTYL-3-(1-NAPHTHOYL)INDOLE)	5	< 0.1%	< 0.1%
MAM-2201 (1-(5-FLUOROPENTYL)-3-(4-METHYL-1-NAPHTHOYL)INDOLE)	5	< 0.1%	< 0.1%
5F-PB-22 (1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXYLIC ACID 8-QUINOLINYL ESTER)	4	< 0.1%	< 0.1%
MMB2201	4	< 0.1%	< 0.1%
SDB-005	4	< 0.1%	< 0.1%
PX 2 ((R)-N-(1-AMINO-1-OXO-3-PHENYLPROPAN-2-YL)-1-(5-FLUOROPENTYL)-1H-INDAZOLE-3-CARBOXAMIDE)	3	< 0.1%	< 0.1%
5-FLUORO ADB-PINACA	2	< 0.1%	< 0.1%
AM-2201 (1-(5-FLUOROPENTYL)-3-(1-NAPHTHOYL)INDOLE)	2	< 0.1%	< 0.1%
AM2201 BENZIMIDAZOLE ANALOG	2	< 0.1%	< 0.1%
JWH-019 (1-HEXYL-3-(1-NAPHTHOYL)INDOLE)	2	< 0.1%	< 0.1%
JWH-250 (1-PENTYL-3-(2-METHOXYPHENYLACETYL)INDOLE)	2	< 0.1%	< 0.1%
PX 1 ((S)-N-(1-AMINO-1-OXO-3-PHENYLPROPAN-2-YL)-1-(5-FLUOROPENTYL)-1H-INDOLE-3-CARBOXAMIDE)	2	< 0.1%	< 0.1%
5-FLUORO ABICA	1	< 0.1%	< 0.1%
JWH-081 ([1-PENTYL-3-[1-(4-METHOXY)NAPHTHOYL]INDOLE])	1	< 0.1%	< 0.1%
JWH-122 (1-PENTYL-3-(4-METHYL-1-NAPHTHOYL)INDOLE)	1	< 0.1%	< 0.1%
JWH-203 (1-PENTYL-3-(2-CHLOROPHENYLACETYL)INDOLE)	1	< 0.1%	< 0.1%
THJ 2201(1-(5-FLUOROPENTYL)-1H-INDAZOL-3-YL)(NAPHTHALEN-1-YL)METHANONE	1	< 0.1%	< 0.1%
Synthetic Cathinones Category	**1,083**	**100.0%**	**0.9%**
Synthetic Cathinones	**1,075**	**99.3%**	**0.9%**
N-ETHYLPENTYLONE	582	53.7%	0.5%
DIBUTYLONE (BETA-KETO-N,N-DIMETHYL-1,3-BENZODIOXOLYLBUTANAMINE; BK-DMBDB)	153	14.1%	0.1%
3,4-METHYLENEDIOXYETHYLCATHINONE (ETHYLONE)	141	13.0%	0.1%
PENTYLONE (ß-KETO-METHYLBENZODIOXOLYLPENTANAMINE)	74	6.8%	< 0.1%
3',4'-TETRAMETHYLENE-ALPHA-PYRROLIDINOVALEROPHENONE (TH-PVP)	38	3.5%	< 0.1%
ALPHA-PYRROLIDINOPENTIOPHENONE (ALPHA-PVP)	25	2.3%	< 0.1%
4-CHLOROMETHCATHINONE (4-CMC; CLEPHEDRONE)	21	1.9%	< 0.1%
PV9	17	1.6%	< 0.1%
2-METHYL-4'-(METHYLTHIO)-2-MORPHOLINOPROPIOPHENONE	3	0.3%	< 0.1%
CHLOROETHCATHINONE	3	0.3%	< 0.1%
4-CHLORO-ALPHA-PYRROLIDINOVALEROPHENONE (4-CHLORO-ALPHA-PVP)	2	0.2%	< 0.1%
4-METHOXYMETHCATHINONE (METHEDRONE)	2	0.2%	< 0.1%
4-METHYL-ALPHA-ETHYLAMINOPENTIOPHENONE	2	0.2%	< 0.1%
ALPHA-PYRROLIDINOPROPIOPHENONE (ALPHA-PPP)	2	0.2%	< 0.1%
DIMETHYLONE (3,4-METHYLENEDIOXYDIMETHYLCATHINONE; bk-MDDMA)	2	0.2%	< 0.1%
3-CHLOROMETHCATHINONE (3-CMC)	1	< 0.1%	< 0.1%
4-CHLORO-ALPHA-PYRROLIDINOPROPIOPHENONE (4-CHLORO-ALPHA-PPP)	1	< 0.1%	< 0.1%
4-METHYL-N-ETHYLCATHINONE (4-MEC)	1	< 0.1%	< 0.1%
ALPHA-PYRROLIDINOHEXANOPHENONE (ALPHA-PHP)	1	< 0.1%	< 0.1%
BUTYLONE (ß-KETO-N-METHYLBENZO-DIOXYLPROPYLAMINE)	1	< 0.1%	< 0.1%
DIPENTYLONE (N,N-DIMETHYLPENTYLONE)	1	< 0.1%	< 0.1%
N-ETHYL HEXEDRONE	1	< 0.1%	< 0.1%
PENTEDRONE (2-(METHYLAMINO)-1-PHENYLPENTAN-1-ONE)	1	< 0.1%	< 0.1%
Synthetic Cathinones (Hallucinogen)	**8**	**0.7%**	**< 0.1%**
METHYLENEDIOXYPYROVALERONE (MDPV)	6	0.6%	< 0.1%
MEXEDRONE	1	< 0.1%	< 0.1%
N-METHYL-3,4-METHYLENEDIOXYCATHINONE (METHYLONE)	1	< 0.1%	< 0.1%
Phenethylamines (2C Series) (H) Category	**161**	**100.0%**	**0.1%**
2-(4-IODO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-I-NBOME)	129	80.1%	0.1%

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

Drug Identified, by Selected Drug Category**	Number (#)	Percent of Drug Category (%)	Percent of Total Reports (%)
2-(4-BROMO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-B-NBOMe)	16	9.9%	< 0.1%
2-(4-CHLORO-2,5-DIMETHOXYPHENYL)-N-(2-METHOXYBENZYL)ETHANAMINE (25-C-NBOME)	9	5.6%	< 0.1%
25I-NBOH	3	1.9%	< 0.1%
2,5-DIMETHOXY-4-IODOPHENETHYLAMINE (2C-I)	2	1.2%	< 0.1%
4-BROMO-2,5-DIMETHOXYPHENETHYLAMINE (2C-B)	2	1.2%	< 0.1%
Piperazines Category	**102**	**100.0%**	**< 0.1%**
Piperazines (Hallucinogen)	**94**	**92.2%**	**< 0.1%**
1-(3-TRIFLUOROMETHYL)PHENYL-PIPERAZINE (TFMPP)	81	79.4%	< 0.1%
4-FLUOROPHENYLPIPERAZINE (pFPP)	11	10.8%	< 0.1%
4-METHOXYPHENYLPIPERAZINE(MeOPP)	2	2.0%	< 0.1%
Piperazines (Stimulant)	**8**	**7.8%**	**< 0.1%**
1-METHYL-4-BENZYLPIPERAZINE (MBZP)	4	3.9%	< 0.1%
N-BENZYLPIPERAZINE (BZP)	4	3.9%	< 0.1%
Tryptamines Category	**35**	**100.0%**	**< 0.1%**
DIMETHYLTRYPTAMINE (DMT)	30	85.7%	< 0.1%
4-HYDROXY-N-METHYL-N-ETHYLTRYPTAMINE (4-HO-MET)	1	2.9%	< 0.1%
4-HYDROXY-N-METHYL-N-ISOPROPYLTRYPTAMINE (4-HO-MIPT)	1	2.9%	< 0.1%
5-METHOXY-N,N-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT)	1	2.9%	< 0.1%
5-METHOXY-N-METHYL-N-ISOPROPYLTRYPTAMINE (5-MEO-MIPT)	1	2.9%	< 0.1%
ALPHA-METHYLTRYPTAMINE	1	2.9%	< 0.1%

NOTES:
Important Note About Reporting Labs: The Austin Police Department laboratory resumed reporting for 2016. Dallas Institute of Forensic Science is a new lab reporting all 2016 data to date.

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

**Selected Drug Categories: Opioids, Synthetic Cannabinoids, Synthetic Cathinones, 2C Phenethylamines, Piperazines, and Tryptamines are drug categories of current interest to the NDEWS Project because of the recent increase in their numbers, types, and availability.

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

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

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

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

Overview and Limitations of American Community Survey (ACS) Data

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

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

Sources

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

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

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

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

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

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

Notes about Data Terms

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

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

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

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

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

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

Sources

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

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

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

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

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

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

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

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

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

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

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

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

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

Notes about Data Terms

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

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

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

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

Sources

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

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

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

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

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

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

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

Overview and Limitations of Treatment Admissions Data from Local Sources

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

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

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

❖ **Atlanta Metro**

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

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

Notes & Definitions:
Admissions: includes admissions to publicly-funded programs.
Marijuana/Synthetic Cannabinoids: the data do not differentiate between marijuana and synthetic cannabinoids.

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

❖ **Chicago Metro**

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

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

Notes & Definitions:
Admissions: Includes admissions to publicly funded programs. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.
Declines in overall treatment admissions are due to several factors, including budget cuts and changes in providers and payers that affect the reporting of these data (e.g., the expansion of Medicaid under the ACA to cover some forms of drug treatment).
Prescription Opioids: Includes oxycodone/hydrocodone, nonprescription methadone, and other opiates.

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

❖ **Denver Metro**

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

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

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

❖ **King County (Seattle Area)**

Notes & Definitions:

Data Availability: 2016 figures are estimates based on doubling preliminary numbers reported for July-December 2016.
Treatment authorizations: Includes admissions to outpatient, opioid treatment programs and residential modalities of care in publicly funded programs. Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.
Prescription Opioids: Includes hydromorphine, other opiates and synthetics, and oxycodone.

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

❖ **Los Angeles County**

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

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

❖ **Maine**

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

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

❖ **New York City**

Notes & Definitions:
Non-Crisis Admissions: Includes non-crisis admissions to outpatient, inpatient, residential, and methadone maintenance treatment programs licensed in the state.
Crisis Admissions: Includes detox admissions to all licensed treatment programs in the state
Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.
Prescription Opioids: Includes nonprescription methadone, buprenorphine, other synthetic opiates, and OxyContin.
Benzodiazepines: Includes benzodiazepines, alprazolam, and rohypnol.
Synthetic Stimulants: Includes other stimulants and a newly created category, synthetic stimulants (created in 2014).

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

❖ **Philadelphia**

Notes & Definitions:
Admissions: Includes admissions for uninsured and underinsured individuals admitted to any licensed treatment programs funded through the Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS). Each admission does not necessarily represent a unique individual because some individuals are admitted to treatment more than once in a given period.
2015 and 2016 Data: Pennsylvania expanded Medicaid coverage under the Affordable Care Act and more than 100,000 additional individuals became eligible in 2015. As individuals who historically have been uninsured become insured, the number of individuals served through the BHSI (Behavioral Health Special Initiative) program has declined; thus treatment admissions reported by BHSI declined from 8,363 in 2014 to 3,507 in 2016. However, similar patterns of substance use were observed among those seeking treatment in 2014 and in 2015.
Beginning in FY2015, services funded by the Pennsylvania Department of Drug and Alcohol Programs and tracked by BHSI for OAS are required to report through an Internet portal. This new reporting system does not require drug of choice in the data collection. The impact of this change in reporting protocol resulted in an increase in the proportion of "unknown" drug of choice in subsequent years.
Methamphetamine: Includes both amphetamines and methamphetamine.
Other Drugs: May include synthetics, barbiturates, and over-the-counter drugs. Synthetic Stimulants and Synthetic Cannabinoids are not distinguishable from "Other Drugs" in the reporting source.

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

❖ **San Francisco County**

Notes & Definitions

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

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

❖ **Southeastern Florida (Miami Area)**

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

Notes & Definitions:

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

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

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

❖ **Texas**

Notes & Definitions:

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

Methamphetamine: Includes amphetamines and methamphetamine.

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

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

❖ **Wayne County (Detroit Area)**

Notes & Definitions:

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

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

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

Sources

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

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

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

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

Overview and Limitations of CDC WONDER Multiple Cause of Death Data

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

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

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

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

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

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

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

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

Notes About Data Terms

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Heroin (T40.1)

Methadone (T40.3)

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

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

Cocaine (T40.5)

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

Cannabis (derivatives) (T40.7)

Benzodiazepines (T42.4)

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

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

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

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

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

Sources

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

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

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

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

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

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

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

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

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

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

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

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

Notes about Reporting Labs

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

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

Notes about Data Terms

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

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

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

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

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

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

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

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

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

BETA-HYDROXYFENTANYL

Beta-HYDROXYTHIOFENTANYL

BUTYRYL FENTANYL

CARFENTANIL

CIS-3-METHYLFENTANYL

DESPROPIONYL FENTANYL

FLUOROFENTANYL

FLUOROISOBUTYRYLFENTANYL

FURANYL FENTANYL

LOFENTANIL

ORTHO-FLUOROFENTANYL

P-FLUOROBUTYRYL FENTANYL (P-FBF)

P-FLUOROFENTANYL

P-FLUOROISOBUTYRYL FENTANYL

REMIFENTANIL

SUFENTANIL

THENYLFENTANYL

THIOFENTANYL

TRANS-3-METHYLFENTANYL

VALERYL FENTANYL

Sources

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

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

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

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