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National Drug Early Warning System (NDEWS) State of Texas Sentinel Community Site (SCS) Drug Use Patterns and Trends, 2018

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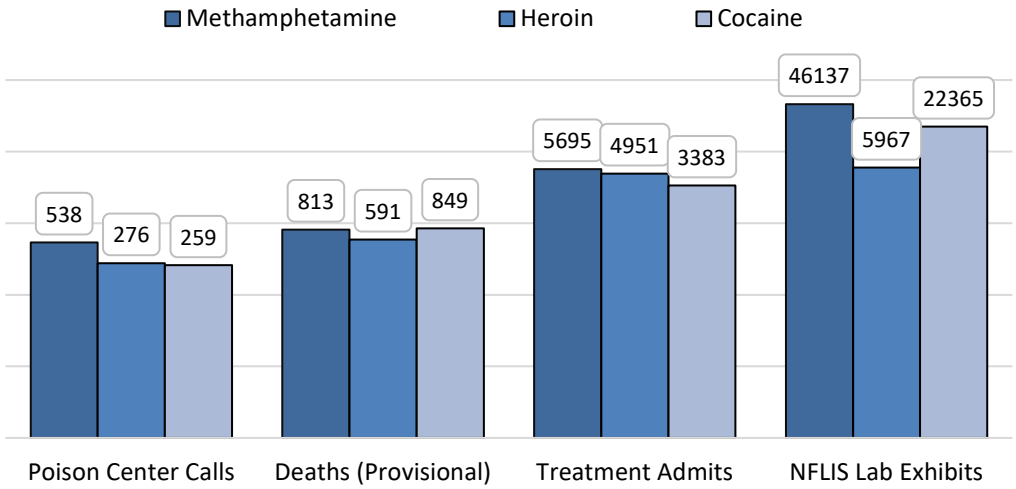
Highlights

Methamphetamine is the #1 drug threat ranked by the Dallas, El Paso, and Houston Drug Enforcement Administration (DEA) field divisions (Figure 1). Indicators of drug use (poison control calls, treatment admissions, deaths, and toxicology reports on substances seized and identified) all show methamphetamine is a larger problem than heroin (Figure 2). Methamphetamine continues to be made using phenyl-2-propanone, not cold medicines, and major drug seizures of large quantities imported from Mexico are more commonly reported.

Figure 1. Top Five Drug Threats Ranked by Drug Enforcement Administration Texas Field Divisions, 2016

	#1	#2	#3	#4	#5
Dallas	Methamphetamine	Cocaine	Pharmaceuticals	Heroin	Cannabis
Houston	Methamphetamine	Cannabis	Cocaine	Heroin	Pharmaceuticals
El Paso	Methamphetamine	Heroin	Cocaine	Cannabis	Pharmaceuticals

Figure 2. Indicators of Methamphetamine and Heroin Trends in Texas, 2017



Source: HHSC, DSHS, NFLIS.

Cocaine is ranked the #2 or #3 threat by the DEA field divisions. Preliminary 2017 mortality data shows more cocaine deaths than any other drug type. Poison center calls and treatment admissions for cocaine continue to decrease, while deaths and toxicological data are increasing. Use is more common among the marginalized and people experiencing homelessness. The increase in deaths may be the first indicator that the expected flood of cocaine from Colombia is beginning to be seen.

Pharmaceuticals, benzodiazepines, hydrocodone, and muscle relaxants remain problematic. Compared with other NDEWS sites, the number of fentanyl items seized and identified is increasing but the number of cases involving heroin and fentanyl in combination is low, while the number of cases involving fentanyl and other opiates is high. The recent increase in the number of tramadol cases involved with other opiates is also a concern.

Heroin in Texas is either black tar heroin or powdered brown heroin (diluted with diphenhydramine or other filler), with some white Mexican/South American heroin seen. In Texas, "tar" is sold in small balloons and the user then extracts the tar from the balloon, mixes it with water over heat, and then draws it up and injects it. In states north of Texas, the heroin tends to be powdered when it reaches the dealer, who then packages it (with or without powdered fentanyl) in cellophane envelopes to sell to the user. To prevent an overdose, fentanyl test strips are sometimes used to determine whether the package contains fentanyl. In Texas, of the top 25 items seized and identified in Texas laboratories reporting to the National Forensic Laboratory Information System (NFLIS), heroin ranks #4, at 5.2% of all items identified, and fentanyl ranks #21 (0.21% of all items identified).

Cannabis indicators remain steady, with problems most often seen in the trafficking of decriminalized cannabis products from Colorado through Texas. Additional research is needed to analyze the problems from the use of these products and the effects of potency.

Synthetic cannabinoid and cathinone poison calls have decreased but recent research results by the author looking at treatment admissions and poison center call data have revealed statistically significant trends over time. The user population has changed over time from younger males hoping to use a cannabinoid that would not show positive in drug tests to an older population who is more likely to be experiencing homelessness and comorbid psychological problems.

Texas needs a **harm reduction campaign** targeted to the use of prescription opioids, benzodiazepines, and muscle relaxants similar to the heroin + fentanyl campaign. It should be targeted to people who are using a variety of prescription opiates and pharmacists and physicians need to not only provide naloxone but also train users and their family members on the signs of overdose.

Overview of Key Texas Indicators

Texas in 2017 has 254 counties and a population of 28,304,596, with 42% White, 39% Hispanic, and 13% Black. Fifty percent of the population is female, and 26% is younger than 18 years of age. Because of the size of the U.S.–Mexico border, the drug patterns in Texas vary. Figure 3 shows the decreased marijuana seizures, the varying levels of heroin seizures, and expected increases to date in 2018. Through the first half of fiscal year 2018, methamphetamine and cocaine seizures by U.S. Customs and Border Protection are almost equal to all the 2017 seizures.

Figure 3. Pounds of Drugs Seized by Customs and Border Protection, FY2012–FY2018TD (as of 8/31/2018)

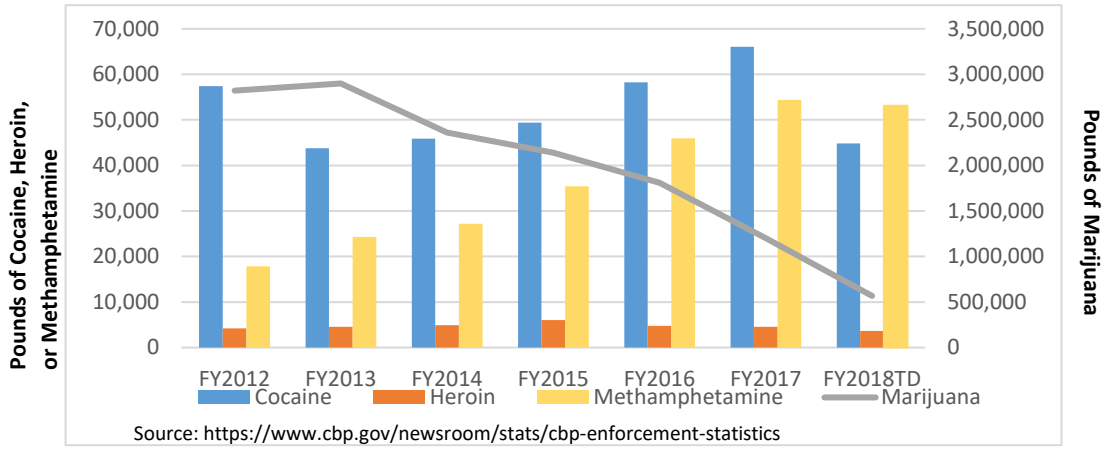
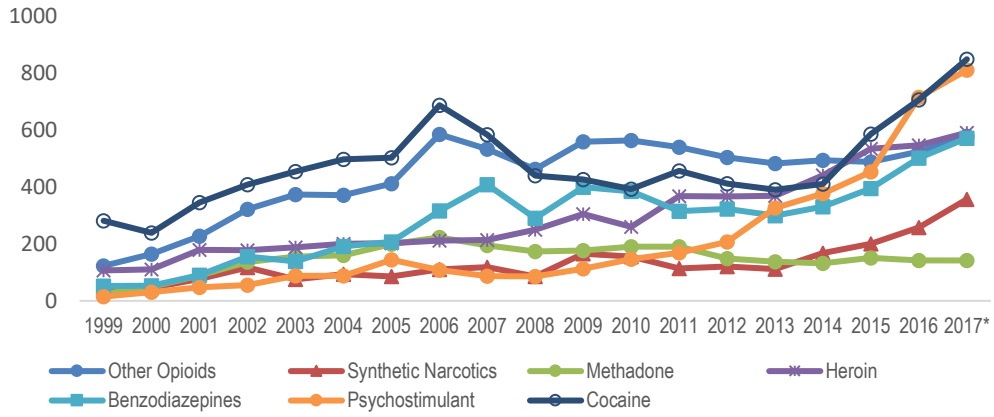


Figure 4 describes the increases in drug deaths. The increase in the number of methamphetamine deaths shows the magnitude of the methamphetamine epidemic. The clustering of heroin, other opiate, benzodiazepine, and cocaine drugs at over 500 deaths highlights the polydrug abuse problem and the need to focus overdose prevention efforts at a variety of drugs rather than concentrating on just one drug.

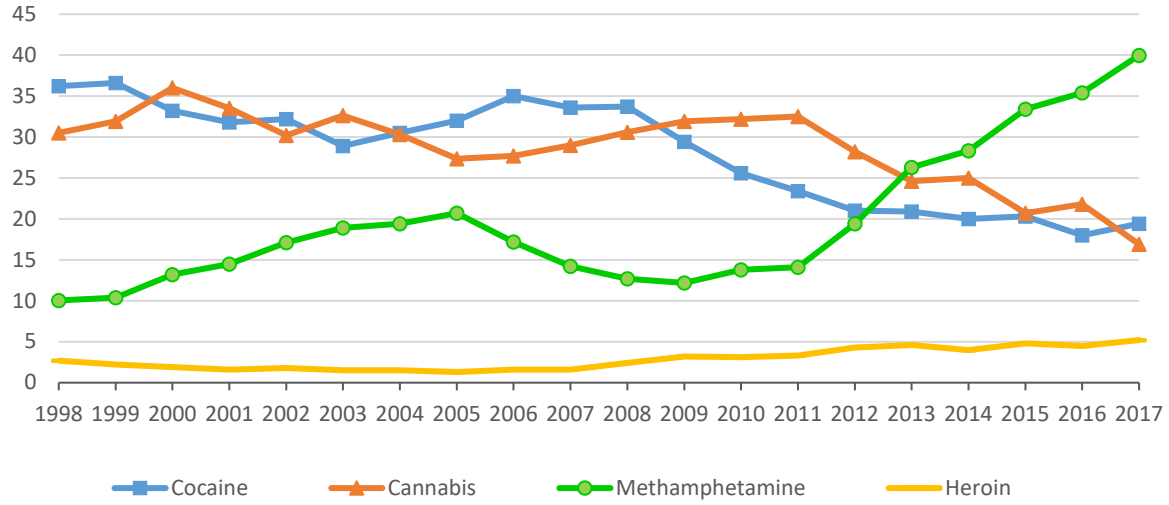
Figure 4. Drug Deaths in Texas, 1999–2017*



*2017 data are provisional.
Source: DSHS.

Figure 5 shows the items seized and identified by forensic laboratories, with methamphetamine being the only substance that is increasing. The slight "uptick" of cocaine may be an indicator of the cocaine increases seen in other datasets.

Figure 5. Percentage of Selected Items Seized and Identified in Forensic Laboratories in Texas, 1998–2017



Source: DEA NFLIS

Drug Use Patterns and Trends

BENZODIAZEPINES

Key Findings

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

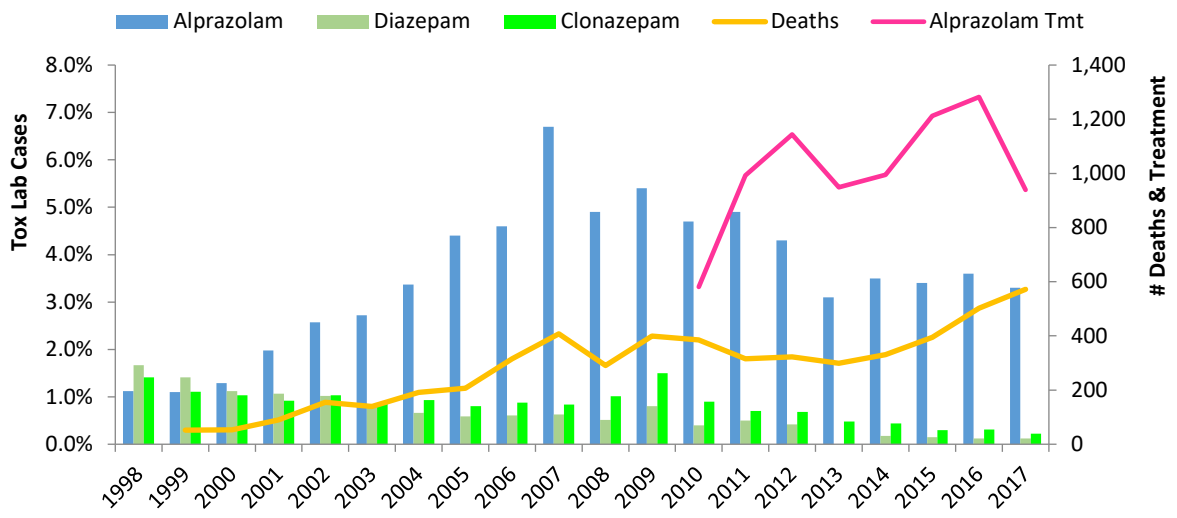
Figure 6, with data retrieved from the National Forensic Laboratory Information System (NFLIS), the Texas Poison Center Network, and the Texas Health and Human Services Commission (HHSC)–funded treatment admissions show the most popular benzodiazepines identified in forensic laboratories in Texas, as 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 as well as the abuse of "The Houston Cocktail" or "Holy Trinity", which contain alprazolam, carisoprodol, and hydrocodone.

Of those entering treatment programs for problems with benzodiazepines, 57% were female, 58% were White, and 31% were Hispanic, and the average age was 28. Other drugs of abuse included marijuana (31%).

Polydrug Use

Some 12% of the 2017 provisional benzodiazepine deaths involved fentanyl or tramadol.

Figure 6. Benzodiazepines as a Percentage of All Items Identified by Tox Labs, Number of



Benzodiazepine Deaths*, and Alprazolam Cases Admitted to Treatment, 1998–2017
*2017 death data are provisional.
Source: NFLIS & DSHS.

Additional Findings

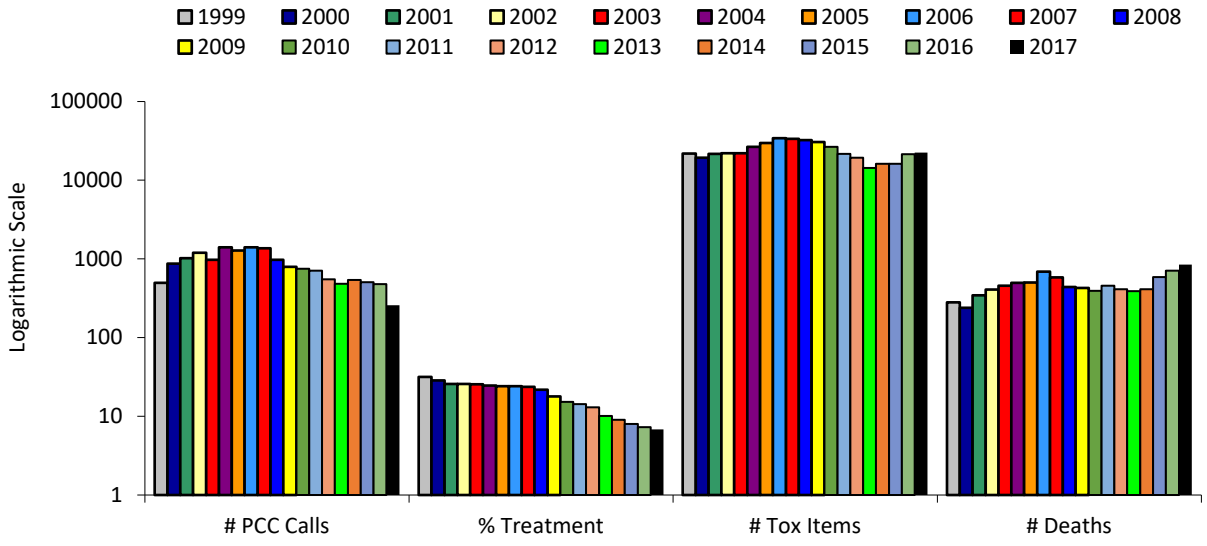
Counterfeit alprazolam from China and India was found by the Drug Enforcement Administration (DEA) in the Houston area in 2015, and in 2017, reports have been received of fentanyl pressed to resemble alprazolam pills. Diphenhydramine or etizolam has also been put through pill presses to produce tablets that resemble alprazolam.

COCAINE/CRACK

Key Findings

Cocaine/crack toxicological exhibits and deaths increased from 706 in 2016 to 849 in 2017 (Figure 7). This confirms the earlier reports from of the El Paso Intelligence Center (EPIC) that the supply is shifting with an increase in the amounts of source and transit zone seizures due to the cessation of large-scale eradication of coca plants in Bolivia, Colombia, and Peru. Availability is high. While street outreach workers report increased popularity of powder cocaine among the homeless and more requests for "safe smoke" kits to use to smoke synthetic cannabinoids or crack cocaine, analysis of the characteristics of those in treatment for cocaine showed a change to inhaling cocaine by Anglo and Hispanic populations with a decrease in the use of crack cocaine by unemployed and marginalized populations experiencing homelessness. Cocaine is ranked the #2 drug threat by the field division of the Dallas DEA and the #3 threat by the field divisions of the Houston and El Paso DEA.

Figure 7. Texas Poison Center Calls, Treatment Admissions, Tox Lab Exhibits, and Deaths*: Cocaine, 1999–2017



*2017 death data are provisional.
Source: DSHS, HHSC, and NFLIS.

Cocaine (both crack and powder) represented 7% of all admissions to Texas HHSC-funded treatment programs in 2017, which is down from a high of 32% in 1999. In 2017, of the cocaine admissions, 50% smoked crack, 46% inhaled cocaine, and 2% injected it. Individuals with cocaine problems or alcohol were the oldest of all the groups, at an average age of 39 (Appendix 2).

Polydrug Use

Polydrug use as a "speedball" (a combination of upper and downer drugs) is common with cocaine. Cocaine was involved in 2% of the provisional 2017 heroin deaths and in 20% of the methamphetamine deaths. Other drugs used by individuals entering treatment for a primary problem with cocaine or crack included alcohol (29%), and marijuana (22%), with 1% to 2% reporting use of fentanyl or tramadol.

HEROIN

Key Findings

The multiple cause of death rate for heroin in Texas was 0.5 per 100,000 in 1999, as compared with 2.0 in 2016; the 2017 rates are not be available for the provisional (incomplete) numbers. Other than California, the death rate increases in this period were lower than for any other state. The highest number of deaths occurred in the 24–34 age group.

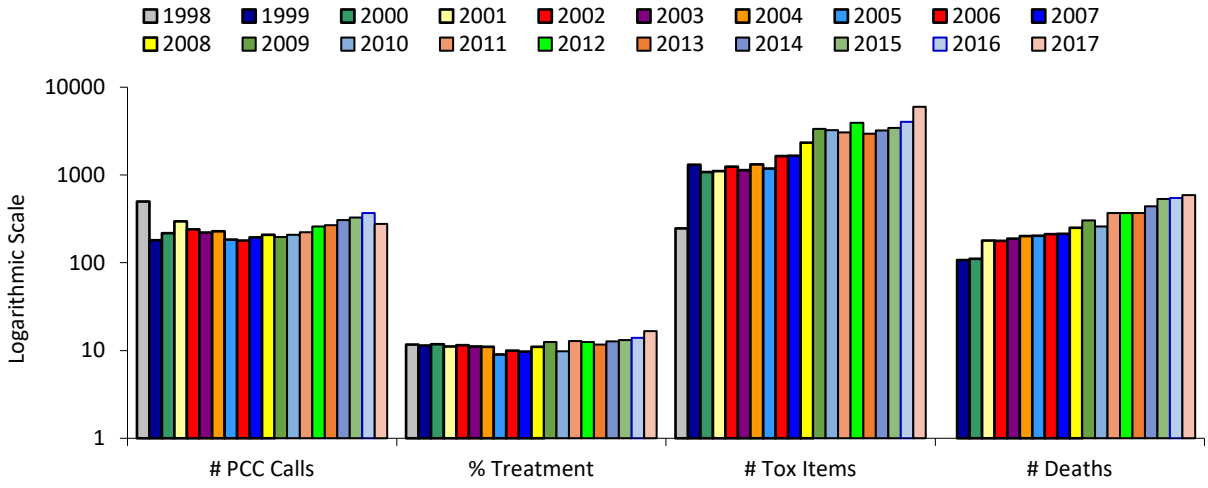
Figure 8 shows the decreasing levels of poison center calls and the rising number of toxicology reports on substances seized and identified. Texas has not suffered the epidemic of overdoses seen in the Northeast because the heroin in Texas is Mexican black tar, which cannot be easily mixed with fentanyl. In areas where the heroin is powdered, the dealer can mix in fentanyl to increase its potency (and price) and then package the mixture in a glassine bag. Test strips can be used to test for the presence of fentanyl.

In Texas, heroin is normally sold in small party balloons as small pieces of black tar and then mixed with water over heat by the users. However, “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 ingredient, and the Mexican white heroin. Analysis of the 2017 provisional data on heroin deaths found only 9% of the heroin deaths also involved fentanyl.

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% to 85% pure, while the Mexican black tar is 29% pure.

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

Figure 8. Texas Poison Center Calls, Treatment Admissions, Tox Lab Exhibits, and Deaths*: Heroin, 1998–2017



*2017 death data are provisional.
Source: HHSC, DSHS, and NFLIS.

The proportion of treatment admissions who are White has increased from 40% in 1974 to 63% in 2017, with 30% Hispanic and 5% African American. The average age of those seeking treatment in 2016 was 35 years old, as compared with 27 in 1974. Route of administration was injection (85%) and inhaling (13%).

Polydrug Use

Of the substances most often found with heroin in toxicological analysis in Texas in 2017, 45% of the combinations involved heroin and diphenhydramine, which is used to turn tar heroin into a powder. Other combinations included heroin and methamphetamine (6%) and heroin and fentanyl (3%). Individuals who entered treatment for problems with heroin also reported use of methamphetamine (16%), cocaine/crack (13%), or marijuana (10%).

Analysis of the 2017 provisional overdose death data found that of 591 heroin deaths, 52 also had used fentanyl and 22 had used tramadol.

PRESCRIPTION OPIOIDS

Key Findings

Figure 9 shows the changes in the use of different prescription opioids over time, with decreases in the amount of opioid doses shipped into Texas through legal distribution channels, decreased identification of opioids other than heroin, and decreases in poison center cases. The number of deaths due to other opioids and to synthetic narcotics increased between 2016 and 2017.

Polydrug Use

Individuals who entered treatment for problems with other opiates were most likely to report use of benzodiazepines (13%), methamphetamine (12%), or marijuana (11%).

Figure 9. Indicators of Abuse of Opiates in Texas, 1999–2017

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
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	252
Fentanyl		3	1	3	11	17	11	139	155	120	143	109	132	110	98	120	100	94	86
Heroin	181	218	295	241	221	229	184	179	195	208	196	208	222	259	268	307	327	368	276
Hydrocodone		236	123	348	465	747	431	657	703	723	748	838	869	814	645	530	351	295	282
Methadone		81	96	138	141	199	233	216	246	218	187	214	159	174	151	168	153	210	167
Oxycodone		62	99	68	67	112	50	68	67	81	74	101	95	129	74	63	82	74	80
Treatment Admissions (HHSC)																			
Methadone[a]	69	44	52	75	86	63	91	101	113	160	145	132	180	193	170	178	167	166	109
"Other Opiates"[a]	815	890	1,386	2084	2794	3433	3482	3903	4529	5221	5844	2679	2047	1851	1972	1923	1685	1593	2841
Codeine[a]													109	102	81	99	110	94	69
Hydrocodone[a]													3102	3277	2972	2583	2272	1896	1426
Hydromorphone[a]													222	275	211	188	195	184	112
Oxycodone[a]													342	323	326	323	282	351	278
Heroin[a]													9542	9416	10459	10461	10989	10822	8238
Deaths with Mention of Substance (DSHS)[b]																			
Other Opioids	118	151	214	307	360	359	401	564	515	440	534	540	521	480	452	471	473	519	578
Synthetic Narcotics	49	46	77	117	76	94	86	111	118	86	166	156	114	121	112	157	186	239	357
Methadone	24	50	89	136	155	160	199	223	195	173	177	180	179	142	128	116	144	142	142
Heroin	107	111	179	178	188	201	203	212	214	250	305	260	368	367	369	425	523	539	591
Drug Exhibits Identified by Forensic Toxicology Laboratories (NFLIS)																			
Buprenorphine	9	12	6	10	10	6	6	13	25	42	89	136	133	89	71	100	107	88	108
Fentanyl	3	1	8	6	3	14	8	23	17	47	15	12	27	21	16	34	51	146	246
Heroin	1310	1081	1103	1241	1135	1320	1188	1643	1660	2338	3364	3247	3052	3934	2946	3224	3447	4023	5967
Hydrocodone	520	655	990	1153	1700	2036	2651	3194	3822	3597	4079	5229	4856	4016	2681	3018	1869	1493	1197
Methadone	20	23	51	62	79	149	184	204	248	302	319	288	318	320	269	232	251	247	211
Oxycodone	41	77	149	161	229	309	334	331	330	390	448	514	451	451	369	432	512	634	530
Tramadol	16	20	43	31	60	81	95	103	118	144	176	240	238	260	197	277	264	326	308
Distribution of Controlled Substances by Manufacturer (ARCOS)-Dosage/100K Texas Population																			
Buprenorphine								62	102	176	231	230	274	315	360	379	393	402	419
Hydrocodone								14694	17670	17861	19290	16887	18695	17835	12889	16001	12140	11471	10591
Oxycodone								4423	5536	4935	5107	4464	4669	4739	4660	4757	5177	5329	5266
Methadone								2530	2677	2700	2743	2373	2272	2108	2378	2385	2401	2221	2235

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

[b]The 2017 mortality data from DSHS Center for Health Statistics are provisional and preliminary and subject to change before the data are finalized.

Additional Findings

A scan of the death certificates involving other opiates found many deaths involved combinations of various opiate drugs, benzodiazepines, muscle relaxants, fentanyl, and methadone. Some involved up to seven different drugs. The Texas Prescription Monitoring Program (PMP) on September 1, 2019 will require pharmacists and physicians to check for drugs already prescribed to patients, which could lessen the ability of drug-seekers to access other drugs. This pattern of using multiple drugs should be a target of a harm reduction campaign targeting users and families, who need to be educated about the signs of opioid overdose and have naloxone present in the home if overdoses occur.

FENTANYL AND OTHER NON PRESCRIPTION SYNTHETIC OPIOIDS

Key Findings

Because most of the heroin in Texas is gummy black tar, fentanyl use with heroin or other drugs is rare. It was listed as the #22 drug out of the top 25 that have been identified in NFLIS toxicological reports. The forms of fentanyl used medically include a sublingual tablet, a lozenge or "lollipop", transdermal patch, a buccal tablet, a transdermal device, nasal spray, and a sublingual spray. The fentanyl that is being used with heroin is either the pharmaceutical product that has been illegally obtained or over-prescribed or else it is a powder obtained from China.

On September 1, 2019, pharmacists and prescribers will be required to check a patient's PMP records before dispensing or prescribing opioids, benzodiazepines, barbiturates, or carisoprodol muscle relaxant. Implementation of this law, along with training on signs of overdose and access to naloxone, should lead to a decrease in these deaths.

Figure 9 shows the increases in fentanyl items seized and identified by toxicology laboratories, and although the number is increasing, it is still lower than tramadol items. In addition, the number of synthetic opioids identified as UR-47700 rose from 54 in 2016 to 106 in 2017.

Figure 10 shows the number of fentanyl cases reported to Texas poison centers and the proportion of those cases that reported use of a medical product, such as a "patch." Information indicated that about a half had reported a medical product such as a patch, spray, or sublingual tablet; data on the form used in the other cases were not reported.

Figure 10. Fentanyl Cases Reported by Texas Poison Centers

	# Cases	% Medical Product
2016	87	66%
2017	86	57%
1H 2018	40	48%

Source: DSHS.

Polydrug Use

Although users reported they have taken heroin and fentanyl combined, combining black tar/gummy heroin with fentanyl is not efficient and ethnographic queries have not provided a reliable method for

combining the substances. Combining fentanyl with gummy tar heroin is not common in Texas. In 2016, only two cases of fentanyl combined with another drug were reported in the Texas mortality data, and Figure 11 shows the drugs found with fentanyl or tramadol in death records.

Figure 11. 2017 Provisional Deaths in Texas Mentioning Drugs in Combination with Fentanyl or Tramadol

	Fentanyl	Tramadol	Total Deaths
Other Opiates	56	15	578
Heroin	52	22	591
Cocaine	99	31	849
Benzodiazepines	71	23	572
Psychostimulants	180	63	813

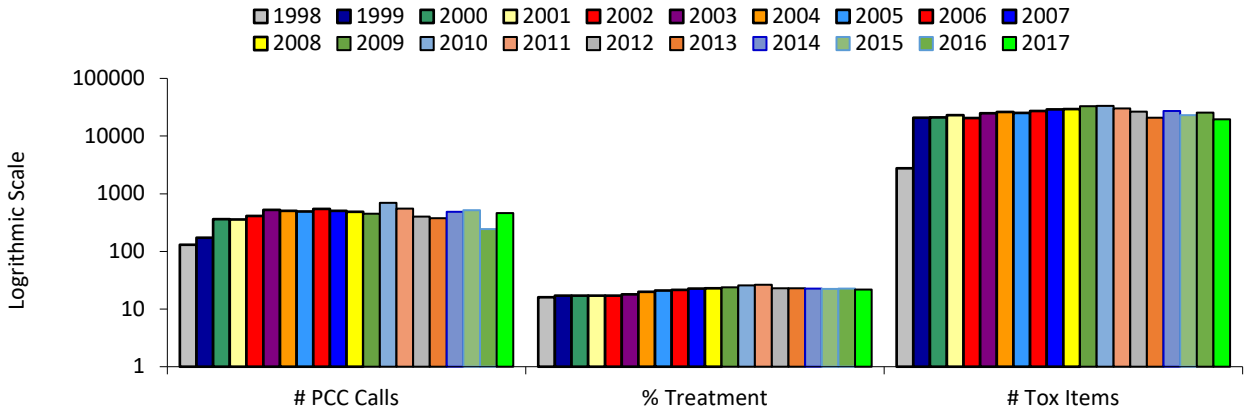
SOURCE: DSHS.

MARIJUANA/CANNABIS/CANNABIDIOL

Key Findings

As in the past, cannabis products from Mexico and from states with decriminalized marijuana remain a problem in terms of trafficking across Texas. As Figure 12 shows, there has been little change in the basic indicators of marijuana use. It is against Texas law to possess any amount of marijuana/cannabis; however, medicinal use of one cannabinoid product is legal.

Figure 12. Texas Poison Center Calls, Treatment Admissions, and Tox Lab Exhibits: Marijuana, 1998–2017



Source: HHSC, DSHS, and NFLIS.

The poison center dataset used in this report has been expanded to include information on individuals who had called a Texas poison center after taking a cannabinoid preparation such as a pharmaceutical preparation, oils, oral capsules, pills, and edible preparations. The “oil” category included those who reported use of “dabs”, “shatter”, and “wax”. Persons who ate an edible portion such as a marijuana-laced candy were the youngest and were more likely to have suffered moderate or major effects, as well as one death (Figure 13).

Figure 13. Characteristics of Poison Center Cases Who Used Cannabis Products

	Years Reported	# Obs.	Age	% Male	No Effect	Minor Effect	Moderate Effect	Major Effect	Death
Concentrated Extract (Oils)	2015-2018	56	23	81	2	2	4		
Oral Capsule or Pill	2015	3	26	100		1	1		1
Pharmaceutical Prep.	2000-2018	83	30	55	4	10	22		
Edible Preparation	2014-2018	56	18	55	8	16	21	7	1
Other/Unknown	2015-2018	62	29	35	5	13	26	3	

NOTES: Minor effect: patient had symptoms that were bothersome but resolved rapidly. Moderate effect: more pronounced or prolonged but not life-threatening and patient returned to a pre-exposure state with no residual disability. Major effect: life-threatening or with significant residual disability that was long-term or permanent.

Polydrug Use

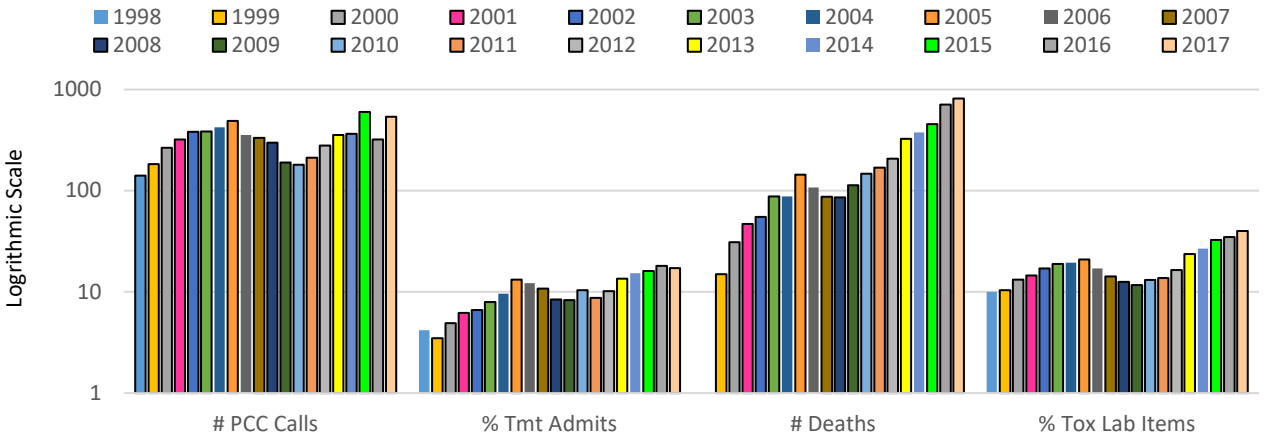
Some 44% of treatment admissions with a primary problem with cannabis in 2017 reported no other drug use, although 22% also reported use of alcohol.

METHAMPHETAMINE

Key Findings

Methamphetamine indicators in 2017 were far higher than the levels seen before the pseudoephedrine (PSE) precursor regulations were enacted in 2005–2006 (Figure 14). Methamphetamine is the major drug threat in Texas, according to the three DEA field divisions that cover Texas. Local "cooking" of ice using over-the-counter 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 PSE reactions had disappeared from the DEA's Methamphetamine Profiling Program dataset. Nearly all the methamphetamine nationwide is now produced in Mexico using phenyl-2-propanone (P2P), a chemical that is not legal in the United States.

Figure 14. Texas Poison Center Calls, Treatment Admissions, Tox Lab Exhibits, and Deaths*: Methamphetamine, 1998–2017



*2017 death data are provisional.
Source: DSHS, HHSC, and NFLIS.

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 in 2017 is over 97%. A new Mexican P2P production process called "the nitrostyrene method" is now "the predominant method."

Methamphetamine seizures on the Texas–Mexico border are increasing. In Austin in May 2018, an estimated 93 pounds of meth was found in a car's gas tank and spare tire in a traffic stop. In addition, the EPIC predicts a possible correlation between heroin and methamphetamine seizures as Mexican transnational criminal organizations and drug trafficking organizations actively pursue new user markets and expand into supplemental product lines to ensure their operating costs remain low and their profit margins high. According to the DEA, Mexican traffickers have been switching their focus from methamphetamine to cocaine and heroin primarily because of the current low price of methamphetamine in the United States. This has enabled the Mexican dealers to explore product diversification and new market areas where methamphetamine has not been widely used. This diversification can be seen in the fact that 17% of the methamphetamine deaths in 2016 in Texas also involved heroin.

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 2017 (Appendix 1). Route of administration in 2017 was smoking (55%), injecting (31%), and inhaling (10%). Of these admissions, 74% were White, 20% were Hispanic, and 5% were Black. The average age was 33, and 43% were male (Appendix 2). Based on the results of 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 (Maxwell, 2014).

Methamphetamine represented 21% of all items analyzed by Texas forensic laboratories in 2005; in 2017, it comprised 40% of all the items examined. The price has been halved over the past two years, which has coincided with increased availability caused by movement of methamphetamine in a solution that 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.

Human immunodeficiency virus (HIV) outreach workers in the state report crystal methamphetamine use is increasing among the Black gay community. There were also reports of increasing syphilis cases among those using crystal methamphetamine and engaging in risky sex. Social networking apps that use global positioning systems (GPS) such as Grindr, SCRUFF, and Jack'd were being used to meet anonymous partners. DSHS reported that the proportion of men who have sex with men and meet partners via phone applications increased from 23% in 2013 to 39% in 2014.

Drug patterns vary by state and by county, and the actual numbers may not match the common perceptions. As an example, in Nueces County in 2017, of the drug items seized and identified by toxicologists and reported to DEA's NFLIS, 38% of the 1790 items were methamphetamine and 31% were cocaine, with 10% cannabis and 8% heroin. In Aransas County, 69% of the drugs seized were methamphetamine, along with 11% cocaine and 9% heroin. In Kleberg County, cocaine comprised 36% of all drugs seized, followed by 25% methamphetamine. Yet in Jim Wells County, 51% of the drugs seized were cocaine, with 14% cannabis, 12% methamphetamine, and 6% heroin. These differences can

reflect differences in the physical characteristics of the different drugs, user preferences, and trafficking patterns across the Texas-Mexico border

Polydrug Use

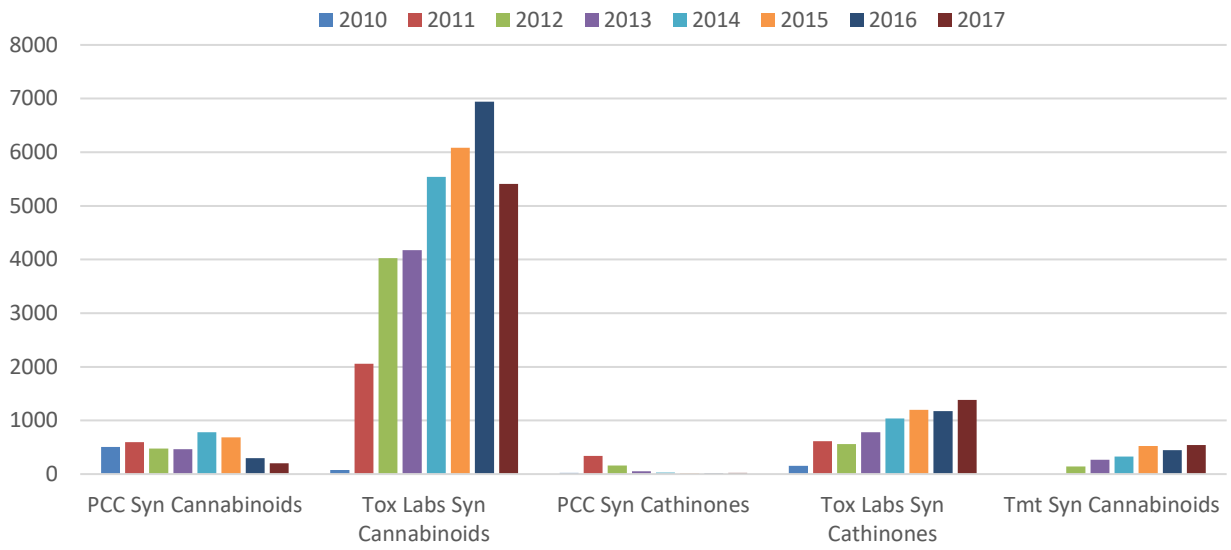
Of treatment admissions with a primary problem of methamphetamine, 37% reported no use of another drug, 29% reported use of marijuana, and 16% reported use of alcohol. The 2017 NFLIS data reported that the substances most often seen in combination with methamphetamine were dimethyl sulfone, n-ethylpentylone, dibutylone, caffeine, cocaine, and heroin. The 2016 mortality data reported 1% to 2% of the methamphetamine deaths also involved fentanyl or tramadol.

SYNTHETIC CANNABINOIDS AND CATHINONES

Key Findings

The number and type of synthetic cannabinoid compounds has increased as users attempt to get a marijuana "high" while avoiding a positive drug test (Maxwell, in press). Treatment records, poison center reports, and NFLIS items identified were examined to see the changes in use and behaviors that have been reported in synthetic cannabinoid cases in Texas over time (Figure 15). In the treatment dataset, statistically significant trends were identified for race/ethnicity, gender, age, education level, employment status, homelessness, criminal justice problems, use of other substances, and lag time between first use and time to treatment. In the poison center dataset, statistically significant annual trends were identified for patient gender, age, exposure site, chronicity, and reason for exposure.

Figure 15. Poison Center Calls, Treatment Admissions, and Tox Laboratory Identifications of Synthetic Cannabinoids and Cathinones, 2010–2017



Source: DSHS, HHSC, and NFLIS.

Over time, the mean ages of users in treatment and poison center datasets increased, and the gender of the users varied. The overall proportion of those admitted to treatment who were White increased from 2011 to 2016, the proportion of Black/African-Americans decreased, and the proportion of Hispanic/Latino was stable. Those who came to treatment with a primary problem with synthetic

cannabinoids were less likely to be high school graduates and more likely to be unemployed, and experiencing homelessness or living in a shelter or unknown living situation.

Polydrug Use

Marijuana was the second drug of choice among synthetic cannabinoid users in Texas, but its use, as well as the use of alcohol, decreased over time. Use of cocaine and/or crack increased. Because of the economic conditions of this population, polydrug use was limited. Many reported using synthetic cannabinoids because the price was as low as $2 (Maxwell, in press).

Additional Findings

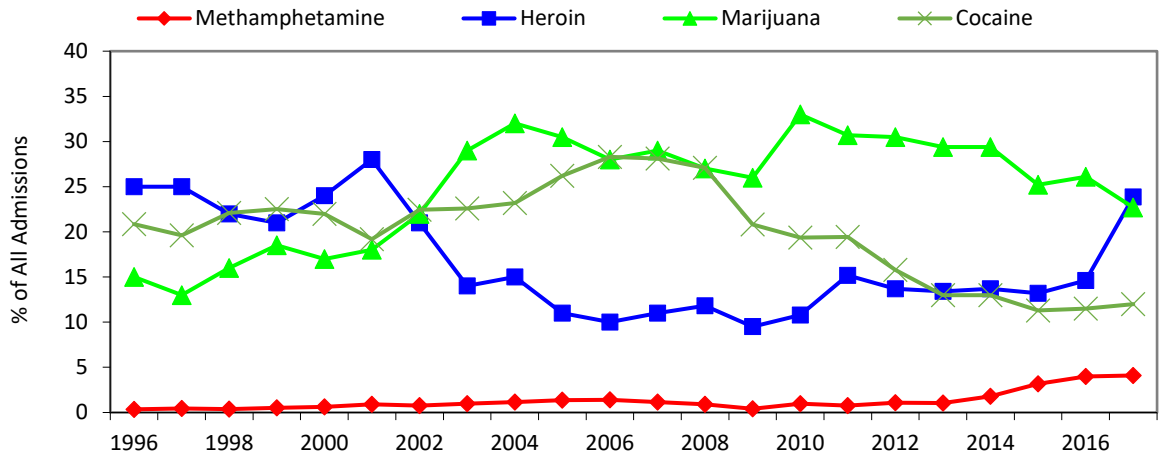
The characteristics of synthetic cannabinoid users and the varieties of these drugs in Texas have changed over time. Data document the need for targeted prevention and treatment efforts for an aging population experiencing homeless along with co-morbid substance use and psychiatric problems, as well as the needs of females using these drugs (Maxwell, in press).

SUBSTANCE USE ON THE TEXAS-MEXICO BORDER

Key Findings

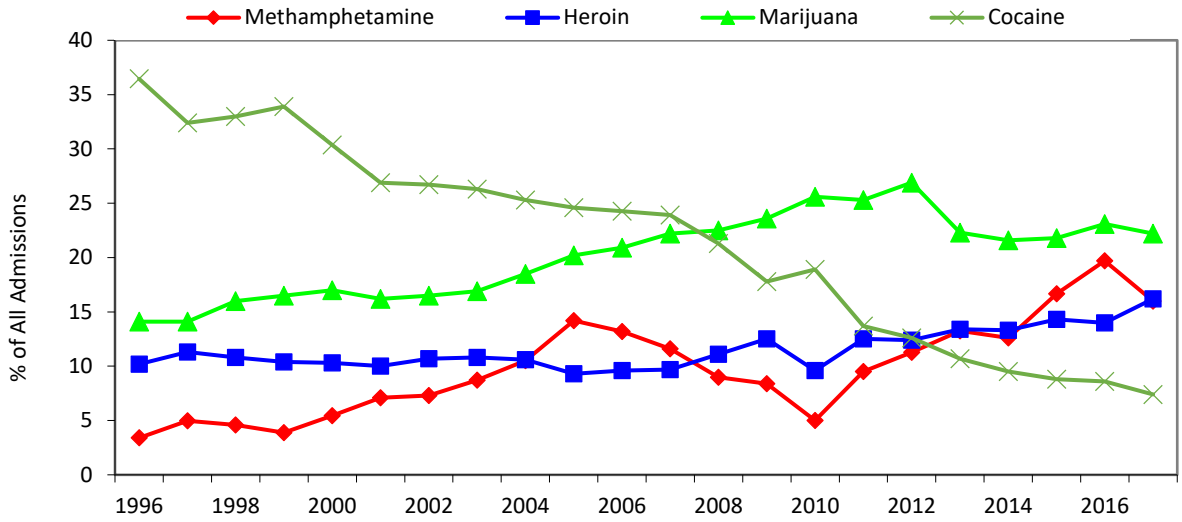
Persons admitted to treatment along the Texas–Mexico border present different patterns of drug use from those from the nonborder region. Methamphetamine admissions are lower for border residents, while heroin admissions increased and cocaine admissions decreased.

Figure 16. Admissions to Texas DSHS-Funded Treatment: Border, 1996–2017



Source: DSHS

Figure 17. Admissions to Texas DSHS-Funded Treatment: Nonborder, 1996–2017



Source: DSHS

Infectious Diseases Related to Substance Use

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 hepatitis C cases were persons between the ages of 26 and 35.

SEXUALLY TRANSMITTED DISEASES

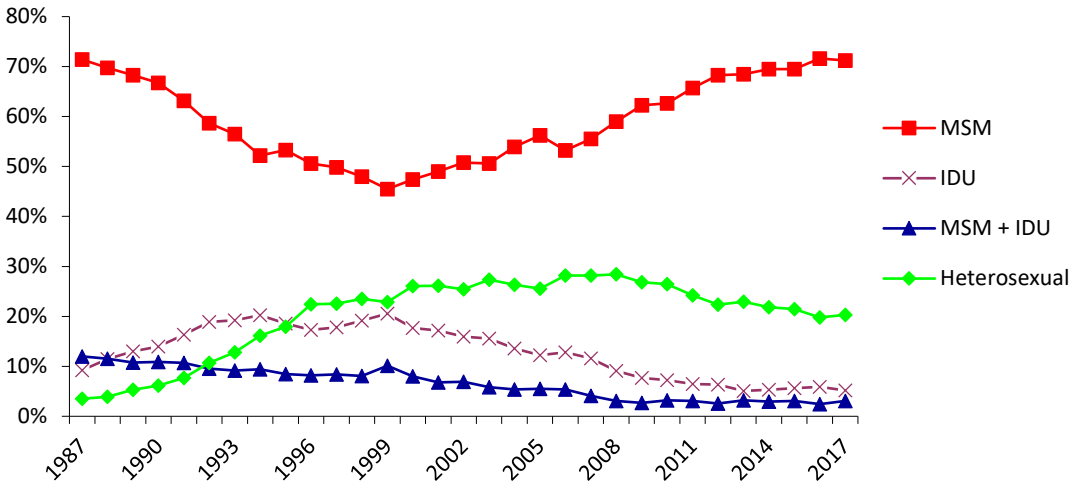
Street outreach workers were reporting increasing numbers of syphilis cases among young men who have sex with men, along with reports of both males and females engaging in transactional sex for drugs or to obtain money. There were more reports of people using the Internet and classified ads to market 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 met partners via phone applications increased from 23% in 2013 to 39% in 2014.

The case rate statewide for chlamydia increased from 356.3 per 100,000 in 2007 to 494.4 in 2016. The rates were higher for females than for males, highest for persons between 15 and 24 years of age, and highest for Hispanics in 2016. The case rates for gonorrhea increased from 132.1 in 2007 to 147.1 in 2017, and they were highest for males, Blacks, and those between 15 and 24 years of age. The case rate per 100,000 for early syphilis increased from 11.1 in 2007 to 16.4 in 2016, and they were higher for males, Blacks, and for those between 20–24 and 25–29 years of age. 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 MSM decreased from 71% in 1987 to 45% in 1999 before returning to 72% in 2016 and 71% in 2018 (Figure 18). Of cases diagnosed in 2017 cases, 20% reported heterosexual mode of exposure and 8% reported intravenous drug use (IDU). The HIV outreach workers have reported men experiencing homeless or poverty are turning to sex to support themselves.

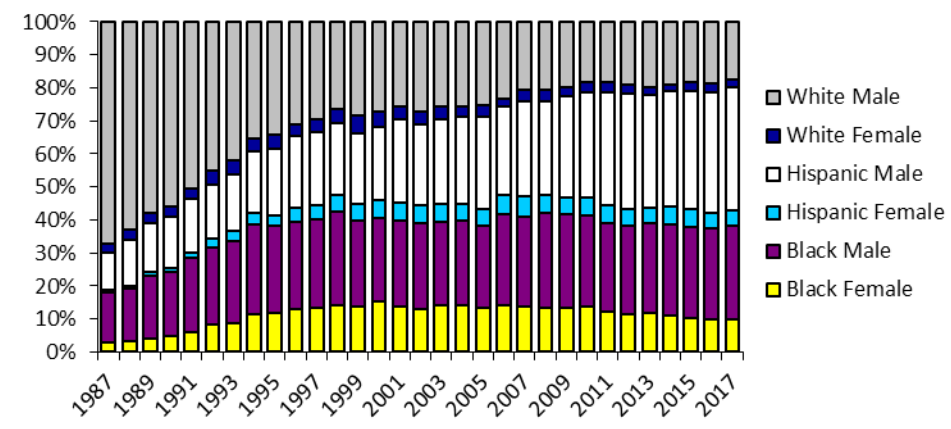
Figure 18. New HIV Cases in Texas by Mode of Exposure, 1987–2017



Source: DSHS

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 21% in 2017. Persons diagnosed with HIV were increasingly likely to be people of color, especially Hispanic and Black males (Figure 19). Of the HIV cases in 2017, 37% were Black, 40% were Hispanic, and 20% were White, as compared to the Texas population, which was 13% Black, 39% Hispanic, and 42% White. There is a need to increase daily adherence to medications such as PrEP and consistent use of condoms to lower the HIV infection rate.

Figure 19. New Texas HIV Diagnoses by Sex and Race/Ethnicity, 1987–2017



Source: DSHS

New Substance-Related Legislative and Policy Update

A Select Committee on Opioids and Substance Abuse met this spring and summer to study the problems in Texas. On September 1, 2019, the Texas PMP will require pharmacists and physicians to check for drugs already prescribed to patients. Implementation of this law, along with training on signs of overdose and access to naloxone, should lead to a decrease in these deaths and could lessen the ability of drug-seekers to access other drugs.

Treatment Tables

Table 1: Trends in Admissions* to Programs Treating Substance Use Disorders, Texas Residents, 2013-2017

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

	Calendar Year									
	2013		2014		2015		2016		2017***	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Total Admissions (#)	**42,145**	**100%**	**44,209**	**100%**	**42,264**	**100%**	**42,773**	**100%**	**49,396**	**100%**
Primary Substance of Abuse (%)										
Alcohol	11,161	26.5%	11,386	25.8%	11,101	26.3%	10,391	24.3%	11,511	23.3%
Cocaine/Crack	4,274	10.1%	3,967	9.0%	3,397	8.0%	3,118	7.3%	3,383	6.8%
Heroin	4,951	11.7%	5,607	12.7%	5,529	13.1%	5,940	13.9%	8,238	16.7%
Prescription Opioids	3,268	7.8%	3,141	7.1%	2,725	6.4%	2,560	6.0%	2,841	5.8%
Methamphetamine**	5,695	13.5%	6,748	15.3%	6,810	16.1%	7,757	18.1%	8,481	17.2%
Marijuana	9,696	23.0%	9,956	22.5%	9,381	22.2%	9,605	22.5%	10,724	21.7%
Benzodiazepines	655	1.6%	732	1.7%	745	1.8%	798	1.9%	914	1.9%
Synthetic Stimulants	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	0.0%
Synthetic Cannabinoids	268	0.6%	326	0.7%	464	1.1%	523	1.2%	449	0.9%
Other Drugs/Unknown	2,177	5.2%	2,346	5.3%	2,112	5.0%	2,081	4.9%	2,851	5.8%

NOTES:

***Admissions:** Includes all Behavioral Health Services(BHS)-funded 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.

***NorthSTAR program ended January 2017.

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 to only included BHS-funded admissions.

SOURCE: Data provided to the Texas NDEWS SCE by the Texas Health and Human Services Commission.

Table 2: Demographic and Drug Use Characteristics of Treatment Admissions* for Select Primary Substances, Texas Residents, 2017

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

	Primary Substance																	
	Alcohol		Cocaine/Crack		Heroin		Prescription Opioids		Methamphetamine**		Marijuana		Benzodiazepines		Synthetic Stimulants		Synthetic Cannabinoids***	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Number of Admissions (#)	**11,511**	**100%**	**3,383**	**100%**	**8,238**	**100%**	**2,841**	**100%**	**8,481**	**100%**	**10,724**	**100%**	**914**	**100%**	**4**	**100%**	**449**	**100%**
Sex (%)																		
Male	7,434	64.6%	1,784	52.7%	5,104	62.0%	1,189	41.9%	3,659	43.1%	7,231	67.4%	396	43.3%	3	75.0%	331	73.7%
Female[±]	4,077	35.4%	1,599	47.3%	3,134	38.0%	1,652	58.1%	4,822	56.9%	3,493	32.6%	518	56.7%	1	25.0%	118	26.3%
Race/Ethnicity (%)																		
White, Non-Hisp.	6,739	58.5%	897	26.5%	5,192	63.0%	2,019	71.1%	6,264	73.9%	3,366	31.4%	531	58.1%	3	75.0%	197	43.9%
African-Am/Black, Non-Hisp	1,570	13.6%	1,440	42.6%	438	5.3%	623	21.9%	390	4.6%	2,949	27.5%	78	8.5%	0	0.0%	66	14.7%
Hispanic/Latino	2,987	25.9%	1,011	29.9%	2,455	29.8%	631	22.2%	1,680	19.8%	4,252	39.6%	283	31.0%	1	25.0%	182	40.5%
Asian	64	0.6%	9	0.3%	28	0.3%	7	0.2%	24	0.3%	58	0.5%	8	0.9%	0	0.0%	3	0.7%
Other	151	1.3%	26	0.8%	125	1.5%	26	0.9%	123	1.5%	99	0.9%	14	1.5%	0	0.0%	1	0.2%
Age Group (%)																		
18-25	1,081	9.4%	391	11.6%	1,322	16.0%	270	9.5%	1,390	16.4%	2,783	26.0%	183	20.0%	1	25.0%	120	26.7%
26-44	6,310	54.8%	1,793	53.0%	5,411	65.7%	1,985	69.9%	5,915	69.7%	3,263	30.4%	477	52.2%	3	75.0%	181	40.3%
45+	3,951	34.3%	1,123	33.2%	1,478	17.9%	551	19.4%	1,049	12.4%	348	3.2%	62	6.8%	0	0.0%	55	12.2%
Average Age	39		39		35		36		33		23		28		32		28	
Route of Administration (%)																		
Smoked	46	0.4%	1,680	49.7%	186	2.3%	24	0.8%	4,695	55.4%	10,480	97.7%	8	0.9%	3	75.0%	437	97.3%
Inhaled	10	0.1%	1,558	46.1%	1,031	12.5%	97	3.4%	817	9.6%	8	0.1%	22	2.4%	0	0.0%	0	0.0%
Injected	5	0.0%	69	2.0%	6,964	84.5%	328	11.5%	2,589	30.5%	4	0.0%	1	0.1%	0	0.0%	0	0.0%
Oral/Other/Unknown	11,450	99.5%	76	2.2%	57	0.7%	2,392	84.2%	380	4.5%	232	2.2%	883	96.6%	1	25.0%	12	2.7%
Secondary Substance (%)																		
None	6,094	52.9%	1,123	33.2%	3,073	37.3%	998	35.1%	3,133	36.9%	4,764	44.4%	134	14.7%	1	25.0%	141	31.4%
Alcohol	6	0.1%	975	28.8%	635	7.7%	267	9.4%	1,337	15.8%	2,324	21.7%	114	12.5%	0	0.0%	42	9.4%
Cocaine/Crack	1,491	13.0%	65	1.9%	1,047	12.7%	174	6.1%	494	5.8%	899	8.4%	78	8.5%	2	50.0%	56	12.5%
Heroin	240	2.1%	63	1.9%	12	0.1%	113	4.0%	306	3.6%	63	0.6%	30	3.3%	0	0.0%	11	2.4%
Prescription Opioids	266	2.3%	42	1.2%	483	5.9%	206	7.3%	266	3.1%	237	2.2%	117	12.8%	0	0.0%	8	1.8%
Methamphetamine**	975	8.5%	180	5.3%	1,307	15.9%	330	11.6%	32	0.4%	957	8.9%	111	12.1%	0	0.0%	51	11.4%
Marijuana	1,992	17.3%	752	22.2%	854	10.4%	306	10.8%	2,451	28.9%	5	0.0%	286	31.3%	1	25.0%	104	23.2%
Benzodiazepines	294	2.6%	79	2.3%	756	9.2%	380	13.4%	266	3.1%	1,006	9.4%	15	1.6%	0	0.0%	26	5.8%
Synthetic Stimulants	0	0.0%	1	0.0%	0	0.0%	0	0.0%	2	0.0%	4	0.0%	2	0.2%	0	0.0%	0	0.0%
Synthetic Cannabinoids***	52	0.5%	36	1.1%	35	0.4%	6	0.2%	66	0.8%	149	1.4%	11	1.2%	0	0.0%	0	0.0%

NOTES:

***Admissions:** Includes all Behavioral Health Services (BHS)-funded 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.

*****Synthetic Cannabinoids:** 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 missing data, rounding, and/or because not all possible categories are presented in the table. Category frequencies may not sum to drug total due to missing data and/or 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.

Sources

DATA FOR THIS REPORT WERE DRAWN FROM THE FOLLOWING SOURCES:

- **Poison center data** came from the Texas Poison Center Network, Texas Department of State Health Services (DSHS), for 1998 through current month in 2018, courtesy of Mathias Forrester (mathias.forrester@dshs.texas.gov).

- **Treatment data** were provided by the HHSC on clients admitted to treatment in HHSC-funded facilities from January 1, 1987 through 2017.

- **Information on drug mortality** through 2017 came from the DSHS Center for Health Statistics and CDC Wonder. The 2017 data are classified as "provisional," meaning the 2017 data are not final but subject to revision as more reports are received. Final data are available online in CDC Wonder with "literal" data available with an IRB from DSHS. ("Literals" have all the comments written on the death certificate, not just the items mandated. Most drugs on the street now are not identified separately, but using the "literals" identified MDMA, fentanyl, and tramadol, which are not separately coded on the ICD codes.)

- **Information on seized drugs identified by laboratory tests** came from forensic laboratories in Texas, which reported results from analyses of substances for 1998 through current time 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. The NFLIS database is password protected.

- **Information on methamphetamine purity and potency** through the second half of 2016 came from the Methamphetamine Profiling Program of the DEA, which is available on request from the DEA.

- **Price, trafficking, distribution, and supply information** were gathered from 2017 reports on Trends in the Traffic Report System from the Dallas, El Paso, and Houston field divisions of the DEA. These are available on request from the DEA and from the 2018 Dallas and Houston HIDTA Threat Assessments.

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

- **Sexually transmitted disease** data through 2016 were provided by 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.

- **Data on controlled substances** shipped into Texas through legal distribution channels is from the Automation of Reports and Consolidated Orders System (ARCOS). Manufacturers and distributors report their controlled substances transactions to the DEA through ARCOS. Amounts of controlled substances that are delivered to pharmacies, physicians' offices, and hospital pharmacies are reported, and data can be accessed for 3-digit zip codes. This is the best source of controlled substances coming into the state. Note that some of the substances listed, such as "cocaine," only refer to medicinal cocaine used by ophthalmologists. The categories do not report street drugs.

OTHER REFERENCES CITED:

- Maxwell, J.C. 2014. A New Survey of Methamphetamine Users in Treatment: Who They Are, Why They Like "Meth," and Why They Need Additional Services. *Substance Use and Misuse*, 49(6): 639-644.

- Maxwell, J.C. 2018. The Changing Face of Synthetic Cannabinoids, *Journal of Psychoactive Drugs*, 50(4): 281-286.

ADDITIONAL INFORMATION ON SUBSTANCE USE IN TEXAS:

- **Data on arrests for drug abuse violations** from the Texas Uniform Crime Reports are available online at https://txucr.nibrs.com/.

For additional information about the substances and substance use patterns discussed in this report, please contact Jane C Maxwell, Ph.D., Phone: 512-656-3361, E-mail: jcmaxwell@mail.utexas.edu