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SUBSTANCE ABUSE TRENDS IN TEXAS 2017

A Report to the National Drug Early Warning System

(Revised 11/6/2017)

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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

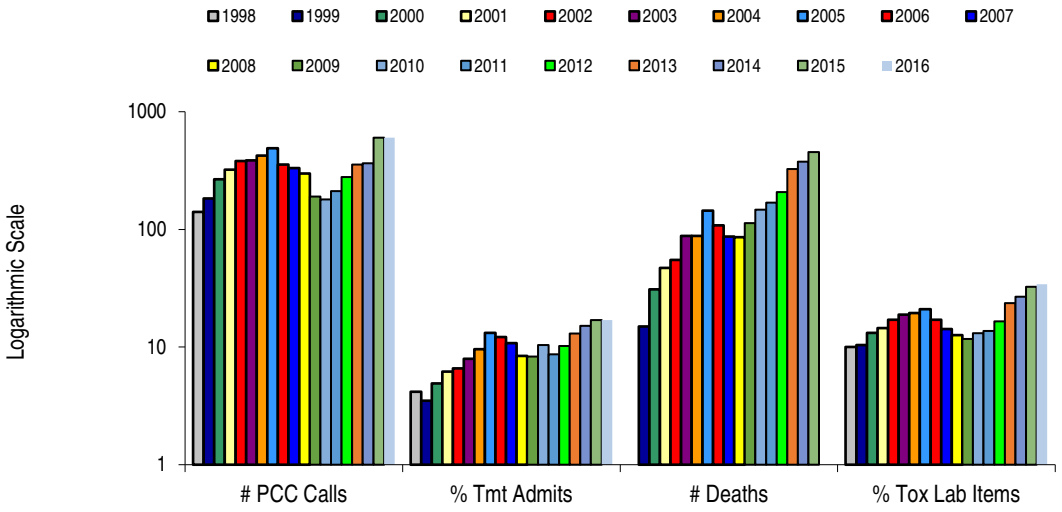
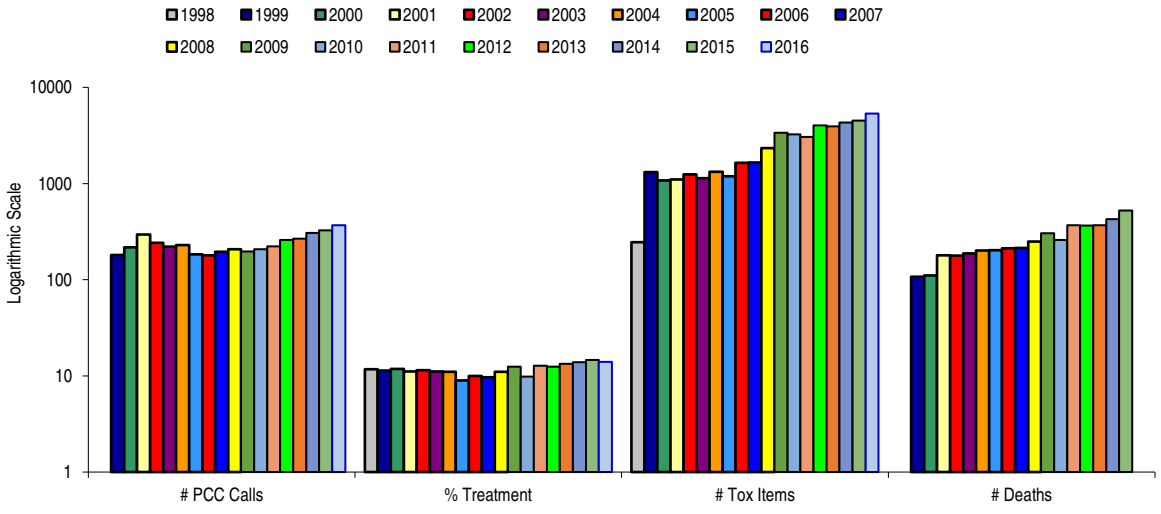


Exhibit 2. Texas Poison Control, Treatment Admissions, Toxicology Lab Exhibits, and Deaths: Heroin, 1998–2016



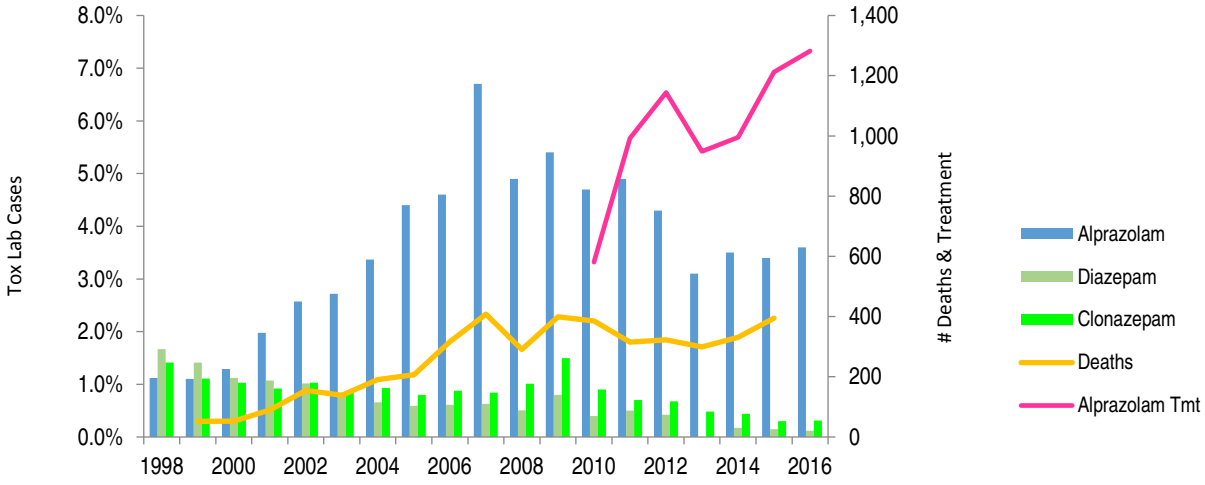
Source: DSHS and NFLIS

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

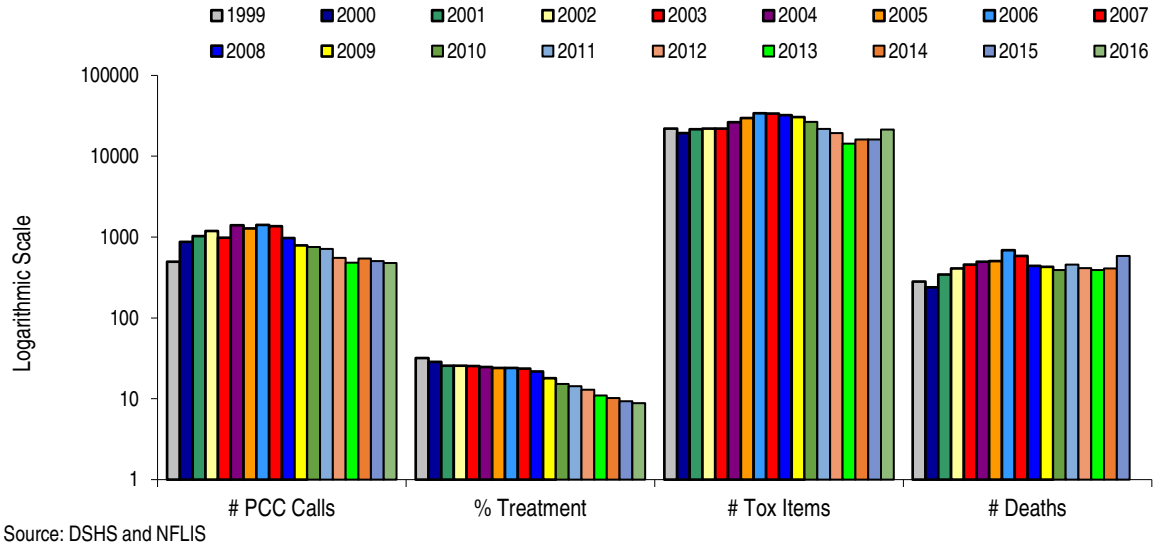
*"Other Opiates" refers to all other opioids until 2010; starting in 2011 specific opioids are reported.

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

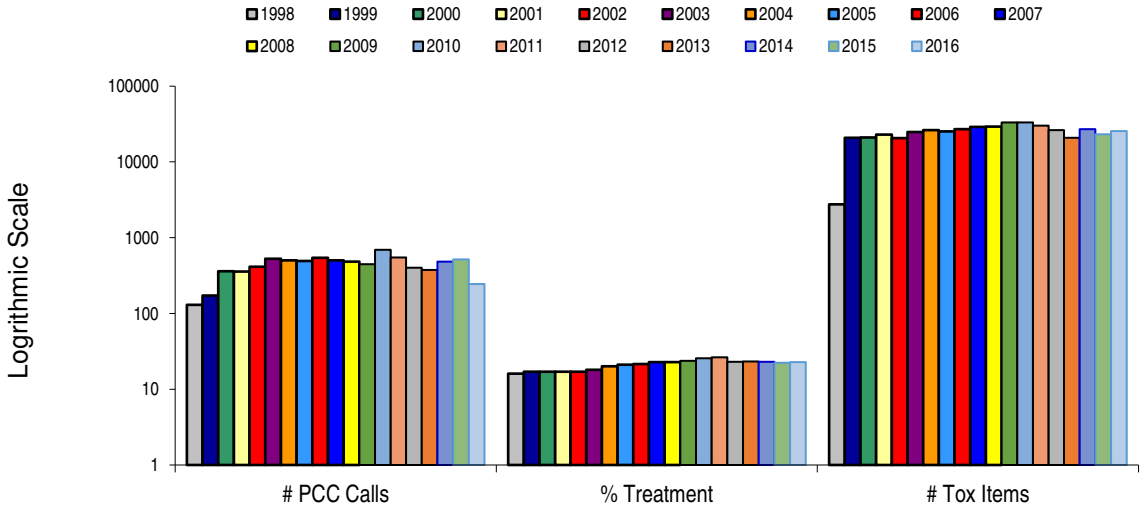


Exhibit 7. Texas Poison Center (PCC) Calls, Toxicology Lab Exhibits, and Treatment Admissions: Synthetic Drugs, 2010–2016

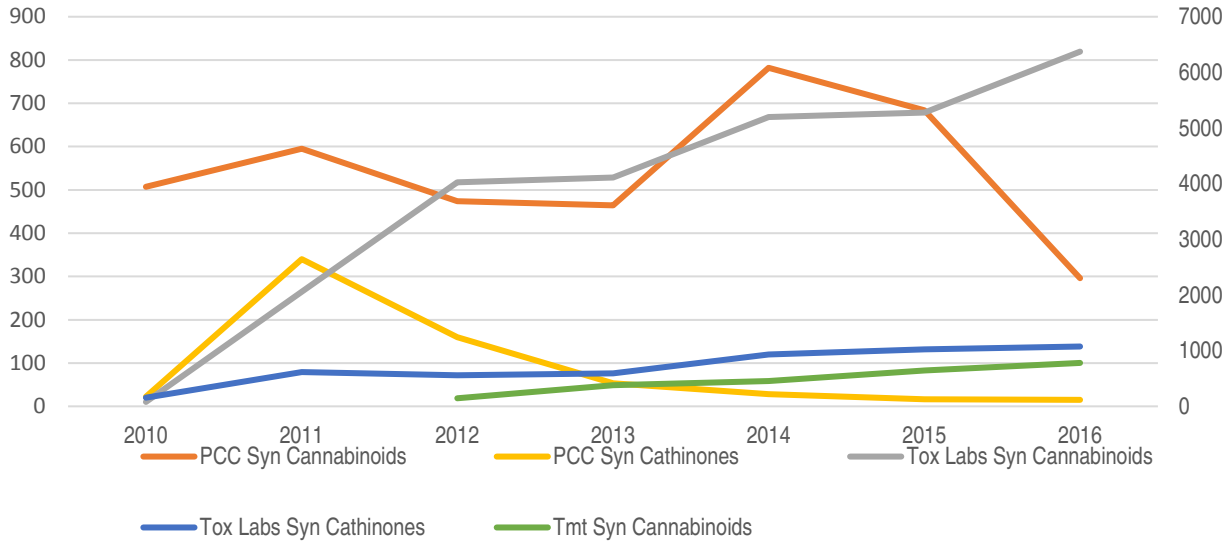
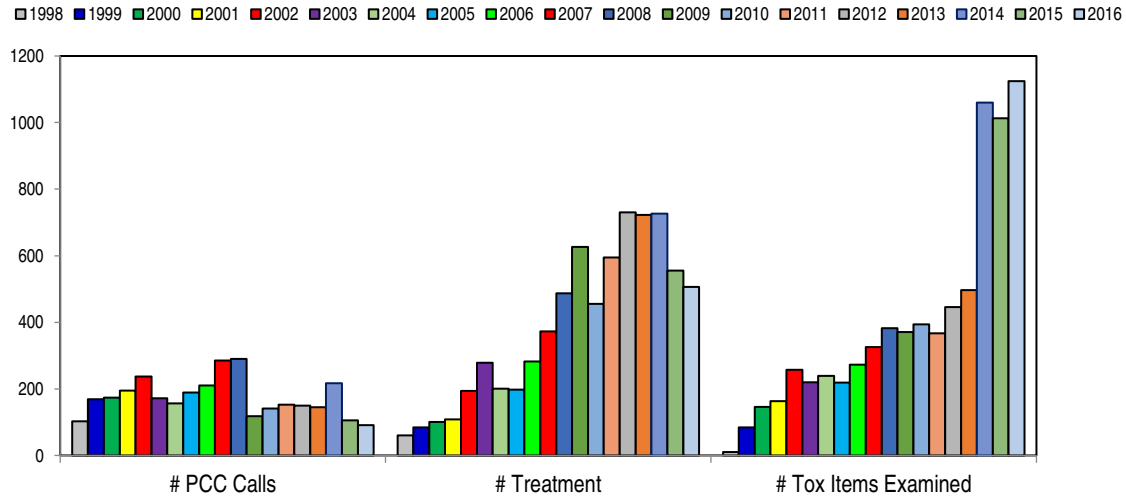


Exhibit 8. Texas Poison Center Calls, Treatment Admissions, and Lab Exhibits: PCP, 1998–2016



Sources: DSHS & NFLIS

Exhibit 9. Texas Poison Centers, Treatment Admissions, and Toxicology Lab Exhibits for MDMA (Phenethylamine Amphetamines), 1998–2016

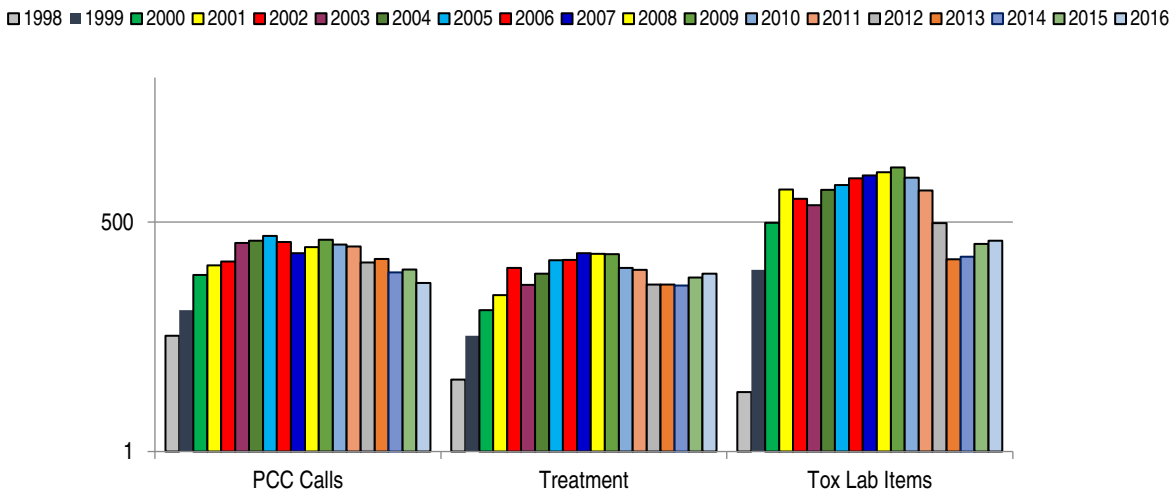
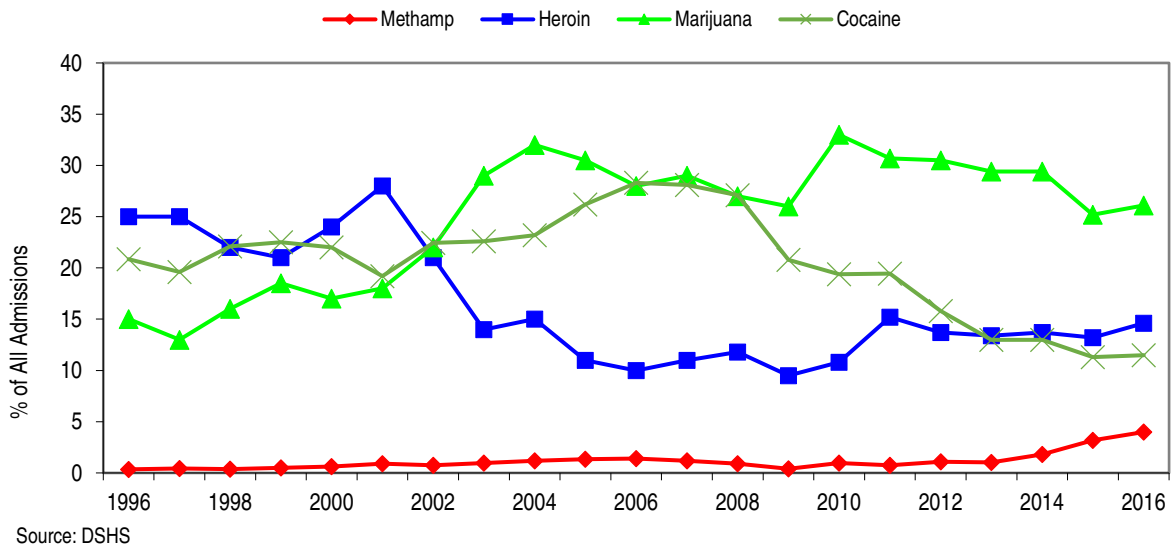
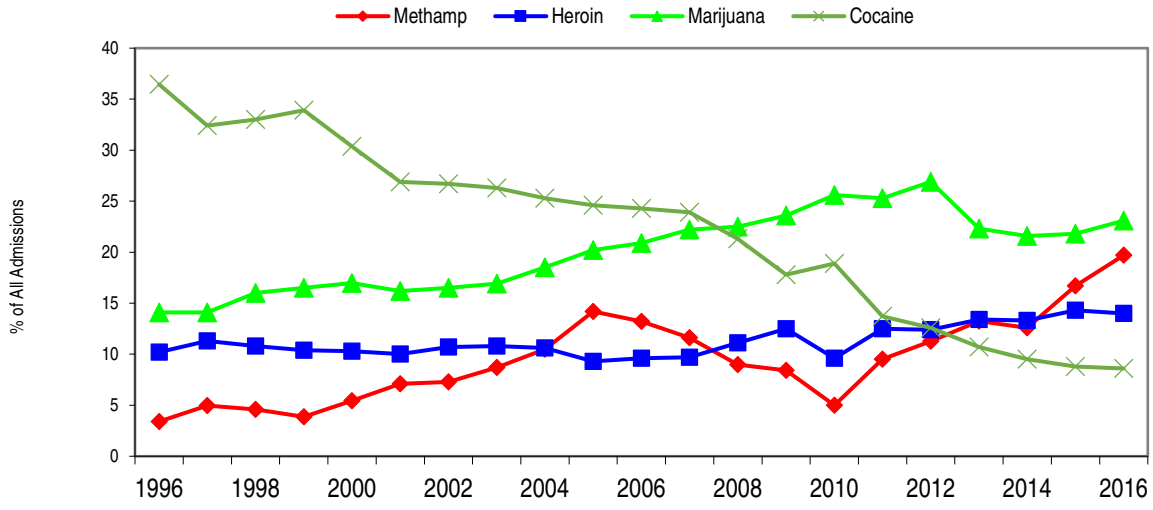


Exhibit 10. Admissions to Texas DSHS-Funded Treatment: Border, 1996–2016



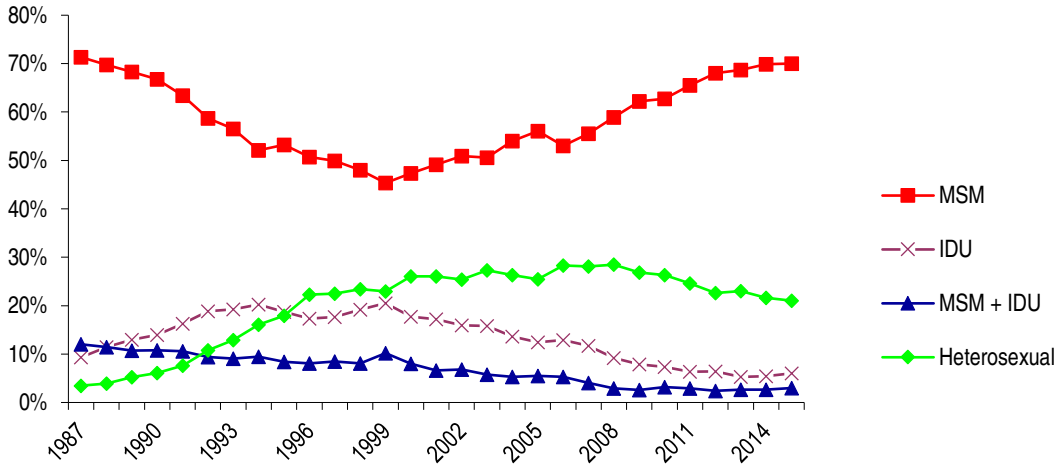
Source: DSHS

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

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).

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, University of Texas at Austin., Phone: 512–656-3361, Fax: 512– 232–0617, E-mail: jcmaxwell@austin.utexas.edu.