

Building Healthier Communities

United Way of Broward County Commission on Substance Abuse

**Drug Abuse Trends
In Broward County, Florida
Annual Report: June 2016**



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Patterns and Trends of Substance Abuse in Broward County Florida

June 2016

James N. Hall, Epidemiologist
Center for Applied Research on Substance Use and Health Disparities
Nova Southeastern University

SECTION I. HIGHLIGHTS

- The 2015 Youth Risk Behavior Surveillance System reports declines in the percent of **binge drinking** by Broward high school students in 2015 continuing a downward trend over the past 8 years, yet the rate of **current alcohol use** stabilized between 2013 and 2015 after a steady decline since 2007. Any lifetime use of alcohol among middle school students declined between 2013 and 2015.
- **Alcohol** was the primary drug cited by nearly a third of all patients admitted to addiction treatment in Broward County during 2015 with three-fourths of adult patients being over the age of 34.
- While **cigarette smoking** by youth has dramatically declined over the past decade, 45% of Broward high school students and 25% of middle schoolers have used an **electronic cigarette and vaping device**.
- **Marijuana** was the primary drug of use reported by 93% of adolescents younger than 18 years of age entering addiction treatment programs in Broward County during 2015 as prevalence rates of current marijuana use have generally increased since 2006.
- **Synthetic Cannabinoids** appear to be in greater supply and use in other parts of Florida than Broward County which had less than 2% of the State's crime lab cases for these drugs and 4% of Poison Information Center exposure calls in 2015.
- Constantly changing available of **Synthetic Cathinones** and specifically *alpha*-PVP ("flakka") from clandestine labs in China dramatically influenced the serious consequences experienced in Broward County during 2015 outranking any other county in the nation.
- **Non-pharmaceutical fentanyl** and its analogues from foreign clandestine labs are a major factor for the increase in opiate deaths related to adulterated heroin and counterfeit medications.
- The sharp escalations of **heroin** use, treatment admissions, and deaths along with stable and high levels of **prescription opioid** and **non-pharmaceutical fentanyl** indicators constitute an opiate epidemic.
- **Cocaine** indicators remain high with increasing deaths between 2014 and 2015 and most consequences involving those older than 35 years of age.
- Indicators of **methamphetamine** remain relatively low compared to other parts of Florida and most problematic in Broward among men who have sex with other men.
- **Benzodiazepines** and particularly alprazolam (*e.g.*, *Xanax*[™]) are the universal mixtures in polysubstance abuse patterns including both concurrent and sequential nonmedical use.

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Data Sources

Florida Department of Law Enforcement: Florida Medical Examiners Commission 2015 Interim Report on Drugs Detected in Deceased Persons in Florida: January – June 2015 Released April 22, 2016

Broward County Office of the Medical Examiner and Trauma Services

Florida Department of Children and Families: Primary Drug Treatment Admissions in Florida for Calendar Year 2015

Florida Department of Children and Families: *Florida Youth Substance Abuse Surveys (FYSAS)* Broward County Reports 2000 – 2014

US Centers for Disease Control and Prevention and the Florida Department of Health: *Youth Risk Behavior Surveillance System (YRBSS)* for High School and Middle School Students – Broward County, 2015 Released June 10, 2016

Broward Addiction Recovery Center (BARC): Treatment Admissions data related to *alpha*-PVP and Heroin

Florida Agency for Health Care Administration: Opioid, Heroin and Benzodiazepine Poisoning Overdose Hospitalization Cases 2007-2014 Data Queried March 2016

Broward Health: Data on *alpha*-PVP (“flakka”)-related excited delirium hospital emergency department cases, June – December 2015

Florida Poison Information Centers exposure calls for calendar year 2015 and January through April 2016

Florida Department of Law Enforcement: Arrests Reports by Florida Counties 2013-2015

US Drug Enforcement Administration: National Forensic Laboratory Information System (NFLIS): Florida crime lab cases calendar year 2015 data (Queried: January 19, 2016)

U.S. Substance Abuse and Mental Health Services Administration: Substate Estimates from the 2010-2012 National Survey on Drug Use and Health (NSDUH)

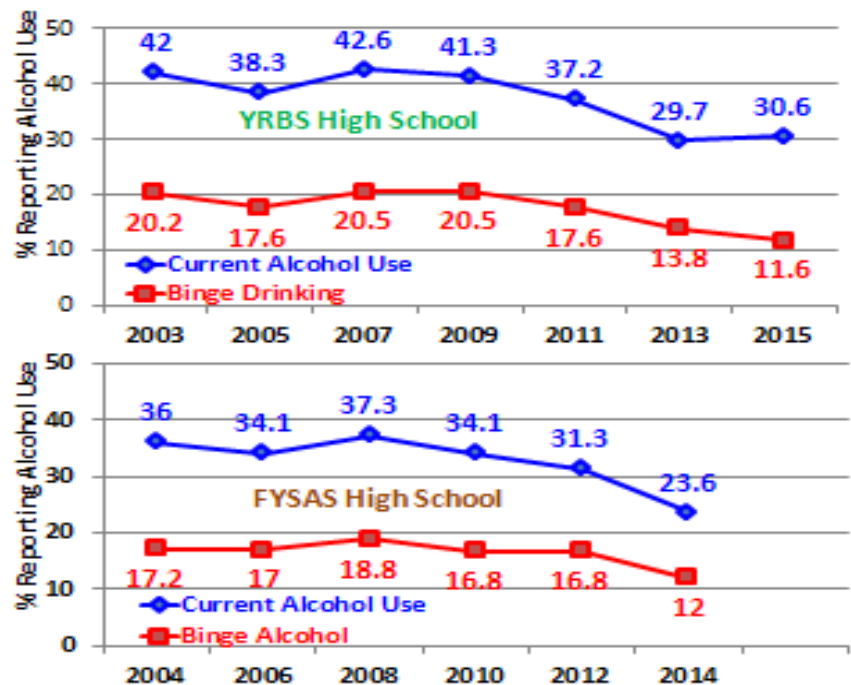
SECTION II. PATTERNS AND TRENDS of DRUG USE

Underage Alcohol Use

- The 2015 Youth Risk Behavior Surveillance System reports declines in the percent of **binge drinking** by Broward high school students in 2015 continuing a downward trend over the past 8 years, yet the rate of **current alcohol use** stabilized between 2013 and 2015 after a steady decline since 2007. Any lifetime use of alcohol among middle school students declined between 2013 and 2015.

The most recent update on trends of alcohol use by Broward County youth is from the 2015 Youth Risk Behavior Surveillance System (YRBSS) survey released on June 10, 2016. It reports a 1% percentage point rise in current (past 30-day) use of alcohol among Broward high school students between 2013 (29.7 %) and 2015 (30.6%) as well as a 2.2 percentage point decrease in binge drinking of having five or more drinks in a row from 13.8% in 2013 to 11.6% in 2015. These findings continue an overall declining trend for both indicators since 2007 when 42.6% of high school students reported current alcohol use and 20.5% acknowledged binge drinking. The YRBSS is conducted every two years in odd numbered years and its findings parallel the results of the Florida Youth Substance Abuse Survey (FYSAS) which also track a steady decline in both high school alcohol indicators since 2008. The percentages from the FYSAS are usually lower than those from the YRBSS yet their declining trends parallel one another. A comparison of the two surveys' findings is shown in the graphs below.

Comparison of Alcohol Use and Binge Drinking among Broward County high school Students as Tracked by the Youth Risk Behavioral Surveillance Survey (YRBSS) and the Florida Youth Substance Abuse Survey (FYSAS)



The percent of Broward high school students reporting they had their first drink of alcohol other than a few sips before the age of 13 as tracked by the YRBSS has declined from 29.3% in 2003 to 18.1%

in 2015 however there was a modest non-statistically significant increase from 17.4% in 2013. The 2013 rate was the lowest ever since the survey began in 1991.

The YRBSS surveyed Florida middle school students for the first time in 2013 and again in 2015. In those years the percent of middle school students reporting they had ever drank alcohol described as more than a few sips declined from 29.5% in 2013 to 24.5% in 2015 as compared to 22% in the 2014 FYSAS. The percent of middle school students reporting they drank alcohol before age 11 declined between the two reporting years from 12.0% in 2013 to 9.7% in 2015.

The National Survey on Drug Use and Health (NSDUH) Substate Data provides prevalence rates of alcohol use for Broward County underage drinking for those 12 to 20 years of age citing 20.15% of that population were current (past 30-day) users of alcohol and 11.51% reported binge drinking in the past month. These were the lowest rates in Florida where the statewide rates were 24.04% for current alcohol use and 14.24 for binge drinking among those 12-20 years of age.

In calendar year 2015, only 5 adolescents aged 17 and under cited alcohol was their primary drug of abuse when they entered a Florida addiction treatment program. That total represented 1% of all admissions for that age group and less than 1% of the total number of primary alcohol treatment admissions (n= 1,830). There were 109 young adults aged 18-25 who reported alcohol as their primary substance abuse problem or 6% of all alcohol admissions representing 12% of all treatment admissions aged 18-25.

Adult Problematic Alcohol

- **Alcohol** was the primary drug cited by nearly a third of all patients admitted to addiction treatment in Broward County during 2015 with three-fourths of adult patients being over the age of 34.

Alcohol was identified in 2,288 deceased persons in the first six months of 2015 by Florida medical examiners representing a 13-% increase from the number of alcohol occurrences in the first half of 2014. Among the 2015 cases, alcohol was considered a “cause of death” in 384 or 17% of the cases. County-level medical examiner data are not available for alcohol-related deaths.

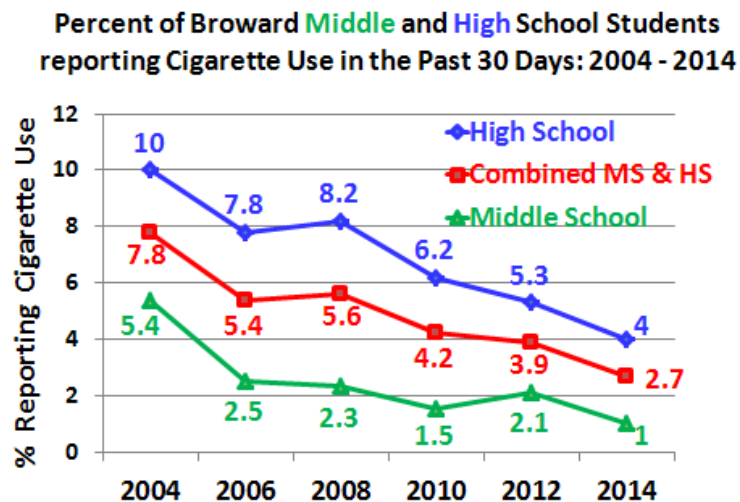
In calendar year 2015, 1,825 persons aged 18 and older cited alcohol was their primary drug of abuse when they entered a Broward addiction treatment program accounting for 32% of all adult clients. Three-fourths of all alcohol primary admissions clients were males. Young adults aged 18-25 accounted for 6% of the adult alcohol admissions while those aged 26-34 years represented 18% and those age 35 and older comprised 76%.

There were 1,930 arrests in Broward County for Driving Under the Influence (DUI) during 2015 representing a 19-% decline compared to 2,390 such arrests in 2014 and a 16-% decrease from the 2,299 adult DUI arrests in 2012. The substances involved in the DUI arrest are not specified but most are for alcohol intoxication. There were 257 arrests in Broward County for Liquor Law Violations during 2015 representing a 52-% decline compared to 531 such arrests in 2014 and a 77-% decrease from the 1,127 liquor arrests in 2012.

Tobacco, Smoking and Vaping

- While **cigarette smoking** by youth has dramatically declined over the past decade, 45% of Broward high school students and 25% of middle schoolers have used an **electronic cigarette and vaping device**.

The 2014 Florida Youth Tobacco Survey (FYTS) reports that 2.2% of Broward youth 11-17 years of age are current (past 30-day) cigarette smokers as compared to 4.3% of youth statewide. The Broward County rate was 3.1% in 2012. The decline in cigarettes smoking among Broward students is also confirmed by the Florida Youth Substance Abuse Survey (FYSAS) over the past decade. In 2004, 10% of high school students reported past 30-day or current cigarette use as did 5.4% of middle school students or 7.8% of all secondary students. By 2014, the rate among high schoolers had declined 60% to 4% and dropped 81% among middle school students to 1%. These are the most significant declines of any substance use ever recorded by the 15 year old FYSAS and are noted as the de-normalization of cigarette smoking among youth.



Source: Florida Youth Substance Abuse Surveys 2004-2014

As regular cigarette use has declined, the use of electronic smoking and vaping devices has escalated among youth. The 2015 Youth Risk Behavior Surveillance Survey (YRBSS) reports that 24.9% of Broward middle school students have ever used e-cigarettes as have an estimated 45.1% of high school students. These rates are second only to the percent of students reporting any lifetime use of alcohol and are significantly higher than those acknowledging ever having used marijuana.

Twice as many Broward youth are current users of e-cigarettes than regular cigarettes according to the 2014 Florida Youth Tobacco Survey (FYTS) which reveals that 4.4% of Broward youth aged 11-17 had used e-cigarettes in the past 30 days as compared to 2.2% who had smoke regular cigarettes. The FYTS is conducted annually but county-level data are only available for even-numbered years.

The 2015 YRBSS expands the question of e-cigarette use to include e-hookahs, vaping pipes or pens and provides more current findings. Thus, its results report even higher rates of current vaping use with 22.4% of Broward high school students and 9.6% of middle school students having used a vaping

device in the past month as compared to regular cigarette use by 4.2% of high schoolers and 0.8% of middle school students.

Existing studies on electronic smoking devices' vapor emissions and cartridge contents have found a number of dangerous substances including chemicals known to cause cancer such as: formaldehyde, acetaldehyde, lead, nickel, chromium, PM_{2.5}, acrolein, tin, toluene, and aluminum. These toxins are associated with a range of negative health effects such as skin, eye, and respiratory irritation, neurological effects, damage to reproductive systems, and even premature death from heart attacks and stroke. More than one study have concluded that exposure to vapor from electronic smoking devices may cause passive or secondhand vaping. Clinical studies about the safety and efficacy of these products have **not** been submitted to the FDA for the over 400 brands of electronic smoking devices that are on the market and for this reason, consumers currently have no way of knowing whether electronic smoking devices are safe or what potentially harmful chemicals the products contain.

Use of electronic smoking devices has increased significantly in recent years. The 2015 FYTS reports while cigarette use among Florida youth has decreased in the 21st Century, use of e-cigarette and other vaping devices has increased 327-% among middle schoolers and 410-% among high school students between 2011 and 2015.

A critical concern is that young non-smokers of regular cigarettes who use e-cigarettes will quickly become addicted to nicotine and eventually turn to smoking of tobacco products. Vaping is also a common route of administration for many drugs ranging from marijuana products such as "budder" or "wax" to numerous novel synthetic substances making first time use easier than smoking or injecting. A study by Adam M. Leventhal *et al* published in the August 18, 2015 issue of *JAMA* reported that among a sample of high school students, those who had ever used e-cigarettes at baseline compared with nonusers were more likely to report initiation of combustible tobacco use over the next year. It found that 30.7% of e-cigarette users started smoking combustible tobacco products (cigarettes, cigars, and hookah) within 6 months as compared to 8.1% of non-e-cigarette users who started smoking.

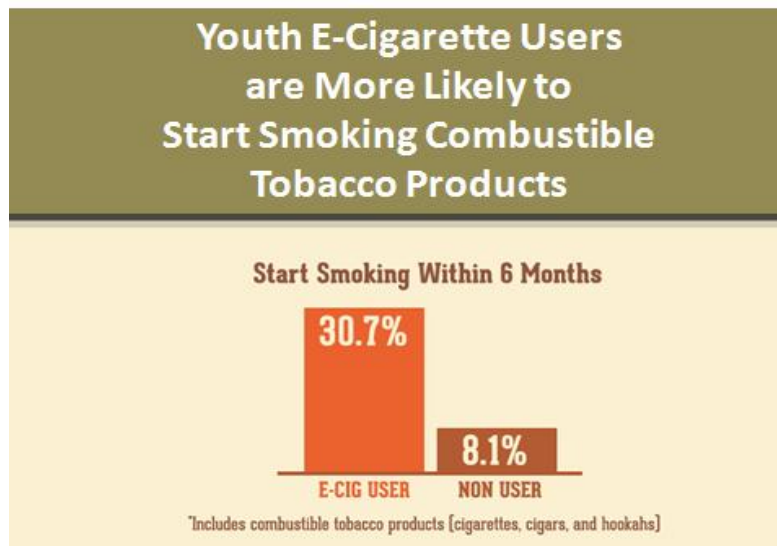


Exhibit from NIDA 2015 Monitoring the Future Survey Infographics

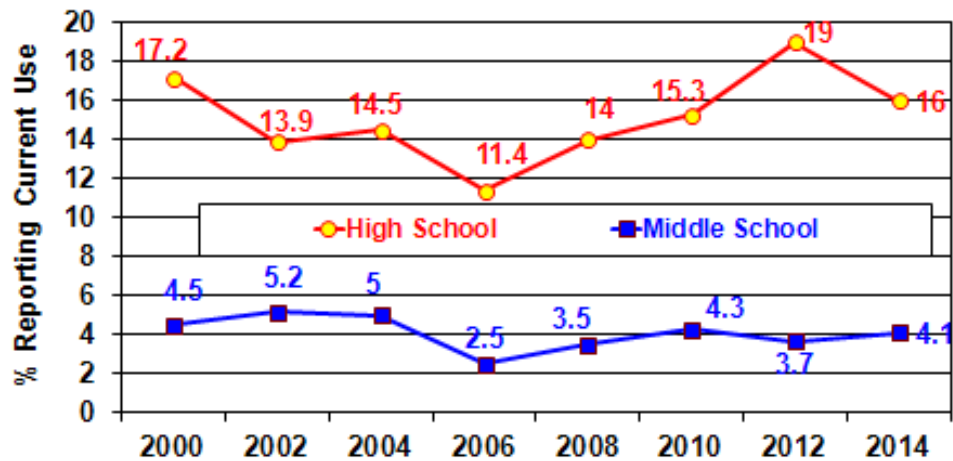
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Marijuana

- Marijuana was the primary drug of use reported by 93% of adolescents younger than 18 years of age entering addiction treatment programs in Broward County during 2015 as prevalence rates of current marijuana use have generally increased since 2006.

The Florida Youth Substance Abuse Surveys revealed the rate of Broward County high school students reporting past 30-day use of marijuana increased from 11.4% in 2008 to 19% in 2012 and then declined to 16% in 2014. The rate for middle school students increased from 2.5% in 2008 to 4.3% in 2010 and then remained relatively stable until 2014 going from 4.3% in 2010 to 3.7% in 2012 and then back up to 4.1% in 2014.

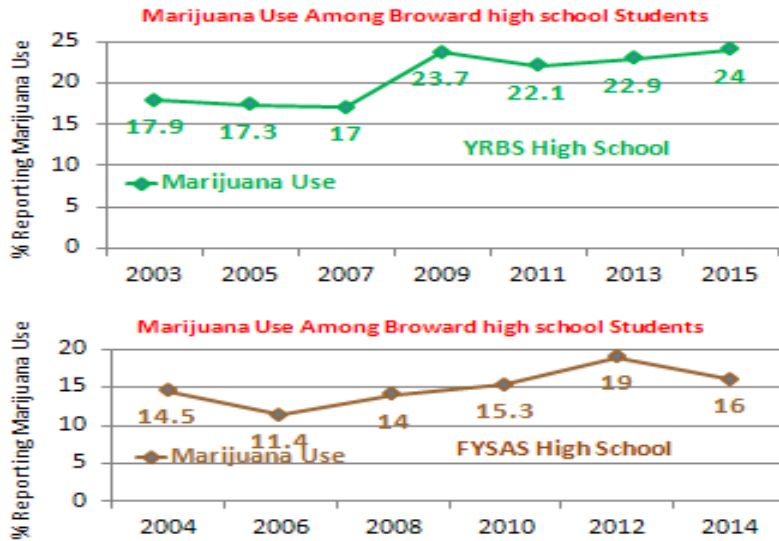
Current (past 30-day) Marijuana Use Among Broward County Middle and High School Students 2000-2014



Source: Florida Youth Substance Abuse Surveys 2000-2014

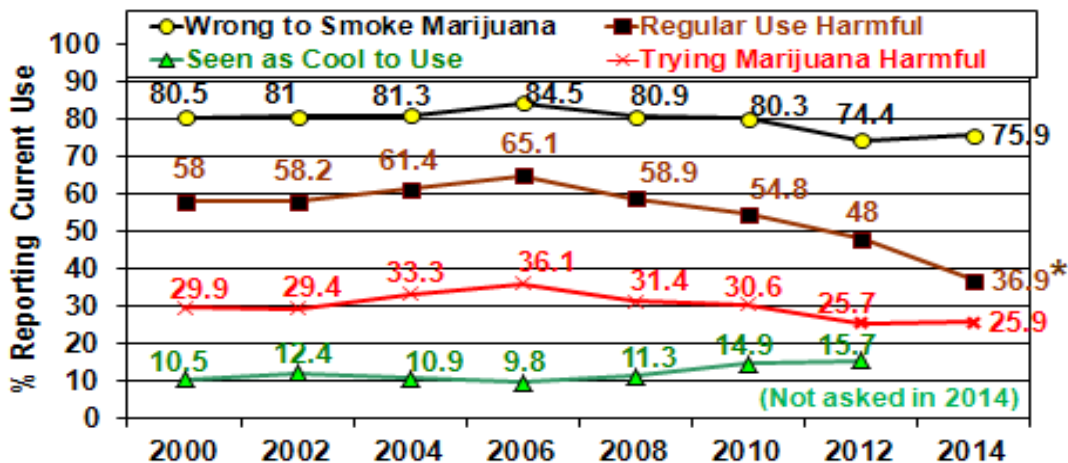
The findings of the FYSAS are verified in the YRBSS among Florida high school students. The graphs below track findings from the two surveys. While the prevalence rates are consistently higher in the YRBSS findings, both surveys show the rise in adolescent marijuana use beginning in 2008 and 2009.

Comparison of current (past 30 day) marijuana use among Broward high school Students as Tracked by the Youth Risk Behavioral Surveillance Survey (YRBSS) and the Florida Youth Substance Abuse Survey (FYSAS)



The percent of secondary students reporting to the FYSAS that the regular use of marijuana presents a “great risk of harm” declined from 65.1% in 2006 to 36.9% in 2014. About 80% of Broward students consistently disapproved of youthful marijuana use between 2002 and 2010 by responding that it was “wrong” or “very wrong” for someone their age to smoke it; that measure declined to 75.9% by 2014. Other changes in attitudes about marijuana since 2006 at observed in the graph below.

Perceived Attitudes about Marijuana Among Broward County Middle and High School Students 2000-2014



* This question changed in 2014 from “regular use” to “once or twice a week”
 Source: Florida Youth Substance Abuse Surveys 2000-2014

The NSDUH Sub-State data estimates that there were 78,769 current (past 30 day) marijuana users aged 12 and above living in Broward County in the most current data available from 2012.

The Florida Medical Examiners Commission reported there were 785 occurrences of natural cannabinoids (not synthetics) detected among the 4,682 deaths in Florida during the first half of 2015 in which a drug was determined through postmortem toxicology tests to be present at the time of death. Thus, marijuana was detected as being present in 17% of all drug-related deaths in Florida. The number of marijuana occurrences in the first six months of 2015 represented a 54-% increase over the 509 such occurrences in the first half of 2014. Of the 2015 natural cannabinoid medical examiner interim report cases, two were considered to be caused by marijuana. County-level medical examiner data are not available for marijuana-related deaths.

Primary addiction treatment admissions for marijuana totaled 1,356 patients in Broward County during 2015 or 22% of all admissions. Males accounted for 74% of the 2015 clients. Youth younger than 18 years of age totaled 357 or 26% of the marijuana admissions, 33% were 18-25, 27% were 26-34 and 14% were age 35 or older. Marijuana was the primary drug cited by 93% of clients younger than 18 years of age for any substance.

The 693 cannabis crime lab cases in Broward County during 2015 accounted for 12.5% of all drug reports and ranked third among all other substances.

Novel Psychoactive Substances

A critical issue impacting substance abuse in Florida and the Nation over the past 5 years has been the emergence of new synthetic drugs of abuse. They were often first detected in Australia or New Zealand followed by Eastern then Western Europe around 2006 before arriving in North America about 2010. By 2015 these drugs are reported globally and found on every continent.

The United Nations and major national government agencies have adopted the term, “Novel Psychoactive Substances” or NPS, to describe these drugs. Not all of these substances are new, but some may have been around for 20-30 or more years but not used as drugs until recently. The term “emerging” is not always appropriate to describe the problem as these substances often arrive in various locations in different years. Thus, what may be an emerging drug problem in Florida may have already come and gone in Great Britain. While most NPS are synthetic chemicals, so are many other drugs that have been around for decades.

The classes of Novel Psychoactive Substances include:

- **Phenethylamines**
- **Synthetic Cannabinoids**
- **Tryptamines**
- **Piperazines**
- **Opiates**
- **Benzodiazepine Analogs**

Phenethylamines include methamphetamine and 3, 4-methylenedioxy-methamphetamine (MDMA) or the drug most often called “ecstasy” both which have been around for decades. Phenethylamines also include substitute cathinones which are potent stimulants with varying degrees of hallucinogenic properties. Cathinones are chemically designed to mimic but be more potent than the stimulant in the Khat plant found in East Africa and the Middle East. The first substitute cathinones to appear were often referred to as “bath salts” and have been banned nationally and in Florida as well as many other nations. The most prevalent substitute cathinones in Florida have been methylone, ethylone, and diButylone all of which have been falsely sold as “pure MDMA” or “Mollys” for several years. The most dramatic problems associate with synthetic cathinones has been with *alpha*-PVP or “flakka” particularly in Broward County from late 2014 and throughout 2015.

Synthetic cannabinoids mimic the effects of marijuana and were first legally sold as commercial products with names like “K-2” or “spice” before the original group of synthetic cannabinoids were banned and have been constantly replaced with an ever changing list of these chemicals.

Tryptamines are typically serotonin-affecting psychedelics/hallucinogens such as LSD, DMT and Psilocybin (the active ingredient of psychedelic mushrooms), or 5-MeO-DiPT (“foxy methoxy”).

Piperazines are stimulants such as BZP or TFMPP that were frequently sold as “ecstasy” up until 2013 and just prior to the appearance of cathinones sold as “Mollys.”

The unregulated benzodiazepine, etizolam, not from a pharmaceutical manufacturer but from clandestine laboratory production first appeared as a drug sold on the internet beginning in 2015.

The most deadly of NPS currently available are non-pharmaceutical analogues of fentanyl and other opiates in various formulations from clandestine laboratories in Mexico and China. The NPS fentanyl analogs are have been used as a booster narcotic adulterant to street heroin or are merely sold as heroin. In 2016, these analogues have been distributed as counterfeit medications including fake “Xanax,” hydrocodone, and oxycodone. The opiate NPS are linked to the escalating number of heroin-related deaths in Florida and across the nation beginning in 2014.

Synthetic Cannabinoids

- **Synthetic Cannabinoids** appear to be in greater supply and use in other parts of Florida than Broward County which had less than 2% of the State’s crime lab cases for these drugs and 4% of Poison Information Center exposure calls in 2015.

The availability of unregulated synthetic cannabinoids increased via retail sale throughout 2010 and the first half of 2011. Their use was mostly among those who were subject to frequent drug testing that did not identify these products. Nevertheless, drug tests are now available for their detection for some but not all of these ever changing substances and many of the early synthetic cannabinoids are now illegal.

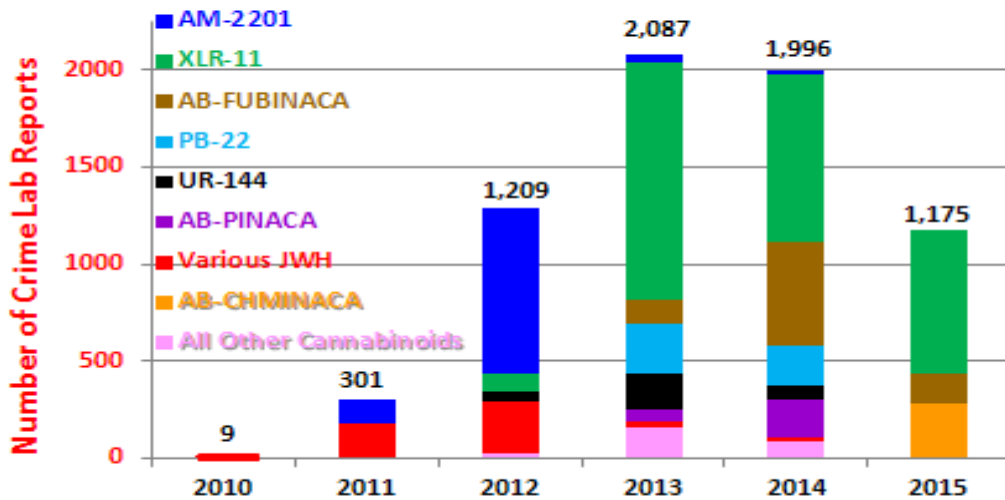
There were 276 exposure calls statewide to Florida Poison Information Centers in 2015 for various unspecified synthetic cannabinoids, representing a 58-percent increase from the 175 calls in 2014. In 2013 there were 194 calls which showed a decrease from the 537 calls in 2012 and 517 calls in 2011.

Among the calls in 2015, 11 were from Broward County. During the first quarter of 2016, there were 84 poison exposure calls for synthetic cannabinoids in all of Florida, including 1 for Broward County.

A total of 10 synthetic cannabinoid deaths were reported in the first half of 2015 across Florida, with 3 occurrences considered a cause of death compared with 9 such occurrences in calendar year 2014, of which 3 were considered to be a cause of death. County-level medical examiner data are not available for synthetic cannabinoid-related deaths.

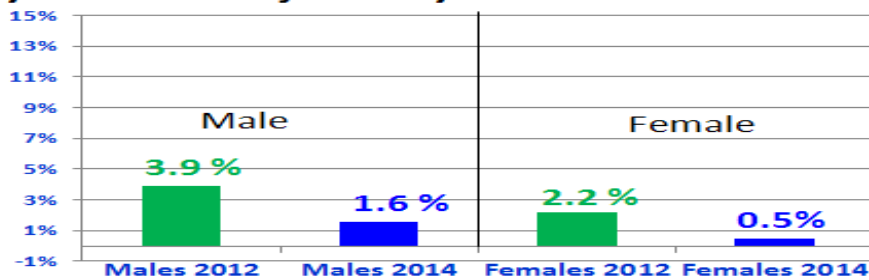
There were 1,175 crime lab reports for synthetic cannabinoids during 2015 in Florida, which represents a 41-% decline from the 1,996 reports in 2014. Overall, 2,087 such reports were cited in 2013, 1,209 in 2012, and 301 in 2011. Broward County’s crime labs reported 18 items for XLR-11 and 13 for AB-Fubinaca in 2015.

Synthetic Cannabinoids Crime Lab Cases in Florida: 2010-2015



Source: Analysis of US DEA - National Forensic Laboratory System Data

Percent of Broward County High School Students Reporting Past 30-Day Use of Synthetic Marijuana by Gender: 2012 vs.2014



Source: Florida Youth Substance Abuse Survey 2012

The FYSAS has tracked use of synthetic cannabinoids among Broward high school students since 2012. Past-30-day use declined between 2012 and 2014 from 3.0% to 1.0%. As shown in the graph on the bottom of the previous page rates among males were higher than those for females. Any lifetime use of synthetic cannabinoids by Broward high school students declined between 2012 and 2014 from 9.2% to 5.8%. The most common usual source of synthetic cannabinoid cited by 41% of high school students statewide who have used it was “a convenience store or gas station” followed by 32% who reported “someone gave it to me.”

Synthetic Cathinones

- Constantly changing available of **Synthetic Cathinones** and specifically *alpha*-PVP (“flakka”) from clandestine labs in China dramatically influenced the serious consequences experienced in Broward County during 2015 outranking any other county in the nation.

An epidemic of the synthetic cathinone, *alpha*-PVP, the drug sold as “flakka” erupted in Broward County in September of 2014. Consequences of its abuse rapidly escalated in 2015 with the drug linked to thousands of hospital emergency cases many from the excited delirium syndrome. Broward County had more crime lab cases of *alpha*-PVP than any other county in the nation.

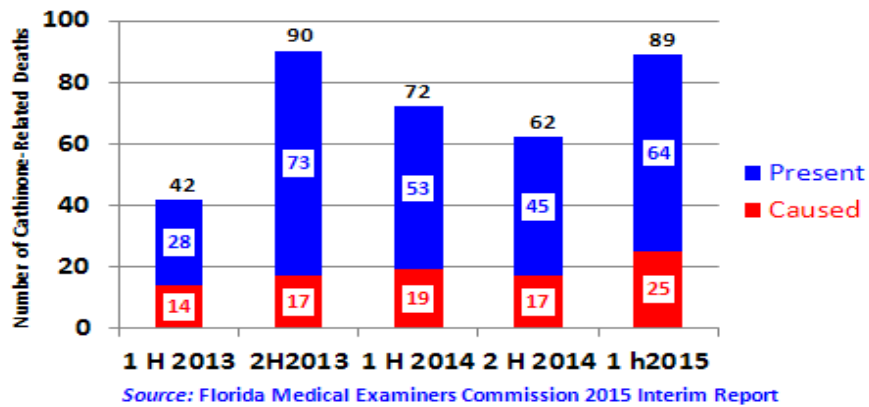
A Flakka Response Community Action Team was formed in April 2015 under the direction of the United Way of Broward County Commission on Substance Abuse, the Broward Addiction Recovery Center, the Broward Sheriff’s Office and numerous other federal and local partners. Their work resulted in almost daily town hall meetings, numerous media alerts, development of a medical emergency protocol, and trainings for first responders. In part because of worldwide negative media coverage about flakka as well as diplomatic efforts, the government of China banned *alpha*-PVP and 115 other novel psychoactive substances on October 1, 2015. By the end of 2015 hospital emergency department cases, arrests, and treatment admissions related to *alpha*-PVP abuse dramatically declined. By early 2016 it had disappeared from street drug sales.

Sold in quantities as small as 1/10th of a gram for as little as \$3.00 to \$5.00 it was highly profitable for the dealers whose actual cost was very low. *Alpha*-PVP was sold over the internet from China for about \$1,500 per kilogram and shipped by world-wide express services to local mid-level dealers in packages containing from 1 to 5 kilograms. A single kilogram provided up to 10,000 doses at a 1/10th of a gram which sold for \$5.00 each yielding up to \$50,000 in sales or a profit of \$48,500.

There were 132 synthetic cathinone deaths in all of Florida during 2013 and 134 in 2014. There were an additional 89 synthetic cathinone medical examiner occurrences statewide in the first half of 2015 with 25 attributed as being a cause of death.

There were 63 *alpha*-PVP deaths in Broward County from September 27, 2014 to December 11, 2015 and none since that date. There were also 17 *alpha*-PVP deaths in Palm Beach County between May 5, and October 15, 2015.

Synthetic Cathinone Deaths in Florida

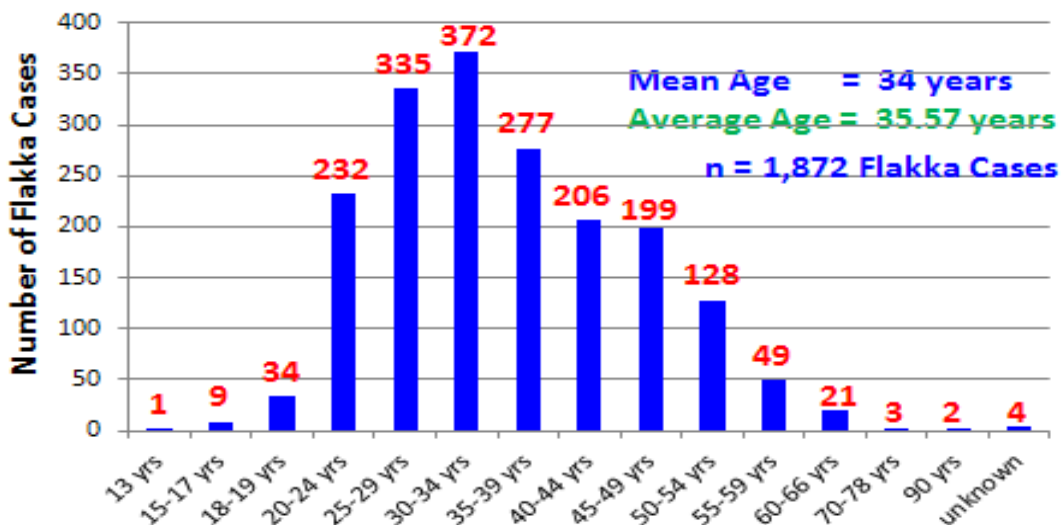


In the last six months of 2015, there were 1, 872 *alpha*-PVP emergency department cases in just 4 hospital of the Broward Health System in the northern part of Broward County. Most of these cases exhibited symptoms of excited delirium syndrome. Males accounted for 81% of the patients. The race and ethnicity of the *alpha*-PVP emergency department cases included 996 Black Non-Hispanics, 751 White Non-Hispanics, 110 White Hispanics, 7 Black Hispanics, 6 Asians, and 2 American Indians. Ages of the *alpha*-PVP patients are shown in the graph below. The mean age was 34 years and only 2% (n= 44) were under 20 years of age suggesting a history of chronic crack cocaine or other simulant abuse as a contributing factor to excited delirium with *alpha*-PVP use.

Flakka Hospital Cases: Broward Health

June 1 – December 27, 2015

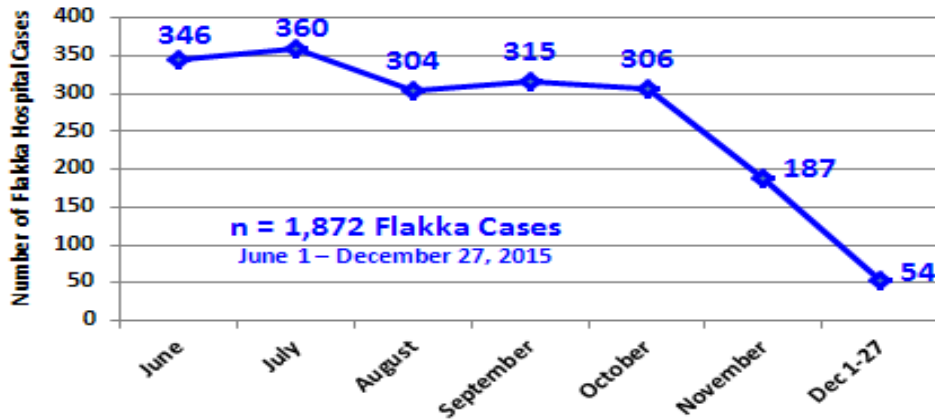
Flakka Cases by Age



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Following the October 1, 2015 ban on production and sale of *alpha*-PVP by the Chinese Government the number of Broward Health hospital emergency department cases related to the drug declined from over 300 per month from June to October to 187 in November and 54 in December 2015.

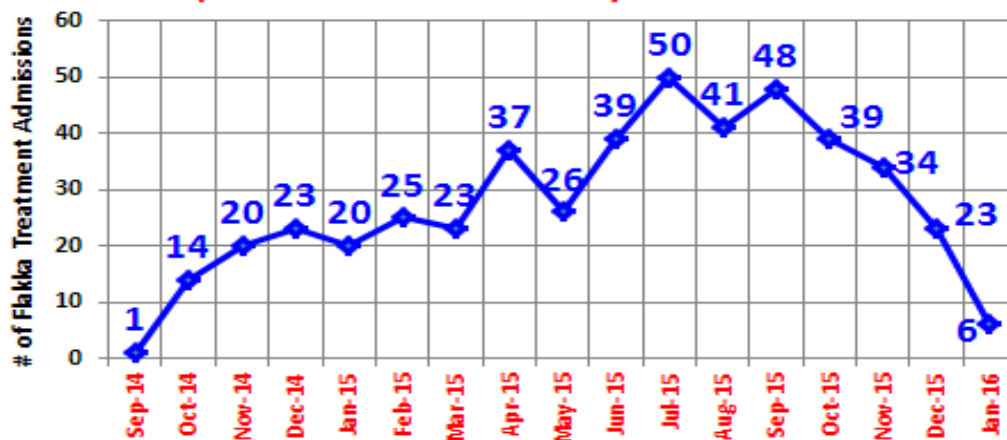
Flakka Hospital Cases Broward Health Medical Centers: June 1 – December 27, 2015 n = 1,872 Flakka Cases



Source: Broward Health Medical Centers

There were 405 primary treatment admissions (7% of all admissions) for *alpha*-PVP in Broward County in 2015, just two in Palm Beach County, and one in Miami-Dade. Males accounted for 86% of the Broward *alpha*-PVP treatment clients and all were reported by the Broward Addiction Recovery Center (BARC). The BARC *alpha*-PVP treatment admissions declined sharply following the October 2015 Chinese ban of the drug as illustrated in the graph below.

Broward Addiction Recovery Center Flakka Treatment Admissions September 2014 – January 2016 n = 469



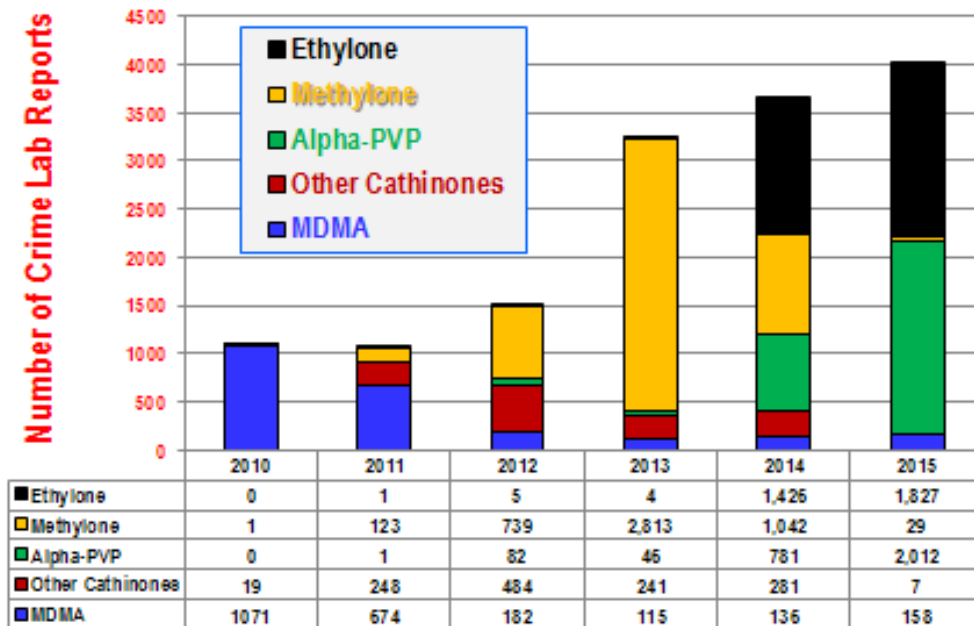
Source: Broward Addiction Recovery Center (BARC)

There were 145 Poison Information Center exposure calls for *alpha*-PVP in Florida during 2015 including 76 from Broward County. Exposure calls involve cases usually from a hospital emergency department where a patient is experiencing adverse consequences after smoking or ingesting a substance. During the first quarter of 2016 there were 19 exposure calls for *alpha*-PVP statewide and only 3 from Broward County.

There were 3,875 crime lab reports for synthetic cathinones during 2015 in Florida, a 10-% increase from 3,530 in 2014 and greater than previous year totals of 3,104 in 2013, 1,310 in 2012, and 373 in 2011. Among the 2015 crime lab reports there were for 2,012 for *alpha*-PVP including 1,468 in Broward County. There were also and 1,827 crime lab reports for ethylone statewide including 146 from Broward County. Ethylone was sold as “Molly” capsules or powder. There were only 158 crime lab cases for MDMA in 2015 similar to the 135 in 2014 but a significant decline from the 1,071 cases in 2010.

The graph below illustrates the changing patterns of synthetic cathinones and 3, 4 MDMA (“ecstasy”) across Florida from 2010 to 2015. The blue portion of the bar graph is for MDMA and the red portion labeled “other cathinones” includes the so-called bath salts such as MDPV and 4 MEC. Methylone was introduced in 2011 and sold as “molly” and dramatically increased until mid-2014 when it was banned by the Chinese Government and replaced by ethylone. Small amounts of *alpha*-PVP appeared in 2012 and 2014 and then increased in the fourth quarter of 2014 until the Chinese ban on October 1, 2015. In 2016 ethylone has largely been replaced by diButylone the drug now sold as “Molly.”

Number of Synthetic Cathinone and MDMA Crime Lab Reports in Florida: 2010-2015



Source: US DEA - National Forensic Laboratory System Data Queried Jan 19, 2016

Across all of Florida there were 199 Poison Information Center exposure calls for hallucinogenic amphetamines during 2015 compared to 321 in 2014. In Broward County, hallucinogenic amphetamines exposure calls totaled 12 in 2015 down from 40 in 2014. During the first quarter of 2016 there were 44 exposure calls for hallucinogenic amphetamines in Florida including 4 from Broward County.

Opiates (including non-pharmaceutical analogues and pharmaceutical opioids and heroin)

- The sharp escalations of **heroin** use, treatment admissions, and deaths along with stable and high levels of **prescription opioid** and **non-pharmaceutical fentanyl** indicators constitute an opiate epidemic.

Non-Pharmaceutical Opioid Analogues

- **Non-pharmaceutical fentanyl** and its analogues from foreign clandestine labs are a major factor for the increase in opiate deaths related to adulterated heroin and counterfeit medications.

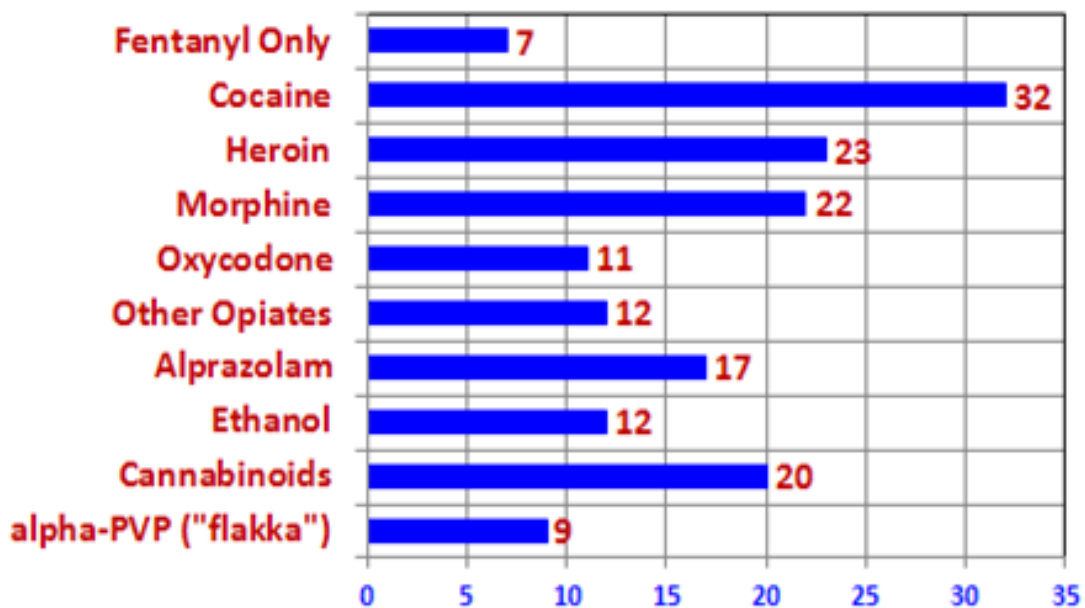
The increasing availability of poisonous opiate analogues and their distribution are critical issues related to the opiate epidemic. These novel psychoactive opiates are found not only as adulterated street heroin but also as counterfeit medications including fake “Xanax®” pills and as oxycodone and hydrocodone tablets. There have been at least 9 deaths in Pinellas County, Florida attributed to counterfeit medications laced with fentanyl during 2016. Other opiate analogues include U-47700 which has been increasingly reported over the past few months including law enforcement seizures of U-47700 on the east coast of Florida and at least 3 reported deaths in Pinellas County in 2016.

The first and only seizure of W-18 in the United States during 2015 as reported to the US Drug Enforcement Administration’s national crime lab system occurred in Broward County. The package weighed 2½ pounds estimated as enough to produce massive numbers of overdoses. W-18 is a synthetic opioid reported to be even more potent than fentanyl yet research is lacking to provide an accurate measure. The Broward County seizure was part of a federal case in which the defendant received a 10 year sentence for having had fentanyl or its analogues shipped to him from China with the help of a Canadian prison inmate. It is one of a series of 32 synthetic opioids developed in the 1980s at the University of Alberta in Canada. W-18 appears to be the most powerful of the ‘W’ compounds. These substances have never been used clinically, and there has been virtually no scientific study of their actions, adverse effects, or reversibility.

The Center for Applied Research on Substance Use and Health Disparities at Nova Southeastern University’s quarterly national survey of law enforcement agencies regarding prescription drug diversion activity began signaling the advance of non-pharmaceutical fentanyl (NPF) into the US from Canada in early 2014, beginning in the state of Ohio. Until the 2nd quarter of 2015, reports were of NPF in powder form, alone or mixed with heroin. Such cases gradually advanced down the East and West Coasts. In early 2015, Ohio reported the first signal of NPF sold as counterfeit prescription medications, including opioid and benzodiazepine products. Since then, reports of mass production of counterfeit pills have been made by agencies in Los Angeles, New York, Ohio, Seattle and Central Florida as well as numerous sites in Canada, and cases involving NPF have spread throughout the country. Law enforcement reports for diversion of pharmaceutical fentanyl products did not increase over the period.

There were 79 fentanyl deaths including NPF in Broward County during 2015, up from 53 in 2014. The Broward County Medical Examiner also reports a significant increase in fentanyl analogues detected in decedents in recent months including 5 deaths in one day in February 2016; the deceased were found with syringes still in their arms. Males accounted for 79% of the 2015 fentanyl-related decedents. The mean age of these decedents was 39 years ranging from 19 to 70 years with one-third being in their 30's. Fentanyl was the only drug detected in 7 of the 2015 cases. Other drugs were detected in 72 of the 79 fentanyl decedents in 2015 including 23 with heroin and 45 with one or more other opioids present as shown in the graph below.

Number of Drug Combinations Among 79 Fentanyl Deaths in Broward County, Florida 2015



Source: Office of the Medical Examiner and
Trauma Services, Broward County

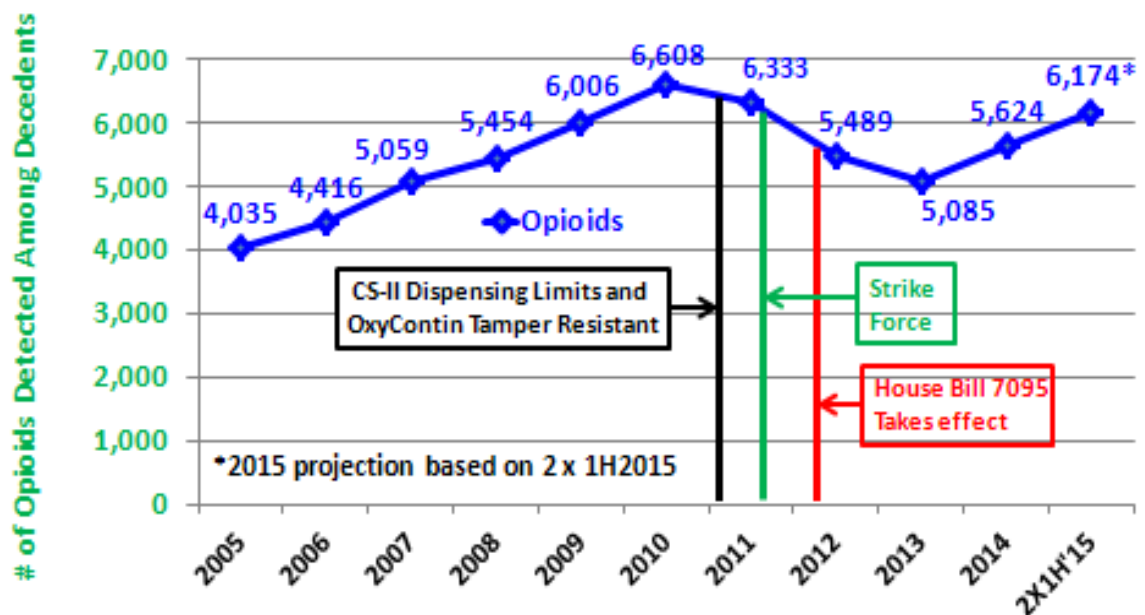
Nonmedical Use of Prescription Opioids

In the first decade of the 21st Century there was a dramatic increase in the availability of diverted pharmaceutical opioids and deaths in Florida linked to their nonmedical misuse as well as primary addiction treatment admissions for prescription opioids. Numerous new laws and regulations took effect beginning in 2010 along with the abuse-deterrent reformulation of high dose extended release opioids. The collective impacts of these supply-reduction strategies are reflected in declining opioid deaths beginning in 2011. At the same time heroin deaths increased sharply from 2012 to 2015 across all of Florida, rising 1,010-% from 57 in 2011 to a projected 686 in 2015 based on the first half of that year.

The sharp escalations of heroin use, treatment admission, and deaths in Florida along with stable and high levels of prescription opioid indicators constitute an opiate epidemic.

In 2010 there were 6,608 opioids detected in deceased person in Florida. That toll steadily decline 23-% to 5,085 by 2013 and then increased to 5,624 opioid occurrences in 2014. The projected number of opioid occurrences among deceased person in 2015 is 6,174 based on the first six months of the year. The projected total includes 1,340 occurrences for morphine, many of which are believed to actually be heroin, and 794 fentanyl occurrences including many that are considered to be non-pharmaceutical fentanyl from foreign clandestine labs used to adulterate street heroin or sold as counterfeit medications. Seventy-one percent of the 2015 opioid deaths are related to 5 of the 11 opioids tracked by the Florida Medical Examiners Commission. Those 5 are morphine, oxycodone, hydrocodone, methadone, and fentanyl totaling 2,184 medical examiner occurrences in the first six months of 2015 across Florida including 131 in Broward County. Many if not most of the fentanyl medical examiner reports in 2014 and 2015 are believed to be non-pharmaceutical fentanyl analogues from foreign clandestine labs.

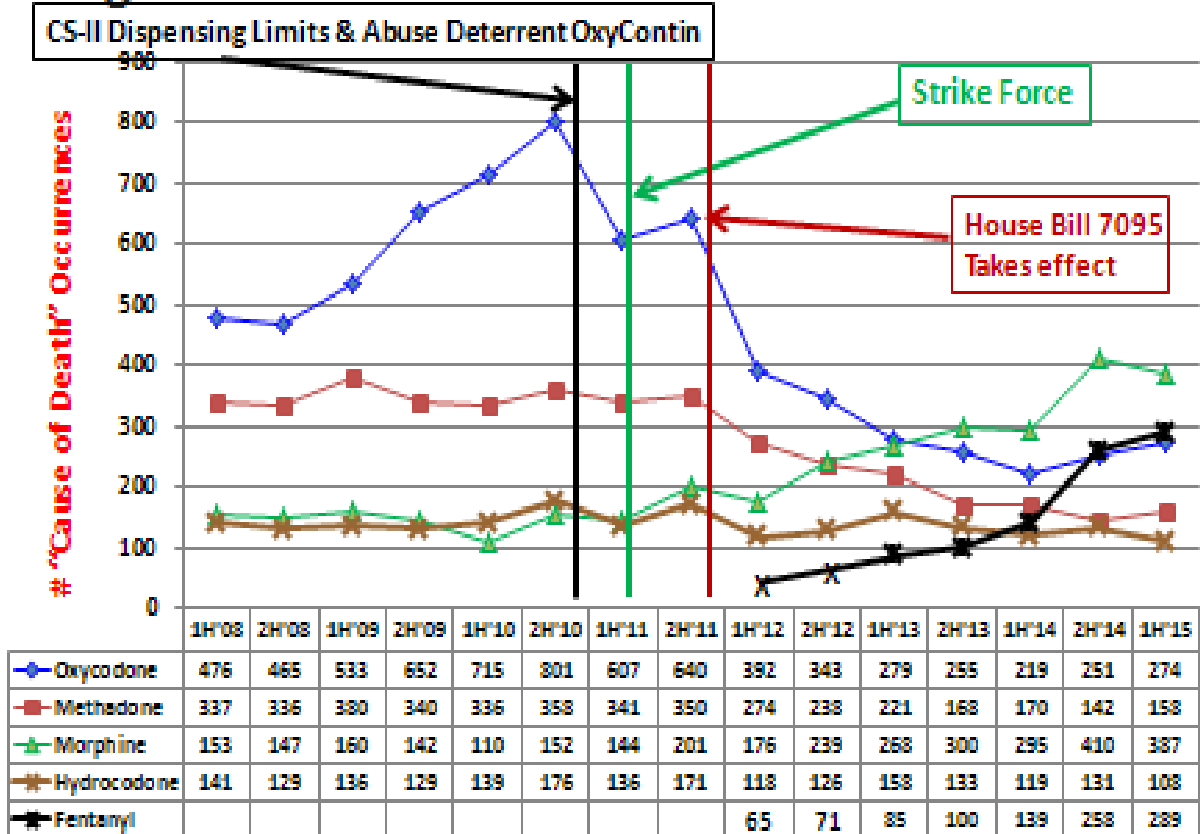
Number of Nonmedical Rx Opioids Occurrences Detected among Decedents in Florida 2005 – 2015*



Source: FDLE – Drugs Identified In Deceased Persons by Florida Medical Examiners
Jan 2005 - June 2015 Reports

The graph on the next page tracks the number of lethal opioid occurrences in Florida where the drug was considered to be “a cause of death” for the 5 most prevalent prescription opioids by semi-annual reporting periods. In Broward County lethal opioid occurrences in the first half of 2015 totaled 109 including 21 for oxycodone, 6 for hydrocodone, 4 for methadone, 37 for morphine, and 41 for fentanyl including non-pharmaceutical fentanyl analogues.

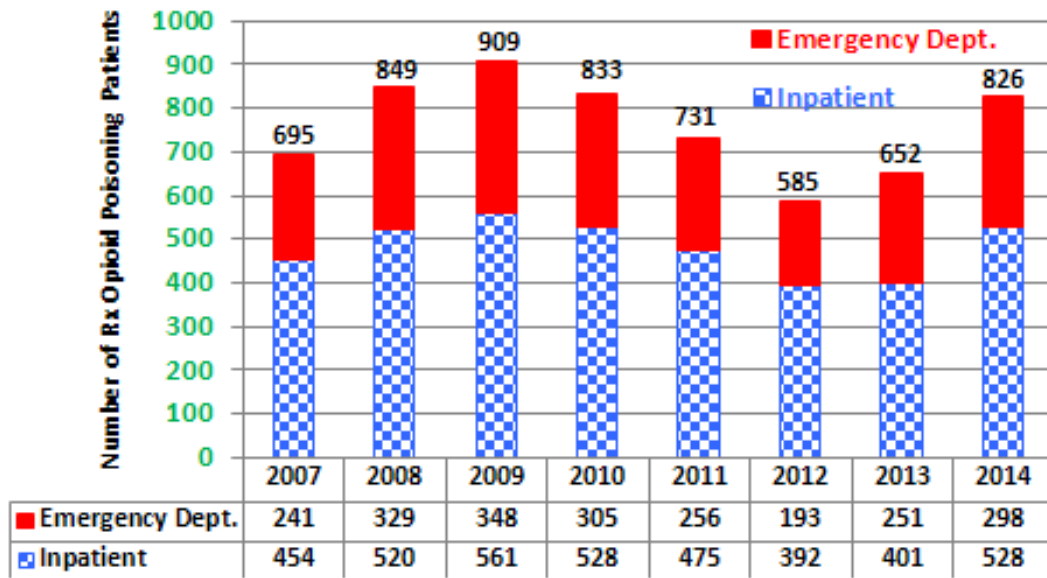
Number of Selected **Lethal** Opioid Occurrences Among Deceased Persons in Florida 2008 to 2015



Source: FDLE – *Drugs Identified In Deceased Persons by Florida Medical Examiners*
Jan 2008 - Jun 2015 Reports

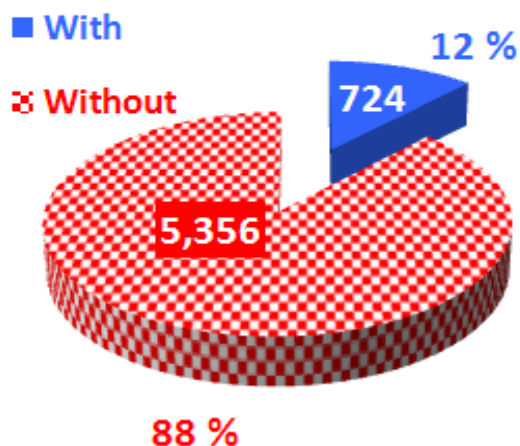
The most currently available data on hospital overdose cases are from calendar year 2014 when there were 826 hospital prescription opioid overdose poisonings in Broward County for which most all patients survived. The count of these overdose episodes peaked in 2009 at 909 cases and declined to 585 by 2012 following efforts to curtail prescription drugs diverted from legitimate medical use. There have been 6,080 hospital overdose poisoning cases for prescription opioids between 2007 and 2014 in Broward County including 2,221 treated in an emergency department and an additional 3,859 admitted as hospital inpatients. Only 12 percent of the 6,080 hospital opioid overdose hospital cases were diagnosed as having a substance abuse disorder.

Number of Hospital Cases for Non-Fatal Rx Opioid Poisonings in Broward County: 2007-2014



Source: Analysis of data from the Florida Agency for Health Care Administration

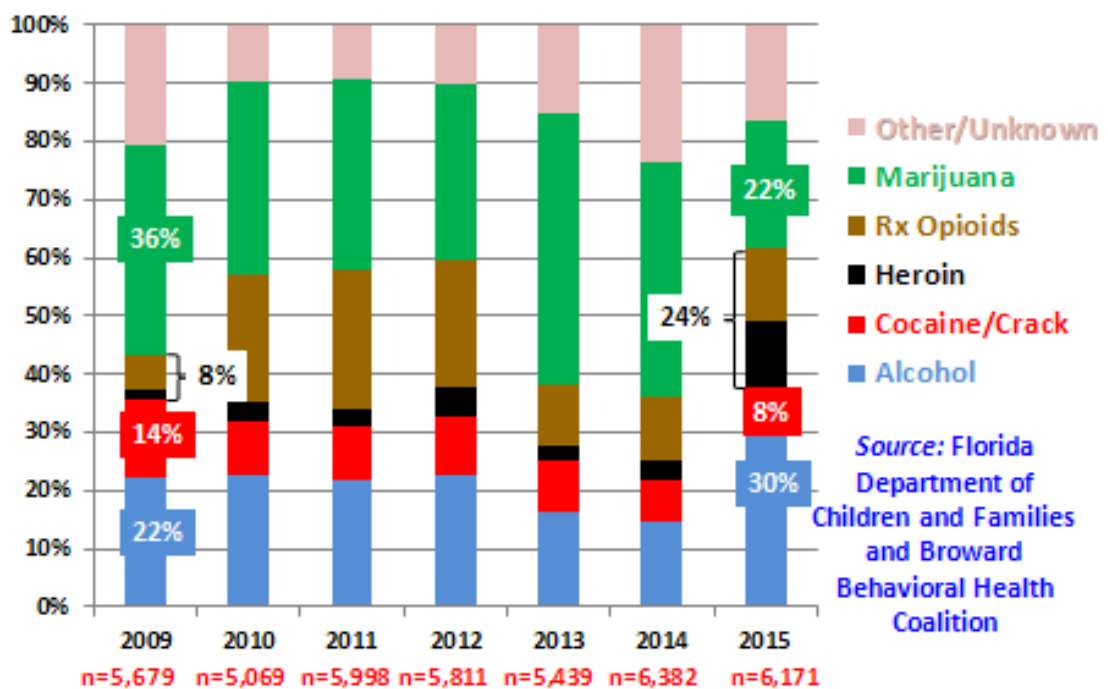
Rx Opioid Poisoning Hospital Cases in Broward County **With** and **Without** a Diagnosis of Opioid Abuse: 2007-2014 n= 6,080



Source: Analysis of data from the Florida Agency for Health Care Administration

There were 766 admissions for opiates other than heroin reported as primary treatment admissions in Broward County during 2015 accounting for 12.4% of all treatment admissions (including alcohol). Males accounted for 57 % of the opioid clients and none of the patients were younger than 18 years of age, 12% were between 18 and 25 years of age, 52% were aged 26-34, and 36% were aged 35 or older. Injecting drug use was reported by 49% of the treatment clients whose primary substance of abuse was an opiate other than heroin. Heroin accounted for an additional 11.4% of the 2014 primary admissions for a combined rate of 24% for all opiates (heroin and opioids) up from 14 % in 2014 but down from 27%in 2011.

Percent of Treatment Admissions by Primary Drug Broward County: 2009 - 2015



There were 4,715 prescription opioid crime laboratory reports, or 10% of the 47,241 total primary, secondary, and tertiary NFLIS reports in Florida during 2015. The total reports included 1,558 for oxycodone, 1,128 for hydromorphone, 782 for hydrocodone, 403 for morphine, 373 for buprenorphine, 214 for fentanyl, 180 for methadone, and 77 for codeine.

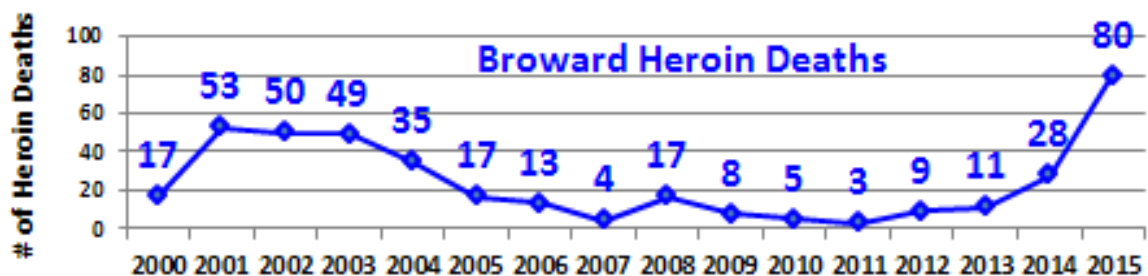
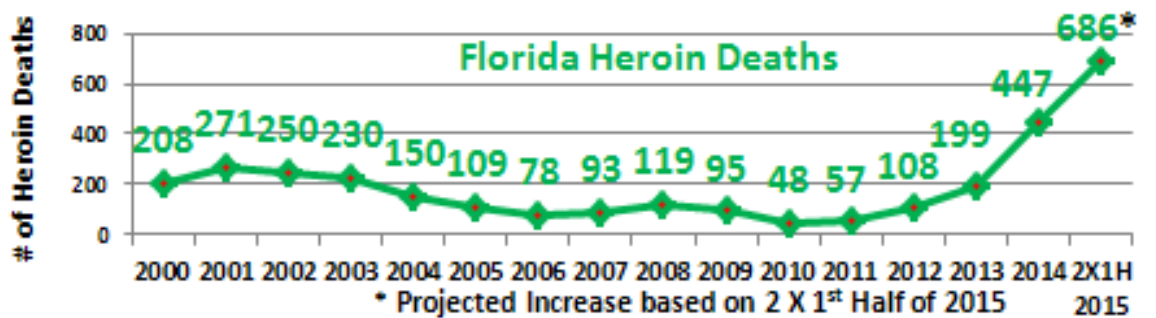
In Broward County there were 495 prescription opioid crime laboratory reports, or 9% of the 5,536 NFLIS reports in 2015 including 212 for oxycodone, 95 for hydromorphone, 48 for hydrocodone, 40 for buprenorphine, 38 for morphine, 36 for fentanyl, and 13 each for codeine and oxymorphone.

Heroin

Heroin-related deaths across Florida increased 53-% rising from 447 in 2014 to a projected 686 in 2015 based on the first half of the year. Heroin was considered a cause of death in 93% of the cases during 2015. Many of the deaths involved polydrug use with 95 % of the 2015 cases having one or more other substances present at the time of death. There was no heroin-related decedent under age 18, 16% were 18-25, 34% were 26-34 while 33% were aged 35-50 and 17% were over 50 years of age.

In Broward County heroin deaths increased 186-% from 28 in 2014 to 80 in 2015 based on the totals reported by the Broward County Medical Examiner’s Office. Heroin was ruled “a cause of death” for 97% of the cases in 2015 and was found in combination with at least one other drug in 85% of the deaths. Among the Broward County heroin decedents in the first half of 2015, none were under age 18, 18% were 18-25, 26% were 26-34, 35% were aged 35-50 and 21% were over 50 years of age.

Number of Heroin Deaths in Florida and Broward County: 2000 to 2015*

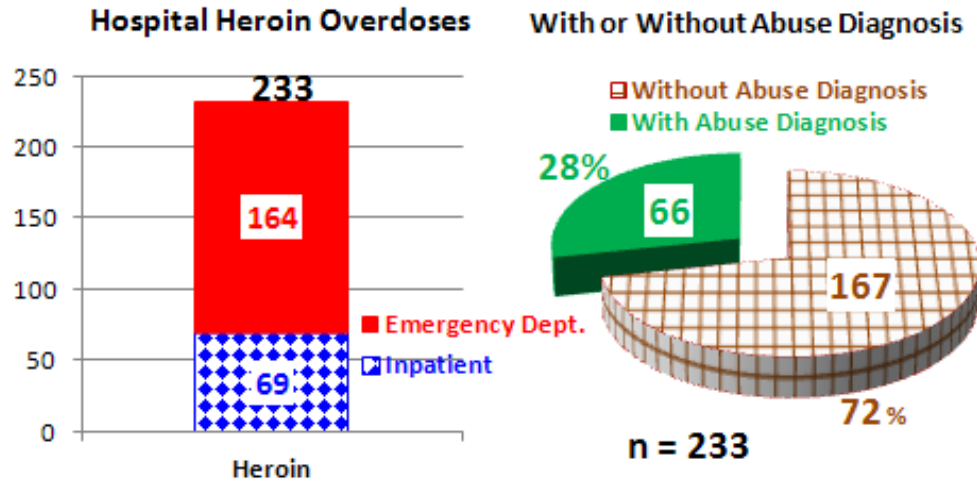


Source: Florida Medical Examiners Commission 2015 Interim Report and Broward County Medical Examiner’s Office

Florida heroin hospital overdose poisonings totaled 1,925 in 2014 for which 99% or all but 25 patients survived. Only 29% were diagnosed as having a substance abuse disorder. Among the heroin patients 70% were discharged to home and their own self-care. In Broward County there were 233 hospital cases for heroin overdose poisonings in 2014; 70% were treated in an emergency department and 30% were admitted as inpatients. Only 28% of the heroin overdose patients were diagnosed as having a substance abuse disorder.

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Number of Hospital Cases for Heroin Overdose Poisonings in Broward County: 2014



Source: Florida Agency for Health Care Administration

The Ft. Lauderdale Fire and Rescue Emergency Medical Service Bureau reported that 21% of 513 paramedic naloxone administration to reverse an opiate overdose in calendar year 2015 either involved heroin (15%) or possibly involved heroin (6%). From January 1 to May 10, 2016 the proportion of the 207 naloxone reversal cases related to heroin in those 4 ½ months increased to 36% with 27% confirmed to involve heroin and 9% possibly involving heroin.

Primary addiction treatment admissions for heroin across Florida totaled 7,062 patients during 2015 accounting for 10.4% of all admissions. In Broward County, primary heroin admissions totaled 704 or 11.4% of all admissions in 2015. Males accounted for 67% of these clients. Only one of the clients was under 18 years of age, 15% were 18-25, 46% were 26-34 and 39% were age 35 or older. Injecting heroin was reported by 78% of clients. Intranasal snorting was reported by 16% of clients and 3% reported smoking heroin.

The Broward Addiction Recovery Center (BARC) has identified the community of residence for the 502 heroin triage users they served in the 7 months from October 2015 through April 2016. Half or 49% of this group were from Ft. Lauderdale and 21% resided in Pompano Beach, followed by 10% from Hollywood, 8% from Oakland Park, 6% from Davie, and 6% from sunrise.

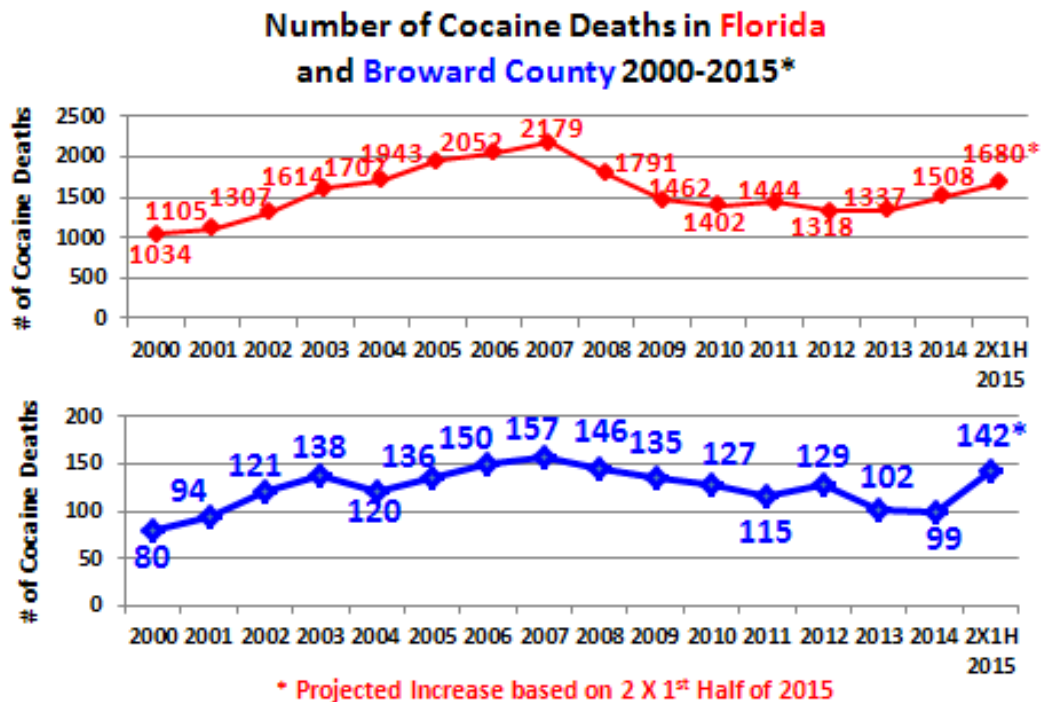
There were 3,680 heroin crime laboratory reports or 7.8% of the 47,241 total primary, secondary, and tertiary NFLIS reports for Florida in 2015. Heroin ranked fourth among all substances analyzed. In Broward County there were 313 heroin crime lab cases in 2015 or 5.6% of all drugs ranking fifth.

Cocaine/Crack

- **Cocaine** indicators remain high with increasing deaths between 2014 and 2015 and most consequences involving those older than 35 years of age.

Cocaine-related deaths increased 11-% between 2014 and 2015 across Florida with a projected number based on the first six months of 2015 being 1,680 medical examiner occurrences for the year. The drug was considered the cause of death for 53% of the cases. Polydrug use was detected in 84% of the 2015 cases having one or more other substances present at the time of death. There were 4 cocaine-related decedent under age 18; 13% were 18-25, 22% were 26-34 while 36% were aged 35-50 and 28% were over 50 years of age.

In Broward County cocaine-related deaths increased 43-% between 99 in 2014 and 142 in 2015. The drug was considered the cause of death for 77% of the cases. Polydrug use was detected in 84% of the 2015 cases. There were no cocaine-related decedent under age 18; 14% were 18-25, 22% were 26-34 while 38% were aged 35-50 and 26% were over 50 years of age.



Source: Florida Medical Examiners Commission 2015 Interim Report

Primary addiction treatment admissions for cocaine totaled 4,787 patients in all of Florida during 2015 accounting for 7% of all admissions and 501 in Broward County or 8% of all admissions. Males accounted for 68% of these clients with crack cocaine specified by 64% of all the cocaine patients. Three or less than 1% of the admissions were for someone under 18 years of age, 12% were 18-25, 27% were 26-34 and 60% were age 35 or older. Smoking cocaine was the route of administration reported by 45% of the cocaine clients with intranasal sniffing cited by 43% and 5% reported injecting cocaine. The remaining 7% reported oral or other or unknown routes of administration.

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There were 16,911 cocaine crime laboratory reports or 36% of the 47,241 total primary, secondary, and tertiary NFLIS reports for all of Florida in 2015. Cocaine ranked first among all substances analyzed. The most number of cases were in Miami-Dade County with the largest population in the State accounting for just over one-half of all crime lab case for any drug there as it has since the 1980s. Broward County ranked fourth in the state behind the Tampa Bay and Orlando areas. The 1,485 cocaine crime lab cases in Broward during 2015 accounted for 27% of all cases raking number one and just ahead of *alpha*-PVP (or “flakka”) with 1,468 crime lab cases.

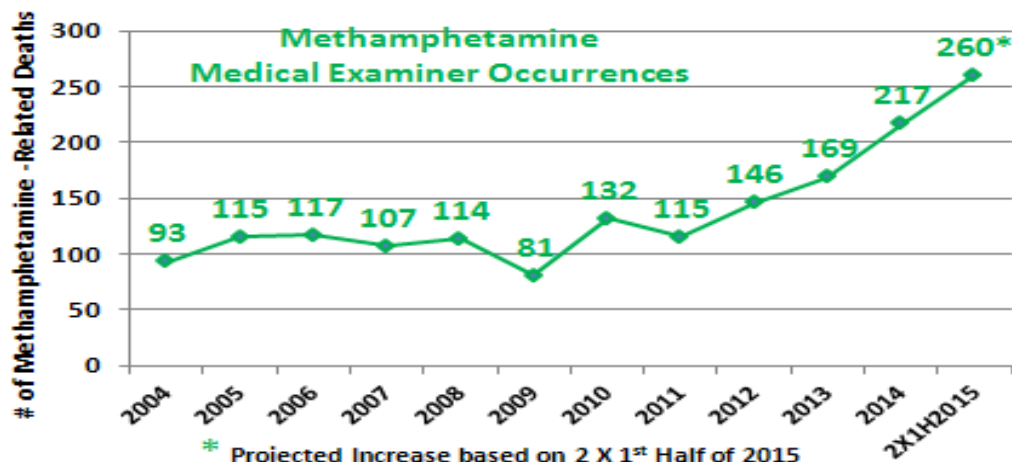
Methamphetamine

- Indicators of **methamphetamine** remain relatively low compared to other parts of Florida and most problematic in Broward County among men who have sex with other men.

The highest rates of methamphetamine treatment admissions and crime lab cases in Florida are in the Tampa Bay, Western Panhandle, and Orlando areas. Most methamphetamine being used in Florida is produced in Mexico. Domestic clandestine laboratory production in Florida primarily appears still to be in the north and central parts of the State using the 2-liter soda bottles “shake and bake” method that yields a relatively small amount of methamphetamine for personal use by the “cook” and for sharing with those who may have helped supply the precursor, pseudoephedrine.

Methamphetamine was detected among 130 deceased persons during the first half of 2015 in Florida, compared with 112 in the first half of 2014 and 217 for the full year of 2014. Methamphetamine was considered a cause of death in 63 (or 48%) of the cases during the first half of 2015. There were also 179 reports of amphetamine detected among decedents across Florida in the first 6 months of 2015, compared to 132 such occurrences in the first half of 2014. Amphetamine was considered the cause of death in 43 (or 24%) of the cases in the first half of 2015. County-level medical examiner data are not available for methamphetamine or amphetamine-related deaths.

Number of Methamphetamine-Related Deaths in Florida: 2000-2015



Source: Florida Medical Examiners Commission Jan 2004-Jun 2015 Reports

There were 15 Sympathomimetic Amines deaths in the first half of 2015 across Florida with 6 of the occurrences being considered a cause of death compared to 25 such occurrences in calendar year 2014 of which 2 were considered to be a cause of death. Sympathomimetic Amines are a group of stimulants including the appetite suppressant, phentermine, and other sympathomimetic amines not tracked elsewhere in this report.

There were 2,571 primary treatment admissions (4% of all admissions) for methamphetamine in all of Florida during 2015 and 96 (1.6% of all admissions) in Broward County. Males accounted for 68% of the Broward methamphetamine clients and 47% of all clients were between 18 and 34 years of age while 49% were age 35 and above. Smoking methamphetamine was the route of administration reported by 63% of these clients with intranasal sniffing cited by 4% and 25% reported injecting methamphetamine. The remaining 8% reported oral or other or unknown routes of administration. Private treatment counselors continued to report serious methamphetamine abuse problems among men who have sex with men and who are not included in the number of clients from treatment programs receiving public funding. These clients are at high risk of infectious disease transmission related to both unprotected sexual activity and injecting drug use.

There were 261 primary treatment admissions for amphetamine in Florida during 2015 and 51 in Broward County. Males accounted for 73% of the Broward amphetamine clients and 69% of these clients were between 18 and 34 years of age while 31% were age 35 and above. Smoking was the preferred route of administration cited by 78% of the amphetamine clients.

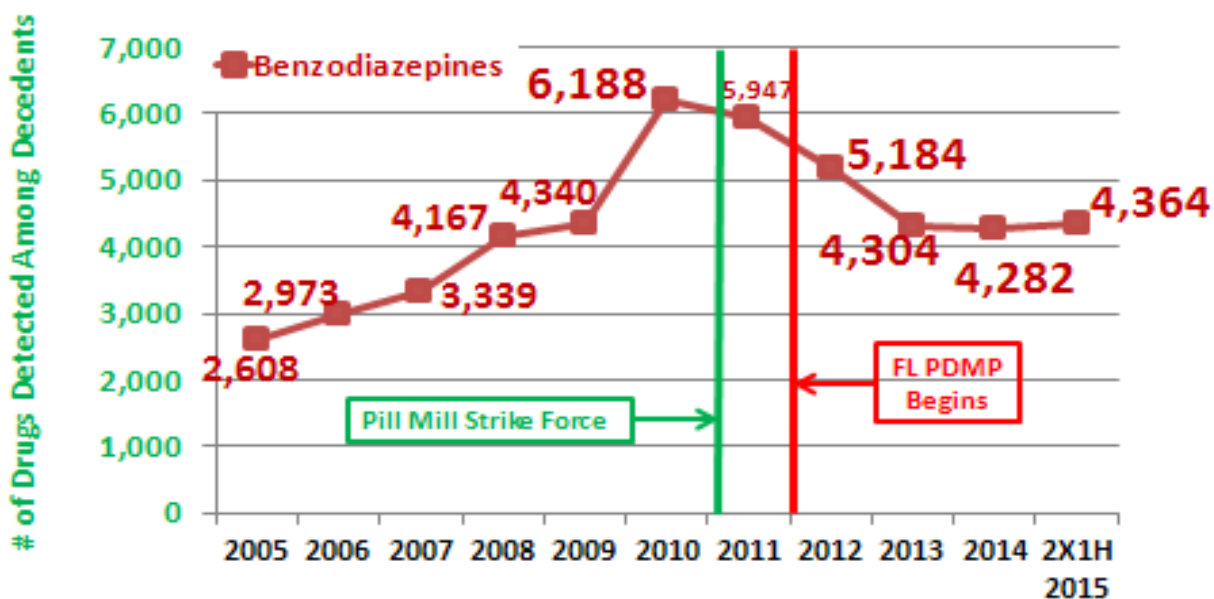
There were 3,780 methamphetamine crime laboratory reports or 8% of the 47,241 total primary, secondary, and tertiary NFLIS reports for Florida in 2015 including 149 in Broward County (2.7%). Methamphetamine ranked seventh among all substances analyzed in Broward. The highest numbers of methamphetamine cases were from the Tampa Bay, Orlando, and Panama City areas. There were also 382 amphetamine crime laboratory reports, or 0.8 % of the 2015 total for all of Florida including 54 (1%) in Broward County.

Benzodiazepines

- Benzodiazepines and particularly alprazolam (*e.g.*, *Xanax*[®]) are the universal mixtures in polysubstance abuse patterns including both concurrent and sequential nonmedical use.

The number of benzodiazepines detected in deceased persons in Florida peaked at 6,188 occurrences in 2010 prior to various efforts to reduce prescription drug diversion. That number then declined steadily to 4,304 in 2013 but has remained stable since that time with 4,364 occurrences projected for 2015 based on the total from the first 6 months of that year. Alprazolam was the number one benzodiazepine detected representing 31% of the 2015 reports followed by nordiazepam (15%), diazepam (13%), temazepam (11%), and clonazepam (10%). County-level medical examiner data are not available for the of benzodiazepine-related deaths, however there were 39 alprazolam deaths in Broward County in 2015 of which 72% were considered “a cause of death” and 95% of the cases were detected with at least one other drug found present.

Number of Nonmedical Rx Benzodiazepine Reports Detected among Deceased Persons in Florida 2005 – 2015



*Source: FDLE – Drugs Identified In Deceased Persons by Florida Medical Examiners
Jan 2005 - Jun 2015 Reports*

There were 9,924 hospital benzodiazepine overdose poisoning cases in Florida during 2014, the most current available data from the Florida Agency for Health Care Administration (ACHA). Only 7% of those cases had a secondary diagnosis of substance dependency. Six percent of these hospital overdose patients were under the age of 19, 9% were 19-24, 43% were 25-49, 30% were 50-64, and 12% were aged 65 and older. There were 853 benzodiazepine overdose poisoning cases in Broward County during 2014 with only 8% having a secondary diagnosis of substance dependency.

A benzodiazepine was the primary drug of abuse cited by 1,443 addiction treatment clients in Florida during 2015 accounting for 2% of all admissions. Many more clients included benzodiazepines as secondary or tertiary drugs of abuse. In Broward County 160 clients or 2.6% of all cited benzodiazepines as their primary drug upon admission in 2015.

There were 3,561 benzodiazepine NFLIS crime lab reports in Florida during 2015 representing 7.5% of all substances analyzed including 496 or 9% of Broward County cases. Alprazolam accounted for 84% of the Broward benzodiazepine crime lab cases followed by clonazepam (9%), diazepam (4%), and lorazepam (3%).

New Drug-Related Legislation

The 2016 Florida Designer Drugs Enforcement Act was passed unanimously by both chambers of the Florida Legislature and signed by Governor Scott to go into effect on July 1, 2016. It bans synthetic drugs by their pharmaceutical action in the brain rather than their chemical molecular structure. It will make new substances illegal even before they appear. The law bans the following classes of synthetic designer drugs:

- Synthetic cannabinoids,
- Substituted cathinones,
- Substituted phenethylamines,
- N-Benzyl phenethylamines,
- Substituted tryptamines, and
- Substituted phenylcyclohexylamines.

The law also strengthens Florida's controlled substance analogue law with a more workable definition of the term "substantially similar chemical structure." This provision should facilitate prosecuting cases involving yet unscheduled opiate analogs.

The legislature also approved Florida's first syringe exchange program only for Miami-Dade County but restricts the use of any public funds to operate the center or mobile vans. The program is to be conducted by the University of Miami. Florida law has prohibited syringe exchange programs for years and still does for any other program or county in the State.

A local ordinance adopted in Manatee County mandates the use of Florida's involuntary placement law, the Marchman Act, for any paramedic patient who has had an opiate overdose reversal with naloxone and refuses admission to a hospital emergency department. Hospitals are also required to provide safe prescription drug disposal information at discharge, including Deterra™ disposal bags.

Dispensing of naloxone is to be available under a universal prescription for anyone in Florida effective July 1, 2016 at pharmacies which choose to accept the program.