This assessment highlights the serious public health and safety risks from the use of synthetic cannabinoids and discusses current and proposed strategies to reduce the threat from this dangerous and rising drug trend. Because this drug type is often inaccurately portrayed as being similar to marijuana, this assessment also emphasizes the vital importance of educating the public about this myth and stresses the need to clarify the very distinct differences between marijuana and these hazardous illicit synthetic chemicals.
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Preface

Synthetic cannabinoids are known to the general public by names such as “synthetic marijuana,” “fake pot,” and “fake weed.” This misnomer implies that synthetic cannabinoids are similar to marijuana, but nothing could be further from the truth. Although the green, leafy organic material containing synthetic cannabinoid chemicals may look like marijuana, this is where the likeness distinctly ends. A growing number of hospitalizations and even deaths have been reported to be associated with the use of these synthetic chemicals, prompting communities throughout the country to take actions to raise awareness of their danger.

Unfortunately, despite these efforts, the misperception that synthetic cannabinoids are a safe and legal form of marijuana has prevailed, in large part, due to the way in which they have been marketed. In comparison to other drug types that are sold clandestinely on the street, synthetic cannabinoids have been primarily sold in professional-looking packaging at legitimate businesses such as convenience stores, gas stations, and smoke shops, giving buyers a false sense of security regarding use of these products. It is not well known by the public that, in actuality, the synthetic products that they are purchasing are being manufactured out of garages and warehouses by criminals who have no regard for their well-being and are motivated solely by a lucrative profit margin.

Therefore, one of the greatest challenges, but most important components in an effective plan to reduce the threat from synthetic cannabinoids will be those efforts directed toward changing the public’s perception about the risks related to the use of synthetic chemicals. Particularly given society’s declining perception of risk related to marijuana use, it will be imperative to emphasize the distinct differences between marijuana and synthetic cannabinoids in an effective public service campaign.
Overview of the Threat from Synthetic Cannabinoids

In recent years, synthetic cannabinoids have become one of the most pervasive drug threats in the United States. Their rise in popularity has contributed to a growing public health crisis in the Houston HIDTA region, and throughout the nation. Individuals using synthetic cannabinoids have experienced a broad range of adverse physical and psychological effects including but not limited to rapid heart rate, respiratory problems, hallucinations and psychosis, seizures, loss of consciousness, and even death. Calls to poison control centers are on the rise, as are hospitalizations related to their use. From a safety standpoint, those under the influence of synthetic cannabinoids pose a grave threat to emergency medical responders, hospital personnel, and law enforcement because users often experience an altered mental state in which they become confused, agitated, and combative.

Despite media coverage of the dangers associated with the use of synthetic cannabinoids, their negative health effects are still not well known by the general public. In fact, one of the primary factors contributing to their allure includes a widespread misconception that they are actually a safe and legal alternative to marijuana. These drugs are relatively inexpensive, readily available, and not generally detectable on standard drug screening tests, adding to their appeal as a drug of choice.

Valiant attempts have been made to curb availability and use of synthetic cannabinoids. Through the Drug Enforcement Administration (DEA), Attorney General Holder used his temporary scheduling authority on several occasions over the past few years to place numerous synthetic cannabinoids on Schedule I of the Controlled Substances Act. Federal legislation, through the Synthetic Drug Abuse Prevention Act of 2012, has also been enacted in an attempt to assist law enforcement to better protect the public. Additionally, most states, including Texas have now passed some type of legislation in an attempt to ban synthetic cannabinoids, and numerous cities throughout the United States have passed ordinances prohibiting these drugs. However, reducing the threat has proved to be extremely challenging. Rogue chemists have found legislative loopholes, remaining one step ahead of the law by continuously altering the chemical composition of these drugs just slightly to create new, and potentially more dangerous versions of these drugs that are not yet illegal. These countermoves have left law enforcement with a limited ability to effectively decrease this drug threat.

To adequately address the widespread health and safety threats from synthetic cannabinoids, changes in legislation will be necessary to reduce the availability, along with intensive educational campaigns to raise awareness of the hazards associated with these drugs as well as decrease the popularity and demand for this drug type. Fortunately, several bills have recently passed in the 84th Texas Legislative Session that are likely to strengthen law enforcement’s ability to decrease the threat from synthetic cannabinoids in this state. Senate Bill 173 was carefully crafted to close the loopholes in previous legislation that were impeding the ability of law enforcement to effectively respond to the synthetic drug crisis. It is believed that this new law will more adequately encompass both existing synthetic cannabinoids as well as the majority of those yet to be created. Texas legislators also passed Senate Bill 461, a new law addressing false or misleading packaging, labeling, or advertising of abusable synthetic substances. This bill creates offenses if someone, in the course of business, produces, distributes, sells, or offers to sell an abusable synthetic substance. It also creates a civil penalty of up to $25,000 per offense that can be filed. Finally, House Bill 1212 now authorizes the commissioner of the Texas Department of State Health Services to designate a consumer commodity as an abusable synthetic substance. This new legislation will empower the commissioner to protect the public more quickly as soon as new versions of synthetic cannabinoids appear on the illicit drug market. These laws will become effective in September of 2015, and it is anticipated that this legislation, coupled with strong and sustained prevention efforts, will finally provide the level of momentum necessary to begin to reverse the direction of this dangerous drug trend.
History of Synthetic Cannabinoids

John W. Huffman, a retired organic chemistry professor and researcher from Clemson University in South Carolina has become widely known as the creator of many of the synthetic cannabinoids so widely abused today. He began researching cannabinoids in 1984 and over the course of the following twenty years, he and his research team created over 450 different synthetic cannabinoids.¹ The objective of their work was to study the interaction between drugs and brain receptors.² According to an article in a Clemson University alumni magazine, “Huffman is best known for his work exploring the potential medical benefits of cannabinoids – compounds related to the active agents in marijuana. These compounds have shown promise in helping ease tremors and severe muscle stiffness in patients with multiple sclerosis.”³ The synthetic cannabinoids Huffman created were never designed to be used as recreational drugs as has become the case today. However, his formulas for synthetic cannabinoids were published in scientific journals and thus, became available to anyone seeking to reproduce these chemicals.² By late 2008, products containing synthetic cannabinoids appeared on the market in the United States, recreated by rogue chemists to be used as an alternative to marijuana.⁴ Some of the first synthetic cannabinoids identified in these products actually bore Huffman’s initials such as JWH-018, JWH-073, and JWH-200.²,⁵

In response to the current drug crisis involving synthetic cannabinoids, Huffman has been quoted as saying, “These things are dangerous – anyone who uses them is playing Russian roulette. They have profound psychological effects. We never intended them for human consumption. These receptors don’t exist so that people can smoke marijuana and get high. They play a role in regulating appetite, nausea, mood, pain, and inflammation.”¹²,³ Clearly, he never intended to be the founder of a new recreational drug type.

Synthetic Cannabinoids Today

Now commonly referred to by names such as “synthetic marijuana,” “fake pot” and “legal weed,” synthetic cannabinoids have continued to grow in popularity since they became available in the United States in 2008. Some of the brand names for these products, such as K2, Spice, and Kush, have now become generic terms used synonymously for this drug type. The upward trend in the use of synthetic cannabinoids is believed to have occurred because they are relatively inexpensive, they do not show up on standard drug screening tests, and, although many synthetic cannabinoids are now illegal, there is still a common misconception that these products are a safe, legal alternative to marijuana.⁶ The fact that some of these products are still openly sold in convenience stores, gas stations, smoke shops, and on the Internet adds to the confusion about their safety and legality.⁷,⁸,⁹
Marketing of Synthetic Cannabinoid Products

Synthetic cannabinoids are typically packaged in glossy packets with alluring graphics. These marketing ploys have likely contributed to the popular appeal of these synthetic substances. For example, familiar and friendly cartoon images such as Scooby Doo are displayed on product packaging to entice a younger user group, as can be seen in the photo on the left. The colorful packets of synthetic cannabinoids look similar to candy, gum, or other snack items, giving the false impression that they are safe products to use.

Although these products are generally smoked, similar to the way that marijuana is used, their packaging does not indicate that the products are meant for this purpose. In order to avoid the Food and Drug Administration’s (FDA) regulatory laws, synthetic cannabinoids have purposely been falsely advertised as herbal incense or potpourri, and include labeling stating that these products are “not for human consumption.” Nevertheless, information on their true purpose appears to be readily known to the user group.

Production and Manufacturing of Synthetic Cannabinoid Products

What is Actually Inside These Packets?

Synthetic cannabinoid products consist primarily of dried organic material that has been sprayed with a synthetic cannabinoid chemical and often, a fragrant flavoring.* Unfortunately, because they are marketed as “herbal” products, many users tend to equate the word “herbal” with safe. These packets of synthetic drugs may look professional on the outside, but nothing could be further from the truth about the product on the inside. Even though some synthetic cannabinoid products are still being sold out of legitimate businesses such as convenience stores and smoke shops, these packets are actually being assembled by criminals out of garages, storage facilities, and warehouses. They are motivated purely by profit and have no regard for the health or well-being of consumers.

*Note: Another form of the drug that is currently less popular is liquid synthetic cannabinoid oil that is used in conjunction with e-cigarettes.
The synthetic cannabinoids being used in these products are primarily produced by chemists in China, and to a lesser extent, in other countries in Southeast Asia such as India. Dealers order these chemicals in a powdered form over the Internet, as can be seen in the accompanying photographs.

The synthetic cannabinoid powder is then mixed generally in 5, 10, or 20 gallon buckets with a solvent such as acetone, and often a fragrant flavoring such as strawberry or apple to create a liquid form of the chemical that will then be used to saturate the organic material. In some instances, large mixers are used for this process.

Mullien or Damiana leaves are commonly used as the organic material in these products. These leaves are ground up into a fine tobacco-like substance. The leaves are either added to the buckets or mixers along with the chemical compound so that they become saturated or they are sprayed with the liquid chemical mixture using industrial spray bottles. The leaves are placed on drying tables, as can be seen in the photo to the left, and then the final product is packaged for distribution.

“Hot Spots” and Other Quality Control Issues

Since there are no quality control checks or safety measures taking place in these clandestine manufacturing operations, there is really no way to know exactly what is in these drug-filled packets. The amount and type of chemicals can vary from one package to the next. Even identically labeled packets may actually contain differing amounts and/or types of synthetic cannabinoids. Additionally, the potency can vary from dose to dose, even within the same packet. “Hot spots” in which higher concentrations of the chemicals have been applied may be present in some portions of the organic matter but not others. Most commonly, hot spots occur due to uneven spraying of the leafy material if the chemical was applied by hand using spray bottles or uneven mixing if the product was combined in a bucket or industrial mixer. The higher potency of these hot spots is of particular concern from a public health safety standpoint.

Finally, because new synthetic cannabinoids are always being created to replace those that become banned, the chemicals that are in a packet of “Scooby Snax” today are not likely to be the same synthetic cannabinoids present in this brand in the near future. Thus, the same brand purchased at different times may have a completely different chemical composition and produce very different effects in the body.
Seizures of Clandestine Synthetic Cannabinoid Production Laboratories

Clandestine laboratories where synthetic drugs are being produced have been seized throughout the United States over the past several years. Within the Houston HIDTA, Houston is known as a major manufacturing and distribution center for synthetic cannabinoid products. Large warehouses in which these synthetic drug products were being processed have been seized by the Drug Enforcement Administration (DEA) along with other local, state, and federal law enforcement partners. Inside these warehouses, supplies such as the synthetic chemicals, acetone, organic plant vegetation, and packaging materials, mixing equipment such as industrial spray bottles and mixers, as well as bins of the finished synthetic products have been found and confiscated.

Large quantities of synthetic cannabinoid products are being produced in Houston. In Operation Log Jam in July of 2012, DEA agents in Houston seized 250,000 packets of synthetic drugs, along with thousands of pounds of chemicals and plant materials. In another large raid in November of 2013, over 70,000 packets of synthetic cannabinoids worth $700,000 were confiscated in Southwest Houston, along with supplies and equipment for making these drugs. More recently, in January of 2015, over 2,500 pounds of synthetic cannabinoids with a street value of 2.2 million dollars was seized from two storage units in Houston. In May of 2015, over 1,000 pounds of untreated plant material and over 3,000 packets of synthetic cannabinoids were seized from a large manufacturing operation in Houston and in June of 2015, 661 pounds of synthetic cannabinoids as well as four vehicles and $80,000 in U.S. currency was seized from a residence and storage unit in the Houston area.
Synthetic Cannabinoids vs. Marijuana: The Science Behind These Drugs

Although synthetic cannabinoids are commonly referred to as “synthetic marijuana,” experts say that marijuana and synthetic cannabinoids are, in fact, quite different in terms of their effects in the body. The tetrahydrocannabinol (THC) in marijuana binds to cannabinoid receptors in the brain much less efficiently than synthetic cannabinoids. THC is a partial agonist, meaning it binds somewhat loosely to cannabinoid receptors, not fully activating them. Synthetic cannabinoids, on the other hand, are full agonists, binding much more strongly to these same receptors. As such, they have the ability to have a much more intense effect. As explained by emergency room doctor and medical toxicologist Jeff Lapoint, “Synthetic cannabinoids are tailor-made to hit the cannabinoid receptors – and hit it hard.” Therefore, the physical effects from these drugs can be much different than from that of marijuana.

Because cannabinoid receptors are widely distributed throughout the various regions of the brain, synthetic cannabinoids have the potential to produce a much broader range of side effects. The endogenous cannabinoid system is comprised of two types of cannabinoid receptors: cannabinoid-1 (CB1) and cannabinoid-2 (CB2) receptors. CB1 receptors are found primarily in the brain and central nervous system, and to a lesser degree in the gastrointestinal tract, lungs, kidney, the pituitary, reproductive organs, and the immune system. CB2 receptors are primarily located in the immune system. Some synthetic cannabinoids interact with both CB1 and CB2 receptors.

“The wide distribution of CB1 receptors in the brain is exactly why they’re so toxic”, according to Dr. Yasmin Hurd, Professor of Psychiatry, Pharmacology, and Systems Therapeutics and Neuroscience at Mount Sinai Medical Center. “Where they’re located is important – their presence in the hippocampus would be behind their memory effects; their presence in the seizure initiation areas in the temporal cortex is why they lead to seizures. And in the prefrontal cortex, this is probably why you see stronger psychosis with synthetic cannabinoids. The cardiac, respiratory, and gastrointestinal effects probably come from the CB1 receptors in the brain stem. It might be any one of these that produces the greatest risk of death.” Clearly, the dangers associated with these drugs are numerous and can affect multiple bodily systems.
Health Risks from Synthetic Cannabinoids

Due to the lack of research on the effects of synthetic cannabinoids in the human body, many of the physical and psychological effects of these drugs remain unknown. However, it has become quite evident that these drugs are dangerous and even deadly. Dr. Eric Wish of the National Institute on Drug Abuse (NIDA) has mirrored Professor Huffman’s statements in describing the imminent danger that users are placing themselves in by experimenting with these drugs. He is quoted as saying, “Our research shows that people are playing Russian roulette with their lives because only the chemist creating the synthetic cannabinoid really knows what is in it.” And truly, even the chemists producing these drugs do not know what their actual effects in the human body will be because they have never been tested in this regard. These products contain unknown amounts of various combinations of unknown chemical substances that have predominantly unknown pharmacological effects. The result is a recipe for disaster and is the reason why the use of these drugs has become a public health crisis.

Common Adverse Health Effects Associated with Synthetic Cannabinoids

According to data from the American Association of Poison Control Centers, the most common adverse effects from synthetic cannabinoid use that were reported from January to June of 2015 included agitation, tachycardia (abnormally fast heart beat), drowsiness or lethargy, vomiting, and confusion. Other physical effects include high blood pressure, muscle spasms, tremors, and seizures. It is also believed that some kidney problems are associated with synthetic cannabinoid use. Psychological effects include anxiety, paranoia, and hallucinations.

The newer forms of synthetic cannabinoids that are emerging seem to be linked to an increased number of adverse side effects than first generation versions. The newer generation synthetic cannabinoids are thought to be associated with more neurological effects such as seizures and strokes and more heart-related problems. Various types of synthetic cannabinoids may produce very differing effects in the body. One emergency room doctor in New York reported that recently more patients using synthetic cannabinoids have appeared “sedated -- sleepy, less responsive or unresponsive, with low heart rates.” Some have had to have breathing tubes inserted due to difficulty in breathing on their own. These symptoms, such as low heart rate and low blood pressure were also reported in a number of recent synthetic cannabinoid cases in Austin, Texas in which numerous individuals were hospitalized.

Rise in Calls to Poison Control Centers Nationwide Related to Synthetic Cannabinoids

Indicative of a growing problem, there was a 225% increase in exposure calls at poison centers nationwide related to synthetic cannabinoids when comparing January through May of 2014 to the same time period in 2015. The total number of cases from this time period rose from 1,115 calls in 2014 to 3,621 in 2015.

Comparison of Exposure Calls to U.S. Poison Centers: January-May of 2014 and January-May of 2015

<table>
<thead>
<tr>
<th>2014 by Month</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2014</td>
<td>181</td>
</tr>
<tr>
<td>February 2014</td>
<td>167</td>
</tr>
<tr>
<td>March 2014</td>
<td>205</td>
</tr>
<tr>
<td>April 2014</td>
<td>250</td>
</tr>
<tr>
<td>May 2014</td>
<td>312</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2015 by Month</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2015</td>
<td>358</td>
</tr>
<tr>
<td>February 2015</td>
<td>273</td>
</tr>
<tr>
<td>March 2015</td>
<td>269</td>
</tr>
<tr>
<td>April 2015</td>
<td>1,512</td>
</tr>
<tr>
<td>May 2015</td>
<td>1,209</td>
</tr>
</tbody>
</table>
As can be seen in the chart to the left, the number of monthly calls to U.S. Poison Control Centers related to synthetic cannabinoids rose 322% from January to April of 2015, and there was a particularly sharp increase in calls from March to April of 2015 (462% increase). Additionally, the number of cases through mid-year 2015 has already exceeded the entire year’s total for 2014, as can be seen in the table on the right.26

Rise in Total Calls to the Texas Poison Center Network Related to Synthetic Cannabinoids

In Texas, an increase in exposure calls* related to synthetic cannabinoids can also be seen, based on data from the Texas Poison Center Network. The total number of exposure calls related to synthetic cannabinoids for 2013 was 464 compared to 782 in 2014. This is an increase of 69% percent. Comparing the first five months of 2014 to the first five months of 2015, the percent increase in exposure calls related to synthetic cannabinoids was 46%. Cumulative data for January of 2010 through May of 2015 indicates that the highest number of exposure calls were from Harris County which includes the metropolitan city of Houston within the Houston HIDTA. Other regions with a very high number of calls include Dallas County (which includes the city of Dallas) and Bexar County (includes the city of San Antonio).

*Exposure calls include all calls in which it was determined that a patient was exposed to a synthetic cannabinoid through inhalation, ingestion of the substance, etc.

Comparison of Total Exposure Calls for 2014 and 2015 to the Texas Poison Center Network

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Total Exposure Calls related to Synthetic Cannabinoids in Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>464</td>
</tr>
<tr>
<td>2014</td>
<td>782</td>
</tr>
</tbody>
</table>

Comparison of Calls to the Texas Poison Center Network: January-May of 2014 and January-May of 2015

<table>
<thead>
<tr>
<th>Month in 2014</th>
<th>Total Exposure Calls related to Synthetic Cannabinoids in Texas</th>
<th>Month in 2015</th>
<th>Total Exposure Calls related to Synthetic Cannabinoids in Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2014</td>
<td>32</td>
<td>January 2015</td>
<td>68</td>
</tr>
<tr>
<td>February 2014</td>
<td>30</td>
<td>February 2015</td>
<td>64</td>
</tr>
<tr>
<td>March 2014</td>
<td>43</td>
<td>March 2015</td>
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<td>80</td>
</tr>
<tr>
<td>May 2014</td>
<td>70</td>
<td>May 2015</td>
<td>59</td>
</tr>
<tr>
<td>TOTAL</td>
<td>219</td>
<td>TOTAL</td>
<td>320</td>
</tr>
</tbody>
</table>
**Recent Adverse Incidents involving Synthetic Cannabinoids**

In response to the dramatic spike in exposure calls being seen throughout the country, the American Association of Poison Control Centers published a press release in April of 2015 to warn the public that increases in synthetic cannabinoid exposures has become a national problem and that there have been incidents in some states in which large numbers of patients have sought care at emergency departments in relatively short time frames with problems related to use of these synthetic drugs.\(^{30}\) The table below shows the states with the highest number of exposure calls related to synthetic cannabinoids in the first half of 2015.\(^{26}\) In addition to poison center data, recent media reports are also indicating that in numerous states, use of synthetic cannabinoids is rising and that more individuals are becoming ill and needing medical attention.

**States Reporting the Highest Number of Exposure Calls to U.S. Poison Centers related to Synthetic Cannabinoids: January 1, 2015 to June 7, 2015**

<table>
<thead>
<tr>
<th>State</th>
<th>Number of Exposure Calls Related to Synthetic Cannabinoids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mississippi</td>
<td>1,278</td>
</tr>
<tr>
<td>New York</td>
<td>605</td>
</tr>
<tr>
<td>Texas</td>
<td>328</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>143</td>
</tr>
<tr>
<td>Arizona</td>
<td>121</td>
</tr>
<tr>
<td>Florida</td>
<td>119</td>
</tr>
<tr>
<td>Maryland</td>
<td>115</td>
</tr>
<tr>
<td>Alabama</td>
<td>85</td>
</tr>
<tr>
<td>Virginia</td>
<td>84</td>
</tr>
<tr>
<td>New Jersey</td>
<td>71</td>
</tr>
<tr>
<td>Indiana</td>
<td>65</td>
</tr>
<tr>
<td>Minnesota</td>
<td>60</td>
</tr>
</tbody>
</table>

*Note: Exposure calls related to synthetic cannabinoids were reported to U.S. Poison Centers during this time period at some level for all states except Rhode Island and Montana.*

**Deaths from Synthetic Cannabinoids in 2015**

Deaths related to the use of synthetic cannabinoids have been reported as well, believed to be connected to events involving suicide, heart complications, and seizures.\(^{17}\) According to a report from the Centers for Disease Control and Prevention (CDC), fifteen people died after using synthetic cannabinoids from January to May of 2015. This is a reported threefold increase compared to five deaths in same time period in 2014.\(^{31,32,33}\) It is likely that the total number of deaths may be underreported due to difficulty of determining actual cause of death when multiple factors are present. Additional deaths that may be potentially linked to these substances are continuing to be investigated throughout the country.

One highly publicized death in Texas in 2015 was that of a Fort Hood soldier who was found in his front yard in January of 2015. There were preliminary concerns that the soldier may have contracted Ebola due to his recent work in Liberia constructing an Ebola camp, but it was later determined that this man actually died from synthetic cannabinoid intoxication.\(^{34,35}\)
Significant Health-Related Events Associated with Synthetic Cannabinoids Nationwide in 2015

This growing drug problem is heavily burdening the resources of emergency medical services (EMS) staff and medical personnel at emergency rooms and hospitals. As mentioned, in some instances, large numbers of individuals have become ill in a short time period after using synthetic cannabinoids. Many health care professionals are attributing this rise in adverse reactions to newer and more dangerous formulations of these drugs. Examples of some of these significant health events are provided below:

- In New York, over 160 people in New York City were hospitalized after the use of synthetic cannabinoids in a nine-day period from April 8th to April 17th of 2015. Some of these people arrived at local emergency rooms in a comatose state. The New York City Health Commissioner issued a warning to New Yorkers, stating “There’s no way of knowing exactly what synthetic marijuana contains, making its effects unpredictable.”

- In Alabama, there was a significant rise in visits to emergency rooms for problems associated with the use of synthetic cannabinoids. According to the Director of Health Promotion and Chronic Disease at the Alabama Department of Public Health, at least 932 people believed to have used synthetic cannabinoids were seen in Alabama emergency rooms in the time period between March 15th and May 4th of 2015. Of this total, nearly 200 individuals were hospitalized and five died, again underscoring the extreme dangers associated with synthetic cannabinoids.

- In Louisiana, over 125 residents sought treatment at hospitals in the Baton Rouge area in October of 2014 due to a synthetic cannabinoid compound identified as MAB-CHMINACA. The Director of the Louisiana Poison Control Center Dr. Mark Ryan said, “MAB-CHMINACA is a very new drug that’s putting some users in the intensive care unit.” Although this form was banned in Louisiana after the outbreak, problems related to MAB-CHMINACA have continued into 2015. Dr. Ryan reported that one hospital in Baton Rouge had over 110 cases related to synthetic cannabinoids in February of 2015, with a large portion appearing to involve this specific chemical formulation of the drug. At least one person had died and two were in intensive care in Louisiana related to synthetic cannabinoid use in 2015 as of April.

- In Texas, almost 120 people overdosed on synthetic cannabinoids in the cities of Austin and Dallas in a span of just five days in May of 2014. Most recently, from May 29th to June 22nd of 2015, 306 people in Austin were reported to have become sickened after using synthetic cannabinoids. Travis County Emergency Medical Services reported that the reactions they are seeing with recent cases are exactly the opposite of what they were seeing previously. In the past, the use of synthetic drugs such as Spice and K2 were causing symptoms such as high heart rate, high blood pressure, panic attacks, and seizures, but in the newest cases, affected users had decreased heart rates and blood pressure, were comatose, and had difficulty waking up. As the number of cases has risen, so has wait times in local emergency rooms, and for those who need to be hospitalized, it is becoming more difficult to provide beds for all of those who need them. One doctor reported that “If a patient is needing a bed for four or six or eight hours for the effects of the drug to wear off, then, unfortunately, we aren’t able to put other patients into those beds in a timely fashion.” Medical resources across the country are being stretched thin trying to care for the numerous individuals needing care due to synthetic cannabinoid use when these types of outbreaks occur.
Significant Health-Related Events related to Synthetic Cannabinoids within the Houston HIDTA

Spikes in emergency calls and hospitalizations related to synthetic cannabinoids have also occurred in the Houston HIDTA region over the past year. Emergency room personnel at local hospitals throughout the Houston area, as well as in Brazoria, Fort Bend, Montgomery, Jefferson, Victoria, and Nueces counties were queried to determine the extent of the problem. Almost unanimously, they reported that synthetic cannabinoids were the single most common drug type for which individuals were seeking medical assistance and that the problem had increased. Some of the larger health-related incidents involving synthetic cannabinoids in the region are provided below:

- In the Bryan-College Station area of Brazos County in November of 2014, over 40 people were hospitalized in a one-week period after using synthetic cannabinoids. An investigator from this region reported that there were several “repeat” patients to the emergency room, one of whom came to the local hospital four different times, illustrating this drug’s extremely addictive potential. The average age of patients being seen were those in their early 20s. Tragically, two of these individuals who were hospitalized have died. One death was determined to be the result of hypertensive cardiovascular disease with synthetic cannabinoid toxicity as a contributing factor. The other was deemed to be a result of acute ethanol and synthetic cannabinoid toxicity. In both cases, the synthetic cannabinoid causing the deaths was MAB-CHMINACA, as in the cases in Baton Rouge, Louisiana.46,47,48,49

- In Corpus Christi, also in November of 2014, personnel from the Christus Spohn Memorial Hospital reported that they had treated 26 patients in a seven-day period for synthetic marijuana overdoses and that many of the overdoses involved the transient population there. In December 2014, this trend was still continuing and another report indicated that Corpus Christi police officers “were responding to at least 12 to 15 synthetic marijuana overdose calls” every day. The report said that “This is becoming a common scene around the City Hall area, men and women falling to the ground and going into a seizure after they smoke synthetic marijuana.”50,51 In 2015, synthetic cannabinoid abuse continues to be an escalating problem at the emergency rooms in Corpus Christi. The Corpus Christi Fire Department has already made 413 separate medical calls concerning issues related to synthetic cannabinoids from January through July of 2015. Similarly, at the Corpus Christi Police Department, the number of drug cases involving synthetic cannabinoids has continued to rise over the past three years, from 391 in 2013, to 599 in 2014, to 738 through mid-July of 2015. It is predicted that the number of cases will double from the previous year by the end of 2015.

- In Beaumont at the end of December of 2014, at least 50 people overdosed on synthetic cannabinoids, inundating the city’s local emergency room with patients.52 The Emergency Department Director at Baptist Beaumont Hospital reported that patients coming in were from 18 years old to those in their mid-30s. The Emergency Department Director at Christus St. Elizabeth reported ages ranging from 12 to 60 years old, with the most common age range in the 30s to 40s. In a two-week period, they saw over 150 patients who came in for care related to use of synthetic cannabinoids. “Repeat” patients were reported at both hospitals, similar to the incidents that occurred in Bryan-College Station. In this outbreak, one of the synthetic cannabinoid chemicals identified to be responsible for the adverse reactions was, again, MAB-CHMINACA, and some samples were found to contain more up to three different types of synthetic cannabinoids, potentiating the danger associated with these products.53
SAFE (Synthetic Awareness for Emily)

Highlighting the extreme danger of synthetic cannabinoids and the significant impact it had on one family within the Houston HIDTA is the case of Emily Bauer. Emily is a teen from Cypress, Texas (a suburb of Houston). She almost died after using synthetic cannabinoids and has been left with permanent, life-changing disabilities as a result of the damage to her body from these chemicals. Emily’s family has since established a campaign and website called SAFE (Synthetic Awareness for Emily) to raise awareness about the serious harm that can occur from the use of synthetic drugs. The website address is www.safe4emily.org.

In 2012, when Emily was sixteen years old, she began using synthetic marijuana. Before long, she was addicted. Even though regular use was causing her to vomit and have severe headaches, she continued using it. One day, Emily bought a packet of “Klimax” potpourri (a synthetic cannabinoid product) at a gas station in Cypress. A few hours later, she was rushed to the hospital and her life would never again be the same. Emily became extremely agitated, a common adverse effect associated with the use of synthetic cannabinoids. According to her mother, “They sent five constables and two EMTs, and it took all of them to hold her down on the bed and try to sedate her. She was violent.” She had five strokes, and almost every major organ in her body was damaged. Brain damage was extensive, believed to have affected over 70% of her brain. Emily was not expected to live and after 10 days, the family made the decision to take her off life support.

Miraculously, Emily did not die, but she has been left with major health issues even after three years of physical therapy. Emily must now have assistance with all of her day-to-day needs, such as eating, bathing, dressing, and even using the bathroom. She cannot walk on her own and is wheelchair bound. Her brain damage has also affected her vision. She says, “I can see stuff, but not really. Sometimes my brain doesn’t understand what it’s seeing. I can’t read or write. I have to have a person with me all day.” Her mother said that Emily “lost all of her freedom, and independence and privacy. No drug is worth that.” Emily and her family are now traveling throughout Texas to warn others about the risks associated with using synthetic cannabinoids.
Officer Safety and Public Safety Risks related to Synthetic Cannabinoids

Safety of First Responders

Not only are those who use synthetic cannabinoids endangering their own lives by experimenting with these drugs, they are putting others at risk as well. Nationwide, emergency medical services personnel have been inundated with calls related to individuals experiencing adverse effects from synthetic cannabinoid use. From a safety standpoint, those under the influence of these drugs pose a grave threat to first responders because users often experience paranoia and hallucinations and exhibit volatile, violent, and combative behavior. This type of behavior not only puts a tremendous burden on EMS personnel in their attempts to transport these individuals to the hospital for medical attention, it also taps limited law enforcement resources as they respond to calls to assist and protect them in subduing or restraining patients. Law enforcement officers within the Houston HIDTA have reported that users are often “unaware of who we are and where they are” and they are “on the fight.” They are often acting crazy and in panic mode. Once at the hospital, the safety of emergency room personnel is also often in jeopardy as they try to tend to the medical needs of these confused and agitated patients.

Law enforcement and EMS personnel must work closely together when possible to coordinate efforts to maximize first responder safety. At least one agency within the Houston HIDTA has developed specific protocols related to dealing with users of synthetic cannabinoids. For example, in Texas City, Texas in November of 2014, a “bad batch” of synthetic marijuana was circulating throughout the city. First responders received calls daily, many users became very ill, and some almost died. As a result, the police department and EMS created a protocol to deal with the volatile situations they had been encountering. Texas City EMS Captain Wendell Wiley stated that “The protocol involves EMS crews staging until police can make the scene and properly and safely secure the patient. We have a protocol to chemically restrain them if they become too violent and it’s in the best interest to protect them and us.”

Public Safety: Drugged Driving

According to a toxicologist at the Harris County Institute of Forensic Science (HCIFS), although they have found synthetic cannabinoids in the toxicology tests in many deaths in Harris County, they have not reported any deaths to date as being caused by synthetic cannabinoids because there are always other significant factors such as morbid obesity, cocaine, or trauma to explain the cause of death. However, one significant public health issue is that they have been finding synthetic cannabinoids in many of their DWI cases.

Toxicology testing in Harris County indicates that people are driving around under the influence of these compounds and often it is the only drug found in their system. However, the courts are often reluctant to pursue prosecution since there aren’t any studies describing human toxicity or impairment related to this drug type. As one example of this potential public safety risk within the Houston HIDTA, the Refugio County Sheriff’s Office reported that a teenager high and “paranoid” on synthetic cannabinoids was encountered driving down the road, trying to ram other vehicles as they came by because he thought they were out to get him. Other media reports in the Houston HIDTA have described events such as individuals found unconscious in their vehicles along with possession of synthetic cannabinoids, and criminal acts involving aggression, vandalism, and even rape potentially linked to synthetic cannabinoids.
Current and Proposed Strategies to Reduce the Threat from Synthetic Cannabinoids

Numerous efforts have been made at the federal, state, and local levels to try to curb the availability and use of synthetic cannabinoids. Strategies that have been implemented include federal and state legislative changes and city ordinances to improve enforcement efforts as well as educational efforts focused on increasing public awareness about the dangers of synthetic cannabinoids. Additionally, the U.S. military has banned personnel from possessing or using synthetic cannabinoids. 59

Federal Legislation and Enforcement Efforts

Drug Enforcement Administration (DEA) Temporary Scheduling Authority: 2011

Initially, when it became apparent that synthetic cannabinoids were becoming an imminent hazard to public safety, Attorney General Holder used his temporary scheduling authority through the Drug Enforcement Administration (DEA) to place five synthetic cannabinoids as well as three other synthetic drugs on Schedule I of the Controlled Substance Act. The synthetic cannabinoids included JWH-018, JWH-073, JWH-200, CP-47,497 and cannabicyclohexanol. A notice of intent was published in the Federal Register on November 24, 2010 and it became effective on March, 1, 2011. These substances remained on the list of Schedule I controlled substances for a year and then in February of 2012, a temporary extension was granted, allowing them to remain on the Schedule I list for an additional six months. 59,60


In June of 2012, new federal legislation was passed by Congress to address the growing concern over the increase in popularity and abuse of synthetic drugs in the United States. The Synthetic Drug Abuse Prevention Act of 2012 (Subtitle D of Title XI of the Food and Drug Administration Safety and Innovation Act) was signed by the president on July 9. This act had two major components: 1) it permanently added “cannabimimetic agents” (specifically five structural classes of synthetic cannabinoids), as well as eleven other synthetic drugs to Schedule I of the Controlled Substances Act and 2) it extended the Attorney General’s temporary scheduling authority, changing the length of time a drug can remain on the list of Schedule I substances from one year to two years with a potential additional extension of one year, rather than for just six months, as in the past. 59 The Synthetic Drug Abuse Prevention Act listed 15 cannabimimetic substances as examples of the five structural classes being added. These included: CP-47-497, cannabicyclohexanol, JWH-018/AM678, JWH-073/JWH-019, JWH-200, JWH-250, JWH-081, JWH-122, JWH-398, AM2201, AM694, SR-19/RCS-4, SR-18/RCS-8, and JWH-203. 59

Drug Enforcement Administration Temporary Scheduling Authority: 2013 to Present

Although the Synthetic Drug Abuse Prevention Act was certainly a step in the right direction toward curtailing the availability and abuse of synthetic cannabinoids, rogue chemists have continued to exploit legislative loopholes. After enactment of the new federal legislation, new versions of synthetic cannabinoids began to appear that fell outside of the five structural classes covered under the Act. To address these gaps, the Attorney General again used his temporary scheduling authority to place some of these newer types of synthetic cannabinoids on the list of Schedule I controlled substances. In May of 2013, three synthetic cannabinoids were placed on the list. They included UR-144, APINACA/AK848, and XLR11. 61 Another temporary scheduling took place in February of 2014. This time, four more synthetic cannabinoids were placed on the Schedule I list of the Controlled Substance Act. These synthetic cannabinoids included PB-22/QUPIC, 5F-PB-22, AB-FUBINACA, and ADB-PINACA. 62 Once again, in January of 2015, three more synthetic cannabinoids were placed into Schedule I: AB-CHMINACA, APINACA, and THJ-2201. 63
State Legislative and Regulatory Efforts

Individual states have also made valiant efforts to reduce the use and availability of synthetic drugs. At least 42 states and Puerto Rico have now passed some type of legislation related to synthetic cannabinoids.\(^{59}\)

Legislative Approaches

States have taken different legislative approaches to the problem. Most states began to tackle this public health threat by passing laws that would add individual synthetic cannabinoids known to be abused to their controlled substances schedules. Because the number and type of synthetic cannabinoids on the drug market continues to evolve rapidly, many states have now passed more general laws designed to ban synthetic drugs that have not yet been identified as well as those that are already known. These laws use a more broad approach prohibiting synthetic cannabinoids by defining them by their general chemical makeup or by listing chemical classes rather than listing individual substances. Some states have passed analogue laws to encompass the newer versions of synthetic drugs that are continually appearing, but are not yet classified as controlled substances. Analogue drugs are those that are similar in chemical structure, as well as in its pharmacological effects to a scheduled controlled substance.\(^{64}\)

Regulatory Actions

States have also taken regulatory actions to restrict the use of synthetic cannabinoids. Some regulatory actions include delegating scheduling authority, modifying consumer protection laws, and using existing laws to prosecute distributors of synthetic cannabinoids.\(^{64}\) Delegating the scheduling authority to state health departments or other agencies is one solution that has been adopted by some states so that they can more rapidly ban substances as soon as they are identified.\(^{64}\) For example, in Louisiana, “efforts to add new compounds to the list of Schedule I controlled substances is done through a partnership of the Louisiana Department of Health and Hospitals, The Louisiana State Police, the Louisiana Poison Control Center, local hospitals, crime labs, and parish coroner’s offices.”\(^{65}\) In New York, the commission of the Department of Health has been authorized to “make any permanent rules and regulations that further the purpose of the public health code.”\(^{64}\)

Use or Modification of Existing Laws

Some states have used product labeling and branding laws to target those who manufacture or sell synthetic cannabinoids.\(^{64}\) For example, in Illinois, lawmakers amended their state’s Food, Drug and Cosmetics Act to include misbranded products believed to be synthetic drugs.\(^{66}\) The law was changed to "address the fact that synthetic drugs were being packaged with misleading labels designed to give the impression that the products are legal and ‘not intended for human consumption’ in order to be sold in retail stores.”\(^{67}\)

Other states, such as Tennessee, have used their nuisance abatement laws to prosecute owners of businesses that are selling synthetic cannabinoids. There is a provision in Tennessee’s controlled substance analogue law that addresses this.\(^{58}\) The analogue law states that if a business is declared to be a public nuisance, it shall be subject to abatement. Pursuant to Tenn. Code Ann. §29-3-101, included in the definition of nuisance is “any place in or upon which there is the unlawful sale of any regulated legend drug, narcotic, controlled substance, or controlled substance analogue.”\(^{66}\) "All furnishings, fixtures, equipment, moneys and stock used in or in connection with the maintaining or conducting of a nuisance are subject to seizure.”\(^{66}\)
Efforts to Curtail the Abuse of Synthetic Cannabinoids in Texas

Initial Legislation: 2011

Texas has also mounted a strong response to the growing crisis of synthetic drug abuse. In an effort to reduce the threat, a bill addressing these chemical compounds (Senate Bill 331) was passed in the 82nd Texas Legislature. It became effective in September of 2011. The new law added “any quantity of a synthetic chemical compound that is a cannabinoid receptor agonist and mimics the pharmacological effect of naturally occurring cannabinoids to Penalty 2 of the Texas Controlled Substance Act.” It outlined various chemical classes of cannabinoids to be included in this definition with specific synthetic cannabinoids listed for each class.

While this was an important first step to curbing the problem of synthetic cannabinoid abuse in Texas, it soon became apparent that there were some deficiencies in the law that made enforcement and prosecution challenging. Chemists involved in the synthetic drug market found legislative loopholes, staying one step ahead of the new legislation by altering the chemical composition of their new synthetic cannabinoids so that they fell just outside of the scope of the new law. Distributors began labeling their products with statements such as “Contains no cannabinoids,” and “In compliance with Texas Senate Bill 311,” as can be seen in the photo to the right.

Law enforcement officers continued to express great frustration in getting cases related to synthetic cannabinoids prosecuted, especially as more and more of these newer chemical compounds emerged that were not covered by the law. Before making an arrest, officers had to first prove that packets containing a product that looked like “synthetic marijuana” actually contained the chemicals banned in the legislation. To do this, the packets of synthetic cannabinoids had to be tested at a crime laboratory before any action could be taken. Laboratories became inundated with requests, and often times, it would take months to receive results, complicating the process even further. To the dismay of law enforcement, despite new state and federal laws enacted to reduce the availability of these drugs, synthetic cannabinoid products continued to rise in availability and popularity.

City Ordinances

Since the new legislation was not as effective as had been hoped, officials in some Texas cities decided to address the growing problem by passing city ordinances to deal with synthetic cannabinoid abuse. For example, the city of Houston passed an ordinance in October of 2014 in order to address the gap in the state law. This ordinance makes it unlawful for a person to possess, provide, sell, barter, produce, manufacture, distribute or offer, display, market, or advertise any illicit synthetic drug. The ordinance was written in such a way that there are no loopholes as in the state legislation. It defines synthetic drugs as any herbal or plant material that contains synthetic chemicals that have no legitimate relation to the use of the product.
According to City of Houston Attorney David Feldman, “If it’s held out to be one substance, and it’s usually held out to be potpourri or incense, and it contains any other ingredient not related to that substance, then it’s unlawful.” The new ordinance also states that herbal incense offered for sale to the public must be publicly displayed at all times through actual or representative packaging and all herbal incense offered for sale to the public must include a label listing each active ingredient. The fine for each packet is up to $2,000. Feldman states, “This will give HPD [the Houston Police Department] the tools to go into the convenience store, gas station, the smoke shop, wherever it’s being sold, and tell the owner, ‘Either you get rid of these packages now or we’re going to cite you for each and every package.’ At $2,000 per package, that can get pretty substantial.” After this ordinance became effective, drug investigators have reported that some smoke shops have closed, others have moved their illicit products “under the counter,” and more synthetic cannabinoids are now being sold on the street along with other illegal drugs. They report that the ordinance has also caused the street price for synthetic cannabinoids to rise in Houston.

New Legislation: 2015 (84th Texas Legislature)

Several bills have passed in the 84th Texas Legislative Session that are likely to strengthen law enforcement’s ability to decrease the threat from synthetic cannabinoids. These new pieces of legislation include SB 173, SB 461, and HB 1212. These laws will take effect in September of 2015. There is particular optimism that SB 173 will address the deficiencies in the 2011 legislation that made enforcement and prosecution so challenging for drug investigators.

Senate Bill 173

SB 173 was carefully crafted to close the loopholes in the previous legislation that were impeding the ability of law enforcement to effectively respond to the synthetic drug crisis. Some highlights of this new legislation include the following main points:

- In the new legislation, an unenforceable provision of the old law was removed. This unenforceable section in the old law was in Sec. 481.1031 PENALTY GROUP 2-A which stated:

  Penalty Group 2-A consists of any quantity of a synthetic chemical compound that is a cannabinoid receptor agonist and mimics the pharmacological effect of naturally occurring cannabinoids, including...

  The underlined portion of the law above was unenforceable because there is a lack of peer studies that would allow chemists to testify to that specific element of the offense.

  The new language for Penalty Group 2-A in SB 173 is as follows (with the unenforceable language removed):

  Penalty Group 2-A consists of any material, compound, mixture, or preparation that contains any quantity of a natural or synthetic chemical substance, including its salts, isomers, and salts of isomers, listed by name in this subsection or contained within one of the structural classes defined in this subsection.
Synthetic cannabinoids have fallen into Penalty Group 2-A since September of 2011, but, as mentioned, because of the problems in the language of the previous law, the statute was virtually unenforceable. Law enforcement often had to resort to prosecuting their synthetic cannabinoid cases under HSC 481.119, which they refer to as a “catch all” provision. Law enforcement could file misdemeanor charges on only those chemicals which were placed on the Department of State Health Services Texas Register. Now that new legislation has been passed and issues related to the previous law have been corrected, officers should be able to use Penalty Group 2-A to successfully file charges for synthetic drug offenses. The new law also adds Penalty Group 2-A to the analogue statute, something which had not been included in the previous 2011 legislation. As a result, a substance with a substantially similar chemical structure to one listed in PG 2-A or that is designed to produce a substantially similar effect to one listed in PG 2-A can be prosecuted as a PG 2-A controlled substance. Health and Safety Code (HSC) Section 481.1031 defines Penalty Group 2-A. This penalty ladder ranges from a misdemeanor up to a felony charge. More information on these penalties can be found in Appendix A on page 26.

Perhaps most importantly, in terms of potential for decreasing this drug threat, a new section was added into the current legislation which establishes three components that will be used to determine if a substance is a synthetic cannabinoid. This new system should account for 99.9% of all synthetic cannabinoids that exist or are yet to be created. SB 173 covers all of the potential cores and ring structures from which synthetic compounds can be made, according to a bill analysis from the Senate Research Center. Now, when chemists tweak the composition of the new synthetic cannabinoids they are creating, these new substances should still be covered under this new legislation. This new section (Section 481.1031 PENALTY GROUP 2-A) states:

“Core component” is one of the following: azaindole, benzimidazole, benzothiazole, carbazole, imidazole, indane, indazole, indene, indole, pyrazole, pyrazolopyridine, pyridine, or pyrrole.

“Group A component” is one of the following: adamantane, benzene, cycloalkylmethyl, isoquinolone, methylpiperazine, naphthalene, phenyl, quinolone, tetrahydronaphthalene, tetramethylcyclopropane, amino oxobutane, aminomethyl oxobutane, amino phenyl oxopropane, methy methoxy oxopropane, methoxy dimethyl oxobutane, methoxy phenyl oxopropane, or an amino acid.

“Link component” is one of the following functional groups: carboxamide, carboxylate, hydrazide, methanone (ketone), ethanone, methanediyl (methylene bridge), or methine.

Because of the way the law has been restructured, law enforcement officers will be able to identify a substance through its packaging as a synthetic cannabinoid based on their training and experience and will be able to make an immediate arrest, rather than having to first submit a sample to a crime laboratory for testing and wait for lab results, as in the past, before charges can be filed.

**Senate Bill 461**

Texas has also passed a product packaging and labeling law as yet another means to curb the availability and use of synthetic cannabinoids. It is an additional tool that law enforcement will be able to use to tackle this drug threat. SB 461 is an act related to false or misleading packaging, labeling, or advertising of certain abusable substances. This bill defines “Abusable Synthetic Substance” and creates offenses if someone, in the course of business, produces, distributes, sells or offers to sell an abusable synthetic substance. It also creates a civil penalty of up to $25,000 per offense that can be filed.
In SB 461, Subtitle C, Title 6 of the Texas Health and Safety Code was amended by adding Chapter 484 to read as follows: An “abusable synthetic substance” means a substance that is not otherwise regulated under this title of federal law, is intended to mimic a controlled substance or controlled substance analogue; and when inhaled, ingested, or otherwise introduced into a person’s body, it produces an effect on the central nervous system similar to the effect produced by a controlled substance or controlled substance analogue, creating a condition of intoxication, hallucination, or elation similar to a condition produced by a controlled substance or controlled substance analogue or changes, distorts, or disturbs the person’s eyesight, thinking process, balance, or coordination in a manner similar to a controlled substance or controlled substance analogue.  

Under Sec. 484.005 of SB 461, the act states that “In a prosecution or civil action under this chapter, the fact that the abusable synthetic substance was in packaging labeled with “Not for Human Consumption,” or other wording indicating the substance is not intended to be ingested, is not a defense.”

House Bill 1212

HB 1212, also known as the Montana Brown and Jesse High Act after two Texas teens who died after using synthetic drugs, allows greater rulemaking authority to schedule and regulate “abusable synthetic substances.”

This bill authorizes the commissioner of the Texas Department of State Health Services to designate a consumer commodity as an abusable synthetic substance if the commissioner determines that the consumer commodity is likely an abusable synthetic substance and the importation, manufacture, distribution, or retail sale of the commodity poses a threat to public health. It also authorizes the commissioner to emergency schedule a substance as a controlled substance if the commissioner determines the action is necessary to avoid an imminent hazard to the public safety, the substance is not already scheduled, and no exemption or approval is in effect for the substance under the federal Food, Drug, and Cosmetic Act. This authority will be helpful to help protect the public more quickly as new and potentially more harmful versions of synthetic cannabinoids appear on the drug market.

HB 1212 also establishes a defense to prosecution for the Class B misdemeanor offense involving a person who knowingly or intentionally possesses a controlled substance listed in a schedule under the Texas Controlled Substances Act but not listed in a penalty group. It would be a defense to prosecution if the actor requested emergency medical assistance in response to their own possible overdose or that of another person. It is believed that this will protect individuals from overcriminalization when they seek help due to negative health effects from use of these drugs and possibly prevent deaths. The bill also removes an existing affirmative defense to the prosecution for an offense involving the manufacture, delivery, or possession of a controlled substance analogue that the analogue was not in any part intended for human consumption.

HB 1212 also includes within the definitions of “controlled substance” and “controlled substance analogue” Penalty Group 2-A which governs synthetic cannabinoid substances. It adds Penalty Group 2-A to the list of penalty groups that, for the purposes of prosecution, include controlled substance analogues that are structurally similar to controlled substances and produce a similar effect of those compounds.

For further information on these new laws, copies of SB 173, HB 1212, and SB 461 can be found in Appendix B beginning on page 29 of this assessment.
Education and Prevention Efforts

To adequately address the widespread public health threat from synthetic cannabinoid abuse, a multi-faceted approach is necessary. While legislation and enforcement efforts will likely reduce the supply of synthetic cannabinoids, education to increase public awareness of the danger of using these drugs is also paramount to reversing this perilous drug trend.

Federal Prevention Efforts

Prevention and educational efforts are taking place at the federal, state, and local levels. For example, at the federal level, the Office of National Drug Control Policy (ONDCP) at the White House, in conjunction the Partnership for Drug Free Kids, has created a Synthetic Drug Prevention Information Toolkit to serve as a resource for parents to use when talking with teens about the dangers of synthetic drugs and to help them recognize the warning signs of synthetic drug use. This toolkit can be found on the www.drugfree.org website. It includes a slidecast, podcast, video, and printable guide. ONDCP also hosted a webinar on synthetic drugs in April of 2015. This webinar covered an introduction on the newest synthetic drugs focusing on their manufacture, distribution, and health risks. It also provided details on federal and local efforts to reduce the threat, and federal regulatory provisions and enforcement actions. A second webinar will be held in the future that will focus on local efforts to prevent the use and distribution of synthetic drugs. It will highlight specific community reduction initiatives. Another federal prevention effort aimed at increasing public awareness about the dangers of synthetic drugs included the designation by Congress of the week of March 9th through March 15th, 2014 as National Youth Synthetic Drug Awareness Week. This resolution urged communities to carry out appropriate programs and activities to educate parents and youth about the dangers associated with synthetic drug abuse.

Other Prevention Efforts

Families whose lives have been tragically affected by synthetic cannabinoid abuse have also been instrumental in raising public awareness about the risks of using these substances by using social media platforms such as Facebook and by developing websites with synthetic drug information. Some of these website resources are provided below.

Safe4Emily (Website and Facebook Page)

As mentioned earlier, Emily Bauer and her mother, Tanya Bauer from Houston, Texas have created a website called Safe4Emily.org (Synthetic Awareness for Emily). They have also established a Facebook page (www.facebook.com/safe4emily) to inform the public about the serious health risks associated with the use of synthetic cannabinoids. They travel across the state educating others about the irreparable damage that can occur after use of these drugs, using Emily’s story of ongoing physical and mental impairments from using “synthetic marijuana” as a way to reach others with prevention messages such as the one on their Facebook page (above).
Families who have lost teens to synthetic drugs have also established websites aimed at prevention and education. The K2drugfacts.com website was established by the parents of David Rozga, a teenager from Iowa who died after using a synthetic cannabinoid product. They created this website to serve as an alert to the public of this dangerous drug threat with the hope that other lives might be saved. Shortly after his high school graduation, 18 year-old David decided to try K2 (a brand of synthetic cannabinoid). He became very agitated, and ninety minutes later, committed suicide. There was no evidence that he was suicidal prior to using the drug. His family firmly believes that if David had known about the effects of this drug, he would never have smoked it and would be alive today. They want others to use their website to obtain facts and resources about synthetic drugs and to learn from David’s story before it is too late, as was the case for their son.90,91

The “To the Maximum Foundation” is a non-profit organization committed to the education and awareness of the dangers of synthetic drugs. It was founded by the family of Max Dobner, a 19 year-old young man from northern Illinois. Sadly, Max was yet another teenager who died after smoking a synthetic cannabinoid. He had purchased the drug legally from a shop in a local mall. After using the drug, he began driving his car erratically at speeds of up to 80-100 miles per hour, and ultimately drove his car into a house, killing him instantly. This tragedy illustrates not only the dangers of synthetic cannabinoids to the individual using the drug, but also the serious threat to public safety.92 The “To the Maximum Foundation” website addresses are http://2themax.org and http://www.tothemaximusblog.org.
Educational Efforts for First Responders and Other Professionals

In addition to finding ways to educate teens, parents, and other members of the public about synthetic cannabinoids, it is equally as important to ensure that first responders such as emergency services personnel, health care providers, and law enforcement, as well as professionals in the prevention, treatment, and recovery fields have current and accurate information about these drugs. For instance, it is crucial for first responders to be aware of the potential safety issues they may face due to the sometimes agitated, confused, and violent behavior of those under the influence of synthetic cannabinoids. Additionally, because most synthetic cannabinoids do not show up on routine urinalysis, it is imperative that health care professionals working in emergency rooms and urgent care centers be able to identify the signs and symptoms so that they can quickly and adequately care for patients who are experiencing negative health effects.

Efforts to Raise Awareness about Synthetic Cannabinoids in the Houston HIDTA Region

The Council on Recovery in Houston, along with the Houston HIDTA, Drug Enforcement Administration, and the University of Texas Health Science Center as co-sponsors, hosted a Summit on Synthetic Marijuana in July of 2015. This event brought together Houston area professionals working in medical, law enforcement, and prevention, treatment, and recovery fields to increase awareness of synthetic cannabinoid abuse and to provide education on the subject, as well as an important networking opportunity. Topics discussed at this event included basic facts on synthetic cannabinoids, prevalence about their use in the region, misperceptions about risk, information on use of these drugs by youth, issues related to law enforcement investigation and enforcement, including applying the new Texas laws to curb availability and use, and health effects of synthetic drugs. Houston resident Emily Bauer and her mother made a special appearance to discuss recovery and hope after her traumatic health issues related to use of synthetic cannabinoids.
Outlook

At this time, synthetic cannabinoid abuse remains an extensive drug problem that is significantly affecting all regions of the Houston HIDTA, as well as the rest of the nation. Although efforts by drug investigators to reduce availability of these drugs have been commendable, there have been several factors that have significantly impeded law enforcement from making headway. First and foremost, legislation passed to reduce the threat has not been sufficient to keep up with the rapid evolution of synthetic drug products. There is high hope that newly passed Texas legislation will be the long-awaited solution to assist law enforcement in effectively tackling this seemingly insurmountable drug threat. Because of the new laws, it is predicted that a slow, steadily decreasing drug threat from synthetic cannabinoids will become evident. Specifically, it is likely that a reduction in availability of synthetic cannabinoids in Texas, along with an increase in prosecutable cases, will begin to become apparent after the new legislation becomes effective in September of 2015.

Certainly, there will still be hurdles to overcome. As long as the sale of synthetic cannabinoids remains a highly lucrative endeavor for entrepreneurs, they will continue to try to find ways to profit from selling these drugs, exploiting methods that better avoid the scrutiny of law enforcement. Some business owners have already moved their sales of synthetic cannabinoids “under the counter” and “out the door.” These drugs are now more commonly being sold on the streets and drug investigators are reporting that the price for synthetic cannabinoids has increased now that these products have moved into the traditional illicit drug market. With the financial incentive high and rising, retailers and street-level dealers will continue to sell synthetic cannabinoids as long as the demand for the product continues to remain strong.

It seems probable that that the demand will indeed remain high, even as availability decreases, due to persisting public misperceptions about the legality and safety of synthetic cannabinoids. They will continue to be a popular drug choice due to the unlikelihood that these drugs will show up on standard drug screening tests, their relative affordability, and the fact that they are still widely, but inaccurately believed to be a legal and safe alternative to marijuana. Reducing the demand for this drug will be an arduous undertaking and thus, a vital component of a successful threat reduction plan must include not only enforcement efforts to reduce supply, but targeted and sustained educational campaigns to raise awareness. Public health messages about the serious health risks related to synthetic cannabinoid abuse should be directed to reach high-risk current and potential user groups in an attempt to change the false perception that these drugs are harmless. Although this goal can be reached, it will undoubtedly take some time to be realized. Increased collaboration between law enforcement and its partners in the prevention, treatment, and health professions to attain this objective will improve the probability of success.

Overall, the prospect for a reversal of this dangerous drug trend seems extremely promising. With a sound strategy in place that includes rigorous enforcement actions to reduce the supply of synthetic cannabinoids, coupled with robust harm reduction and prevention efforts to decrease the demand for this highly addictive drug, there is a strong probability that a gradual decline in the threat level from synthetic cannabinoid abuse in Texas will begin to become detectable in the coming year.
Appendix A

Penalties related to Synthetic Cannabinoids: Penalty Group 2-A

Synthetic cannabinoids have fallen into Penalty Group 2-A since September of 2011, but because of problems in the language of the previous law, the statute was virtually unenforceable. Law enforcement often had to resort to prosecuting their synthetic cannabinoid cases under HSC 481.119, which they refer to as a “catch all” provision. Law enforcement could file misdemeanor charges on only those chemicals which were placed on the Department of State Health Services Texas Register. This “catch all” provision is shown below:

Sec. 481.119. OFFENSE: MANUFACTURE, DELIVERY, OR POSSESSION OF MISCELLANEOUS SUBSTANCES.

(a) A person commits an offense if the person knowingly manufactures, delivers, or possesses with intent to deliver a controlled substance listed in a schedule by an action of the commissioner under this chapter but not listed in a penalty group. An offense under this subsection is a Class A misdemeanor.

(b) A person commits an offense if the person knowingly or intentionally possesses a controlled substance listed in a schedule by an action of the commissioner under this chapter but not listed in a penalty group. An offense under this subsection is a Class B misdemeanor.


Now that new legislation has been passed and issues related to the previous law have been corrected, officers should be able to use Penalty Group 2-A to successfully file charges for synthetic drug offenses. Health and Safety Code (HSC) Section 481.1031 defines Penalty Group 2-A. The penalty ladder ranges from a misdemeanor up to a felony charge. Specifically for synthetic cannabinoids under Penalty Group 2-A, the penalties are as follows:

Sec. 481.1161. OFFENSE: POSSESSION OF SUBSTANCE IN PENALTY GROUP 2-A.

(a) Except as authorized by this chapter, a person commits an offense if the person knowingly possesses a controlled substance listed in Penalty Group 2-A, unless the person obtained the substance directly from or under a valid prescription or order of a practitioner acting in the course of professional practice.

(b) An offense under this section is:

(1) a Class B misdemeanor if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, two ounces or less;

(2) a Class A misdemeanor if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, four ounces or less but more than two ounces;

(3) a state jail felony if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, five pounds or less but more than four ounces;

(4) a felony of the third degree if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, 50 pounds or less but more than 5 pounds;
(5) a **felony of the second degree** if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, **2,000 pounds or less but more than 50 pounds**; and

(6) punishable by imprisonment in the Texas Department of Criminal Justice for life or for a term of not more than 99 years or less than 5 years, and a fine not to exceed **$50,000**, if the amount of the controlled substance possessed is, by aggregate weight, including adulterants or dilutants, **more than 2,000 pounds**.

Added by Acts 2011, 82nd Leg., R.S., Ch. 170 (S.B. 331), Sec. 5, eff. September 1, 2011.

**Sec. 481.113. OFFENSE: MANUFACTURE OR DELIVERY OF SUBSTANCE IN PENALTY GROUP 2 OR 2-A.**

(a) Except as authorized by this chapter, a person commits an offense if the person knowingly manufactures, delivers, or possesses with intent to deliver a controlled substance listed in Penalty Group 2 or 2-A.

(b) An offense under Subsection (a) is a **state jail felony** if the amount of the controlled substance to which the offense applies is, by aggregate weight, including adulterants or dilutants, **less than one gram**.

(c) An offense under Subsection (a) is a **felony of the second degree** if the amount of the controlled substance to which the offense applies is, by aggregate weight, including adulterants or dilutants, **one gram or more but less than four grams**.

(d) An offense under Subsection (a) is a **felony of the first degree** if the amount of the controlled substance to which the offense applies is, by aggregate weight, including adulterants or dilutants, **four grams or more but less than 400 grams**.

(e) An offense under Subsection (a) is punishable by imprisonment in the Texas Department of Criminal Justice for life or for a term of not more than 99 years or less than 10 years, and a fine not to exceed **$100,000**, if the amount of the controlled substance to which the offense applies is, by aggregate weight, including adulterants or dilutants, **400 grams or more**.


Amended by:

Acts 2009, 81st Leg., R.S., Ch. 87 (S.B. 1969), Sec. 25.097, eff. September 1, 2009.

Acts 2011, 82nd Leg., R.S., Ch. 170 (S.B. 331), Sec. 3, eff. September 1, 2011.

Acts 2011, 82nd Leg., R.S., Ch. 170 (S.B. 331), Sec. 4, eff. September 1, 2011.

**Sec. 481.125. OFFENSE: POSSESSION OR DELIVERY OF DRUG PARAPHERNALIA.**

*This is the drug paraphernalia statute that makes pipes, etc., illegal.

(a) A person commits an offense if the person knowingly or intentionally uses or possesses with intent to use drug paraphernalia to plant, propagate, cultivate, grow, harvest, manufacture, compound, convert, produce, process, prepare, test, analyze, pack, repack, store, contain, or conceal a controlled substance in violation of this chapter or to inject, ingest, inhale, or otherwise introduce into the human body a controlled substance in violation of this chapter.
(b) A person commits an offense if the person knowingly or intentionally delivers, possesses with intent to deliver, or manufactures with intent to deliver drug paraphernalia knowing that the person who receives or who is intended to receive the drug paraphernalia intends that it be used to plant, propagate, cultivate, grow, harvest, manufacture, compound, convert, produce, process, prepare, test, analyze, pack, repack, store, contain, or conceal a controlled substance in violation of this chapter or to inject, ingest, inhale, or otherwise introduce into the human body a controlled substance in violation of this chapter.

(c) A person commits an offense if the person commits an offense under Subsection (b), is 18 years of age or older, and the person who receives or who is intended to receive the drug paraphernalia is younger than 18 years of age and at least three years younger than the actor.

(d) An offense under Subsection (a) is a Class C misdemeanor.

(e) An offense under Subsection (b) is a Class A misdemeanor, unless it is shown on the trial of a defendant that the defendant has previously been convicted under Subsection (b) or (c), in which event the offense is punishable by confinement in jail for a term of not more than one year or less than 90 days.

(f) An offense under Subsection (c) is a state jail felony.

Appendix B

84th Texas Legislative Session: Important Bills Related to Synthetic Cannabinoids

S.B. No. 173

AN ACT

relating to the designation for criminal prosecution and other purposes of certain chemicals commonly referred to as synthetic cannabinoids as controlled substances and controlled substance analogues under the Texas Controlled Substances Act.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Sections 481.002(5) and (6), Health and Safety Code, are amended to read as follows:

(5) "Controlled substance" means a substance, including a drug, an adulterant, and a dilutant, listed in Schedules I through V or Penalty Group 1, 1-A, [or] 2, 2-A, 3, or [through] 4. The term includes the aggregate weight of any mixture, solution, or other substance containing a controlled substance.

(6) "Controlled substance analogue" means:

(A) a substance with a chemical structure substantially similar to the chemical structure of a controlled substance in Schedule I or II or Penalty Group 1, 1-A, [or] 2, or 2-A; or

(B) a substance specifically designed to produce
an effect substantially similar to, or greater than, the effect of a controlled substance in Schedule I or II or Penalty Group 1, 1-A, [or] 2, or 2-A.

SECTION 2. Section 481.1031, Health and Safety Code, is amended to read as follows:

Sec. 481.1031. PENALTY GROUP 2-A. (a) In this section:

(1) "Core component" is one of the following: azaindole, benzimidazole, benzothiazole, carbazole, imidazole, indane, indazole, indene, indole, pyrazole, pyrazolopyridine, pyridine, or pyrrole.

(2) "Group A component" is one of the following: adamantane, benzene, cycloalkylmethyl, isoquinoline, methylpiperazine, naphthalene, phenyl, quinoline, tetrahydronaphthalene, tetramethylcyclopropane, amino oxobutane, amino dimethyl oxobutane, amino phenyl oxopropane, methyl methoxy oxobutane, methoxy dimethyl oxobutane, methoxy phenyl oxopropane, or an amino acid.

(3) "Link component" is one of the following functional groups: carboxamide, carboxylate, hydrazide, methanone (ketone), ethanone, methanediyl (methylene bridge), or methine.

(b) Penalty Group 2-A consists of any material, compound, mixture, or preparation that contains any quantity of a natural or synthetic chemical substance, including its salts, isomers,
and salts of isomers, listed by name in this subsection or contained within one of the structural classes defined in this subsection:

(1) WIN-55,212-2;

(2) Cyclohexylphenol: any compound [that is a cannabinoid receptor agonist and mimics the pharmacological effect of naturally occurring cannabinoids, including:

[naphthoylindoles structurally derived from 3-(1-naphthoyl)indole by substitution at the nitrogen atom of the indole ring by alkyl, alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl, whether or not further substituted in the indole ring to any extent, whether or not substituted in the napthyl ring to any extent, including:

[AM-2201;]

[JWH-004;]

[JWH-007;]

[JWH-009;]

[JWH-015;]

[JWH-016;]

[JWH-018;]

[JWH-019;]

[JWH-020;]

[JWH-046;]

[JWH-047;]
[JWH-164+]
[JWH-165+]
[JWH-166+]
[JWH-168+]
[JWH-180+]
[JWH-181+]
[JWH-182+]
[JWH-189+]
[JWH-193+]
[JWH-198+]
[JWH-200+]
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[JWH-260+]
[JWH-262+]
[JWH-267;]
[JWH-386;]
[JWH-387;]
[JWH-387;]
[JWH-394;]
[JWH-395;]
[JWH-397;]
[JWH-398;]
[JWH-399;]
[JWH-400;]
[JWH-412;]
[JWH-413; and]
[JWH-414;]

[naphthylmethylindones structurally derived from 1H-indol-3-yl-(1-naphthyl)methane by substitution at the nitrogen atom of the indole ring by alkyl, alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl, whether or not further substituted in the indole ring to any extent, whether or not substituted in the naphthyl ring to any extent, including:]

[JWH-175;]
[JWH-184;]
[JWH-185;]
[JWH-192;]
[JWH-194;]
[JWH-195;]
JWH-196; JWH-197; and JWH-199;

[naphthoylpyrroles structurally derived from 3-(1-naphthoyl)pyrrole by substitution at the nitrogen atom of the pyrrole ring by alkyl, alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl, whether or not further substituted in the pyrrole ring to any extent, whether or not substituted in the naphthyl ring to any extent, including;

JWH-030; JWH-145; JWH-146; JWH-147; JWH-150; JWH-156; JWH-243; JWH-244; JWH-245; JWH-246; JWH-292; JWH-293; JWH-307; JWH-308;
naphthylmethylindenes structurally derived from 1-(1-naphthylmethyl)indene by substitution at the 3-position of the indene ring by alkyl, alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl, whether or not further substituted in the indene ring to any extent, whether or not substituted in the naphthyl ring to any extent, including:

[JWH-171]

[JWH-172]
[JWH-173], and [JWH-176],

[phenylacetylinodoles structurally derived from 3-phenylacetylinodole by substitution at the nitrogen atom of the indole ring with alkyl, alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl, whether or not further substituted in the indole ring to any extent, whether or not substituted in the phenyl ring to any extent, including:

[JAM-694],

[JAM-1241],

[JWH-167],

[JWH-203],

[JWH-204],

[JWH-205],

[JWH-206],

[JWH-208],

[JWH-237],

[JWH-248],

[JWH-249],

[JWH-250]

[JWH-251],

[JWH-252],

[JWH-253],

[JWH-302]
[JWH-303]; [JWH-305]; [JWH-306]; [JWH-311]; [JWH-312]; [JWH-313]; [JWH-314]; and [JWH-315].

[cyclohexylphenols] structurally derived from 2-(3-hydroxycyclohexyl)phenol by substitution at the 5-position of the phenolic ring [by alkyl], (N-methylpiperidin-2-yl)alkyl, (4-tetrahydropyran)alkyl, or 2-(4-morpholinyl)alkyl [alkenyl, cycloalkylmethyl, cycloalkylethyl, or 2-(4-morpholinyl)ethyl], whether or not substituted in the cyclohexyl ring to any extent, including:

JWH-337;
JWH-344;
CP-55,940;
CP-47,497; and analogues of CP-47,497;

(3) Cannabinol[, including VII, V, VIII, I, II, III, IV, IX, X, XI, XII, XIII, XV, and XVI.]

JWH-337;
JWH-344;
[JWH-345; and

[JWH-405; and

cannabinol] derivatives, except where contained in marihuana, including tetrahydro derivatives of cannabinol and 3-alkyl homologues of cannabinol or of its tetrahydro derivatives, such as:

Nabilone;
HU-210; and
HU-211;

(4) Tetramethylcyclopropyl thiazole: any compound structurally derived from 2,2,3,3-tetramethyl-N-(thiazol-2-ylidene)cyclopropanecarboxamide by substitution at the nitrogen atom of the thiazole ring, whether or not further substituted in the thiazole ring to any extent, whether or not substituted in the tetramethylcyclopropyl ring to any extent, including:

A-836,339;

(5) any compound containing a core component substituted at the 1-position to any extent, and substituted at the 3-position with a link component attached to a group A component, whether or not the core component or group A component are further substituted to any extent, including:

Naphthoylindane;
Naphthoylindazole (THJ-018);
Naphthyl methyl indene (JWH-171);
Naphthoylindole (JWH-018);

Quinolinoyl pyrazole carboxylate (Quinolinyl fluoropentyl fluorophenyl pyrazole carboxylate);

Naphthooyl pyrazolopyridine; and

Naphthooylpyrrole (JWH-030);

(6) any compound containing a core component substituted at the 1-position to any extent, and substituted at the 2-position with a link component attached to a group A component, whether or not the core component or group A component are further substituted to any extent, including:

Naphthooylbenzimidazole (JWH-018 Benzimidazole);

and

Naphthooylimidazole;

(7) any compound containing a core component substituted at the 3-position to any extent, and substituted at the 2-position with a link component attached to a group A component, whether or not the core component or group A component are further substituted to any extent, including:

Naphthooyl benzothiazole; and

(8) any compound containing a core component substituted at the 9-position to any extent, and substituted at the 3-position with a link component attached to a group A component, whether or not the core component or group A component are further substituted to any extent, including:
Naphthoylcarbazole (EG-018) [and [WIN-55,212-2].

SECTION 3. Section 481.106, Health and Safety Code, is amended to read as follows:

Sec. 481.106. CLASSIFICATION OF CONTROLLED SUBSTANCE ANALOGUE. For the purposes of the prosecution of an offense under this subchapter involving the manufacture, delivery, or possession of a controlled substance, Penalty Groups 1, 1-A, [and] 2, and 2-A include a controlled substance analogue that:

(1) has a chemical structure substantially similar to the chemical structure of a controlled substance listed in the applicable penalty group; or

(2) is specifically designed to produce an effect substantially similar to, or greater than, a controlled substance listed in the applicable penalty group.

SECTION 4. The change in law made by this Act applies only to an offense committed on or after the effective date of this Act. An offense committed before the effective date of this Act is governed by the law in effect on the date the offense was committed, and the former law is continued in effect for that purpose. For purposes of this section, an offense was committed before the effective date of this Act if any element of the offense occurred before that date.

SECTION 5. This Act takes effect September 1, 2015.
AN ACT
relating to false or misleading packaging, labeling, or advertising of certain abusable synthetic substances; providing civil penalties; creating a criminal offense.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Subtitle C, Title 6, Health and Safety Code, is amended by adding Chapter 484 to read as follows:

CHAPTER 484. ABUSABLE SYNTHETIC SUBSTANCES

Sec. 484.001. DEFINITIONS. In this chapter:

(1) "Abusable synthetic substance" means a substance that:

(A) is not otherwise regulated under this title or under federal law;

(B) is intended to mimic a controlled substance or controlled substance analogue; and

(C) when inhaled, ingested, or otherwise introduced into a person's body:

(i) produces an effect on the central nervous system similar to the effect produced by a controlled substance or controlled substance analogue;

(ii) creates a condition of intoxication, hallucination, or elation similar to a condition produced by a
controlled substance or controlled substance analogue; or

(iii) changes, distorts, or disturbs the person's eyesight, thinking process, balance, or coordination in a manner similar to a controlled substance or controlled substance analogue.

(2) "Business" includes trade and commerce and advertising, selling, and buying service or property.

(3) "Mislabeled" means varying from the standard of truth or disclosure in labeling prescribed by law or set by established commercial usage.

(4) "Sell" and "sale" include offer for sale, advertise for sale, expose for sale, keep for the purpose of sale, deliver for or after sale, solicit and offer to buy, and every disposition for value.

Sec. 484.002. PROHIBITED ACTS. (a) A person commits an offense if in the course of business the person knowingly produces, distributes, sells, or offers for sale a mislabeled abusable synthetic substance.

(b) An offense under this section is a Class C misdemeanor, except that the offense is a Class A misdemeanor if it is shown on the trial of the offense that the actor has previously been convicted of an offense under this section or of an offense under Section 32.42(b)(4), Penal Code, and the adulterated or mislabeled commodity was an abusable synthetic
substance.

(c) If conduct constituting an offense under this section also constitutes an offense under another provision of law, the person may be prosecuted under either this section or the other provision.

Sec. 484.003. CIVIL PENALTY. (a) The attorney general or a district, county, or city attorney may institute an action in district court to collect a civil penalty from a person who in the course of business produces, distributes, sells, or offers for sale a mislabeled abusable synthetic substance.

(b) The civil penalty may not exceed $25,000 a day for each offense. Each day an offense is committed constitutes a separate violation for purposes of the penalty assessment.

(c) The court shall consider the following in determining the amount of the penalty:

(1) the person's history of any previous offenses under Section 484.002 or under Section 32.42(b)(4), Penal Code, relating to the sale of a mislabeled abusable synthetic substance;

(2) the seriousness of the offense;

(3) any hazard posed to the public health and safety by the offense; and

(4) demonstrations of good faith by the person charged.
(d) Venue for a suit brought under this section is in the city or county in which the offense occurred or in Travis County.

(e) A civil penalty recovered in a suit instituted by a local government under this section shall be paid to that local government.

Sec. 484.004. AFFIRMATIVE DEFENSE. It is an affirmative defense to prosecution or liability under this chapter that:

(1) the abusable synthetic substance was approved for use, sale, or distribution by the United States Food and Drug Administration or other state or federal regulatory agency with authority to approve the substance's use, sale, or distribution; and

(2) the abusable synthetic substance was lawfully produced, distributed, sold, or offered for sale by the person who is the subject of the criminal or civil action.

Sec. 484.005. NO DEFENSE. In a prosecution or civil action under this chapter, the fact that the abusable synthetic substance was in packaging labeled with "Not for Human Consumption," or other wording indicating the substance is not intended to be ingested, is not a defense.

SECTION 2. This Act takes effect September 1, 2015.
H.B. No. 1212

AN ACT

relating to the prosecution and punishment of certain offenses under the Texas Controlled Substances Act and the regulation and scheduling of certain substances.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. This Act shall be known as the Montana Brown and Jesse High Act.

SECTION 2. Chapter 431, Health and Safety Code, is amended by adding Subchapter G-1 to read as follows:

SUBCHAPTER G-1. ABUSABLE SYNTHETIC SUBSTANCES

Sec. 431.171. DESIGNATION OF CONSUMER COMMODITY AS ABUSABLE SYNTHETIC SUBSTANCE. (a) The commissioner may designate a consumer commodity as an abusable synthetic substance if the commissioner determines that the consumer commodity is likely an abusable synthetic substance and the importation, manufacture, distribution, or retail sale of the commodity poses a threat to public health.

(b) In determining whether a consumer commodity is an abusable synthetic substance, the commissioner may consider:

(1) whether the commodity is sold at a price higher than similar commodities are ordinarily sold;

(2) any evidence of clandestine importation,
manufacture, distribution, or diversion from legitimate channels;

(3) any evidence suggesting the product is intended for human consumption, regardless of any consumption prohibitions or warnings on the packaging of the commodity; or

(4) whether any of the following factors suggest the commodity is an abusable synthetic substance intended for illicit drug use:

   (A) the appearance of the packaging of the commodity;

   (B) oral or written statements or representations of a person who sells, manufactures, distributes, or imports the commodity;

   (C) the methods by which the commodity is distributed; and

   (D) the manner in which the commodity is sold to the public.

Sec. 431.172. APPLICABILITY OF CHAPTER TO ABUSABLE SYNTHETIC SUBSTANCE. A commodity classified as an abusable synthetic substance by the commissioner under Section 431.171 is subject to:

(1) the provisions of this chapter that apply to food and cosmetics, including provisions relating to adulteration, packaging, misbranding, and inspection; and
(2) all enforcement actions under Subchapter C.

SECTION 3. Sections 481.002(5) and (6), Health and Safety Code, are amended to read as follows:

(5) "Controlled substance" means a substance, including a drug, an adulterant, and a dilutant, listed in Schedules I through V or Penalty Group 1, 1-A, [or] 2, 2-A, 3, or [through] 4. The term includes the aggregate weight of any mixture, solution, or other substance containing a controlled substance.

(6) "Controlled substance analogue" means:

(A) a substance with a chemical structure substantially similar to the chemical structure of a controlled substance in Schedule I or II or Penalty Group 1, 1-A, [or] 2, or 2-A; or

(B) a substance specifically designed to produce an effect substantially similar to, or greater than, the effect of a controlled substance in Schedule I or II or Penalty Group 1, 1-A, [or] 2, or 2-A.

SECTION 4. Subchapter B, Chapter 481, Health and Safety Code, is amended by adding Section 481.0355 to read as follows:

Sec. 481.0355. EMERGENCY SCHEDULING. (a) Except as otherwise provided by Subsection (b) and subject to Subsection (c), the commissioner may emergency schedule a substance as a controlled substance if the commissioner determines the action
is necessary to avoid an imminent hazard to the public safety.

(b) The commissioner may not emergency schedule a substance as a controlled substance under this section if:

(1) the substance is already scheduled;

(2) an exemption or approval is in effect for the substance under Section 505, Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 355); or

(3) the substance is an over-the-counter drug that qualifies for recognition as safe and effective under conditions established by federal regulations of the United States Food and Drug Administration governing over-the-counter drugs.

(c) Before emergency scheduling a substance as a controlled substance under this section, the commissioner shall consult with the Department of Public Safety regarding the chemical structure of compounds contained in that substance, and may emergency schedule the substance only in accordance with any recommendations provided by the department.

(d) In determining whether a substance poses an imminent hazard to the public safety, the commissioner shall consider, in addition to the factors provided by Section 481.034(d):

(1) the scope, duration, and symptoms of abuse;

(2) the degree of detriment that abuse of the substance may cause;

(3) whether the substance has been temporarily
scheduled under federal law; and

(4) whether the substance has been temporarily or permanently scheduled under the law of another state.

(e) If the commissioner emergency schedules a substance as a controlled substance under this section, an emergency exists for purposes of Section 481.036(c) and the action takes effect on the date the schedule is published in the Texas Register.

(f) An emergency scheduling under this section expires on September 1 of each odd-numbered year for any scheduling that occurs before January 1 of that year.

(g) The commissioner shall post notice about each emergency scheduling under this section on the Internet website of the Department of State Health Services.

SECTION 5. Section 481.106, Health and Safety Code, is amended to read as follows:

Sec. 481.106. CLASSIFICATION OF CONTROLLED SUBSTANCE ANALOGUE. For the purposes of the prosecution of an offense under this subchapter involving the manufacture, delivery, or possession of a controlled substance, Penalty Groups 1, 1-A, [and] 2, and 2-A include a controlled substance analogue that:

(1) has a chemical structure substantially similar to the chemical structure of a controlled substance listed in the applicable penalty group; or

(2) is specifically designed to produce an effect
substantially similar to, or greater than, a controlled substance listed in the applicable penalty group.

SECTION 6. Section 481.123(a), Health and Safety Code, is amended to read as follows:

(a) It is an affirmative defense to the prosecution of an offense under this subchapter involving the manufacture, delivery, or possession of a controlled substance analogue that the analogue:

(1) [was not in any part intended for human consumption];

[(2)] was a substance for which there is an approved new drug application under Section 505 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 355); or

[(2)] was a substance for which an exemption for investigational use has been granted under Section 505 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 355), if the actor's conduct with respect to the substance is in accord with the exemption.

SECTION 7. The change in law made by this Act applies only to an offense committed on or after the effective date of this Act. An offense committed before the effective date of this Act is governed by the law in effect on the date the offense was committed, and the former law is continued in effect for that purpose. For purposes of this section, an offense was committed
before the effective date of this Act if any element of the offense occurred before that date.

SECTION 8. This Act takes effect September 1, 2015.
20. How the Brain Learns, photo of brain, https://projectflexner.sites.medinfo.ufl.edu
49. Information on Deaths Provided by Bryan Police Department
53. Information on Synthetic Cannabinoid Type provided by Beaumont Police Department
69. 82nd Legislative Session Summary, Legislation Affecting the Department of State Health Services (DSHS), http://www.dshs.state.tx.us/legislative/82nd/82nd-Legislative-Summary.doc
70. Synthetic Cannabinoids and the Texas Controlled Substance Act – S.B. 331, Highlights of the 82nd Texas Legislature, A Summary of Enrolled Legislation, Volume I, October 2011
75. SB 461, https://legiscan.com/TX/bills/SB461/2015
76. HB 1212, www.legis.state.tx.us/tlodocs/84R/billtext/html/HB01212F.htm
77. Information from Baytown Police Department Narcotics Investigator who was part of a multi-disciplinary team that crafted the new Texas legislation related to synthetic cannabinoids
85. Register for ONDCP Webinar on Synthetic Drugs, CADCA, http://www.cadca.org/resources/register-ondcp-webinar-synthetic-drugs
88. Website: safe4emily.org
89. Facebook website: www.facebook.com/safe4emily
90. Website: https://k2drugfacts.wordpress.com/davids-story/
Houston Investigative Support Center (HISC)
An Initiative of the Houston HIDTA

The HISC endeavors to provide strategic, organizational, and tactical drug intelligence to the Houston HIDTA law enforcement community that is accurate, relevant, and timely. In order to accomplish this mission, the HISC focuses on intelligence development, analytical case support, as well as information sharing/cooperation.