



Clandestine Labs/Meth & Fentanyl



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Introduction

▶ Richard F. Harrison, CFEI

Fire Chief (R) Buechel Fire Protection District – 1981-2016

Jefferson County Sheriff's Office – Deputy 2017-Present

Louisville Metro Emergency Management – Emergency Services Coordinator – Jan. 2018

Assigned to Louisville Metro Police Department SWAT Team as Hazmat Specialist

Safety Officer for LMPD-Hazardous Incident Response Team (HIRT)



WHO'S IN THE ROOM?



STUDENT EXPECTATIONS

»» What is expected of YOU and what you can expect from US!

OVERALL COURSE OBJECTIVES

For students to understand:

- ▶ The standards, rules and regulations and training requirements applicable to prevent exposures during routine incidents.
- ▶ How to prevent an exposure to a given hazardous substance by use of appropriate PPE

OVERALL COURSE OBJECTIVES

- ▶ The safety and health guidelines including the major elements in Officer/Responder Safety
 - ▶ Be able to effectively classify hazardous substances by their characteristics.
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OVERALL COURSE GOALS

- ▶ Provide necessary training to limit the risk of Officers/Responders to Occupational Exposures.
 - ▶ The proper selection and use of personal protective equipment (PPE) based on the perceived risk.
 - ▶ How to set-up a decontamination area and to properly “decon” workers exiting the hot zone.
- 

Illicit Drug Exposures

Recent incidents involving Police and First Responders have given concern for on-the-job exposures.

- **November 28, 2016 - K-9 Dogs Overdose on Fentanyl**
- **May 15, 2017 - Ohio officer accidentally overdoses**
- **May 30, 2017 - West Michigan detective sickened**
- **August 11, 2017 – LMPD K-9 Injured During Search**
- **December 23, 2017 – Baltimore County Police, 3 Officers**
- **January 17, 2018 – Fentynal Exposures & Needle Sticks Growing in Kentucky**
- **January 28, 2018 – Oregon Police Stop Field Testing Due To Fentanyl Exposures**
- **February 15, 2018 – Firefighters Respond to Norwalk, OH Police Officers Exposed to Fentanyl**
- **March 20, 2018 – Parker Police Officers Hospitalized After Suspected Fentanyl Exposure**

Resources Available to Law Enforcement Agencies

- ▶ The Drug Enforcement Agency (DEA) publishes very useful notices for the first responders and I suggest adding their website link to your weekly check list. Every time there is a new drug causing harm to our responders, they will share intelligence that can provide safety and warning info to keep us safe.
- ▶ This Executive Summary is just part of one their publications focused on the Fentanyl counterfeit pill production problem.
 - ▶ [US DEA](#)
 - ▶ [DEA Images](#)

The Local Threat

- Since early in 2013 we've seen many Heroin overdoses that have included the use of Fentanyl and its many analogs. The problem with this is Fentanyl can be *10 to 100 times more potent than Morphine*. Morphine is the standard by which most narcotics are measured since it has a much larger known effect and history than most any other narcotic.
- The problem of Fentanyl is one of many facets as it is being distributed from many regions and in varying forms. We will discuss many of them in this class with the hopes you never become exposed to the drug or its effects, which are often times deadly.

By the Numbers

2015			
	Overdose Runs	Narcan: Patients Receiving Narcan on OD Runs	Narcan: Doses from LMEMS
Jan	302	50	183
Feb	272	52	163
Mar	331	57	198
Apr	353	68	206
May	420	61	201
Jun	394	66	186
Jul	441	84	271
Aug	473	97	267
Sep	360	86	235
Oct	447	84	275
Nov	429	108	283
Dec	420	95	235
Total	4642	908	2703

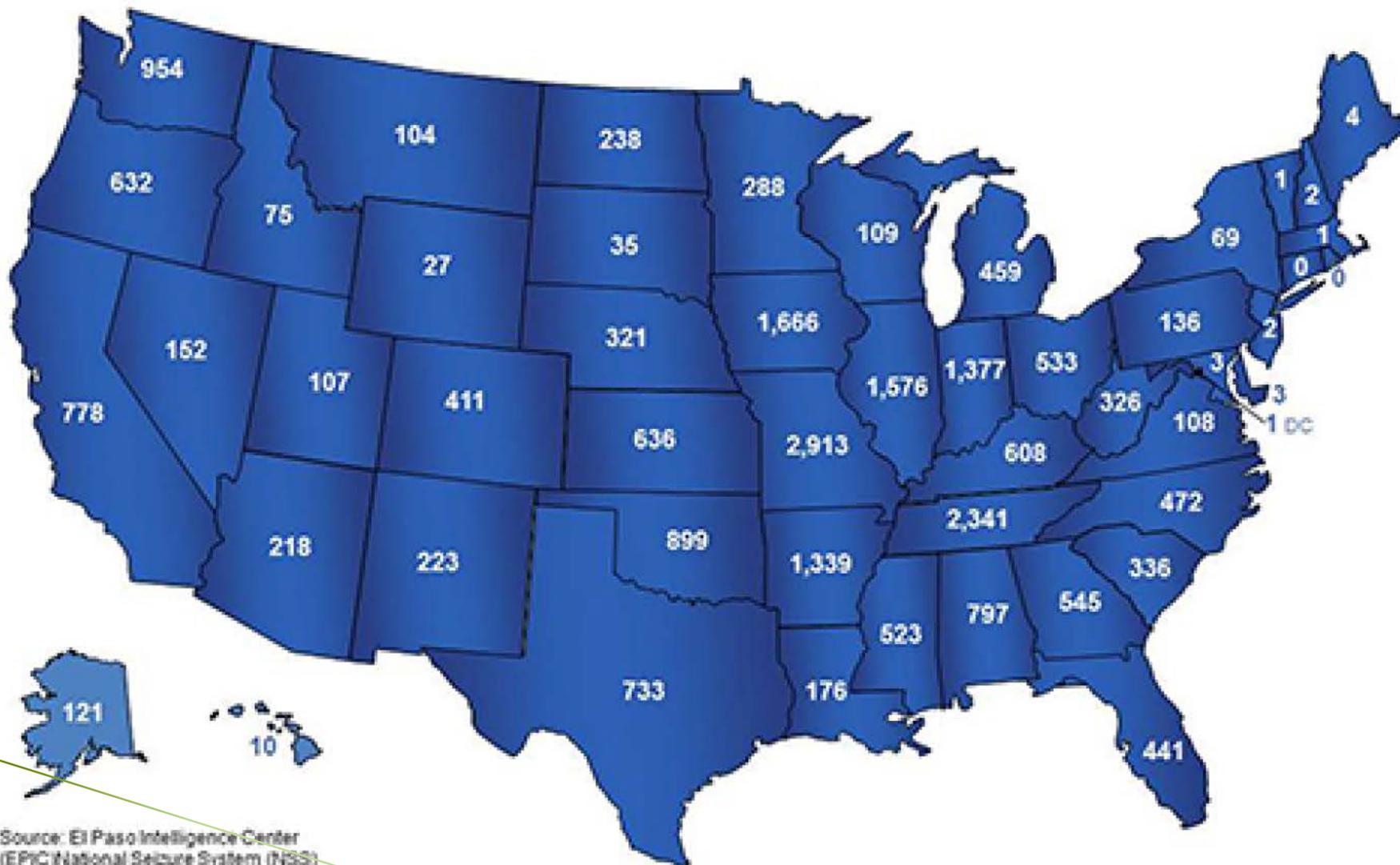
2016			
	Overdose Runs	Narcan: Patients Receiving Narcan on OD Runs	Narcan: Doses from LMEMS
Jan	524	93	240
Feb	402	99	195
Mar	627	282	397
Apr	512	143	227
May	715	316	403
Jun	641	217	317
Jul	516	129	244
Aug	524	146	258
Sep	613	235	347
Oct	530	169	270
Nov	519	145	226
Dec	756	284	348
Total	6879	2258	3472

2017			
	Overdose Runs	Narcan: Patients Receiving Narcan on OD Runs	Narcan: Doses from LMEMS
Jan	696	310	296
Feb	870	394	355
Mar	796	332	316
Apr	666	167	179
May	605	173	174
Jun	595	186	168
Jul	654	192	178
Aug	636	158	156
Sep	559	154	151
Oct	550	139	128
Nov	483	112	129
Dec	546	142	153
Total	7656	2459	2383

2018			
	Overdose Runs		
Jan	521	The comparative numbers for Narcan Interventions are not available due to changeover to ESO. Once the change-over is complete we will update with ODMaP. *through 3/25	
Feb	580		
Mar	427*		
Apr			
May			
Jun			
Jul			
Aug			
Sep			
Oct			
Nov			
Dec			
Total	1101		

Calendar Year 2004
Total: 23,829

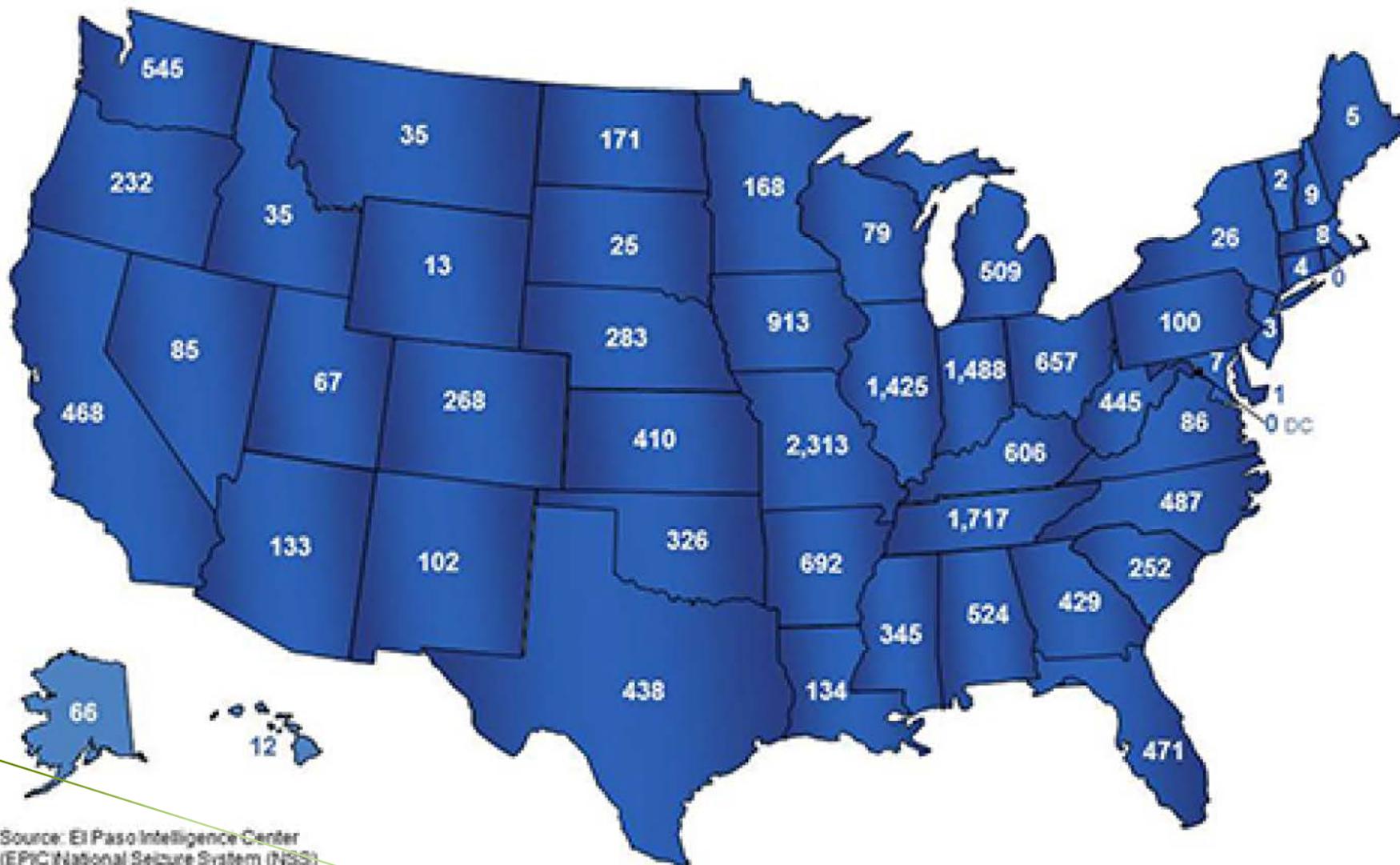
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC) National Seizure System (NSS)
Query Date January 29, 2013

Calendar Year 2005
Total: 17,619

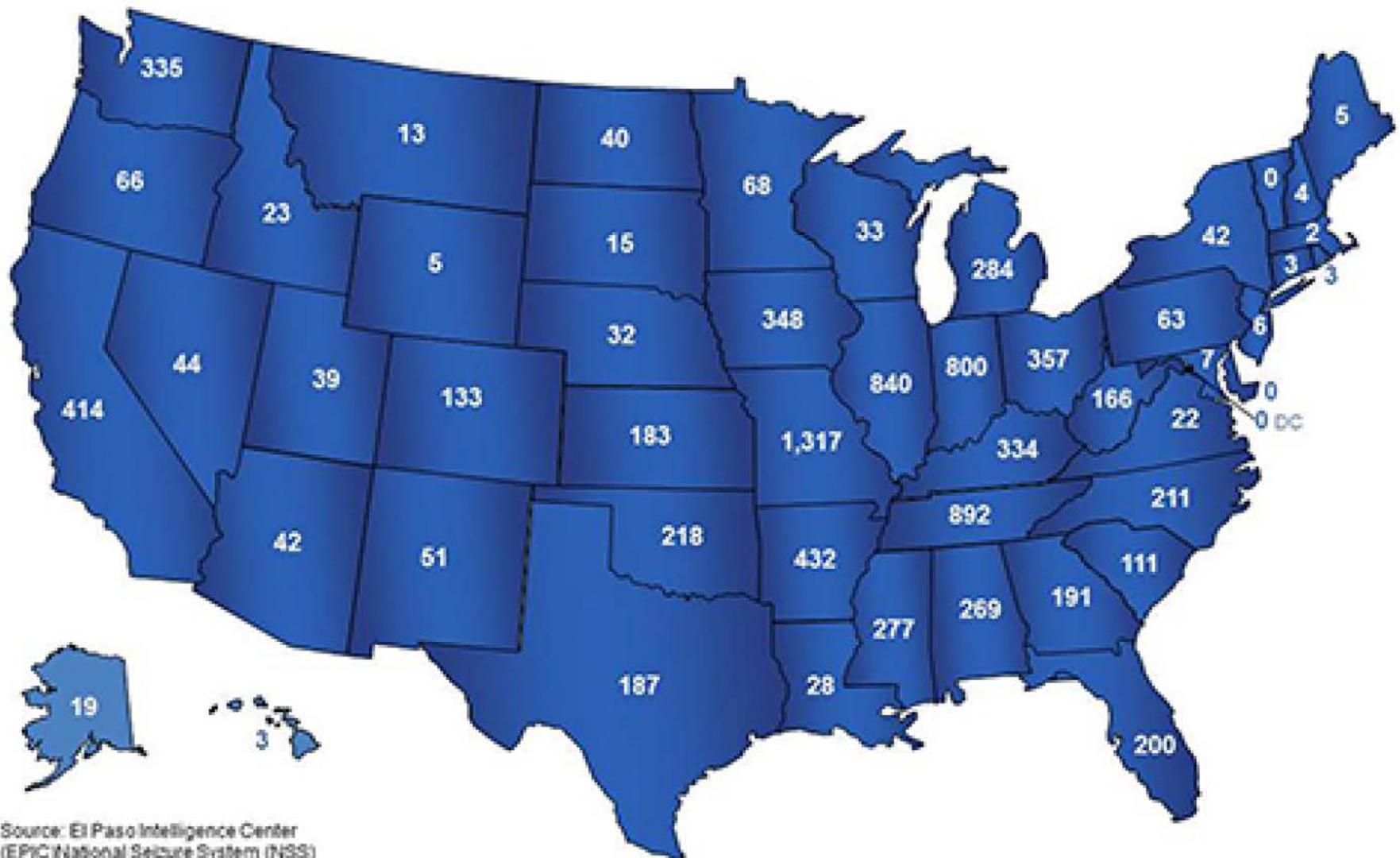
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC) National Seizure System (NSS)
Query Date January 29, 2013

Calendar Year 2006
Total: 9,177

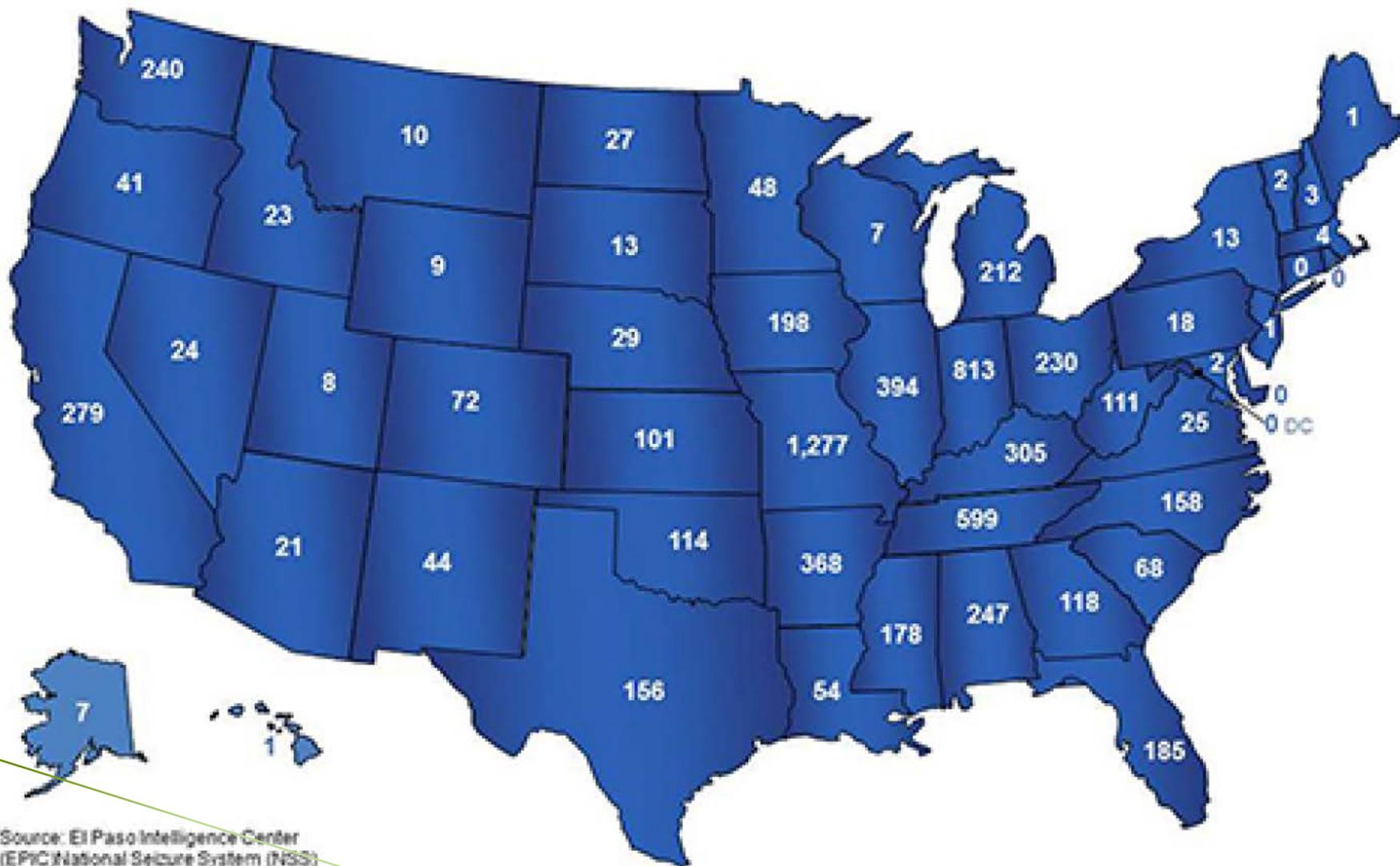
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC)/National Seizure System (NSS)
Query Date January 29, 2013

Calendar Year 2007
Total: 6,858

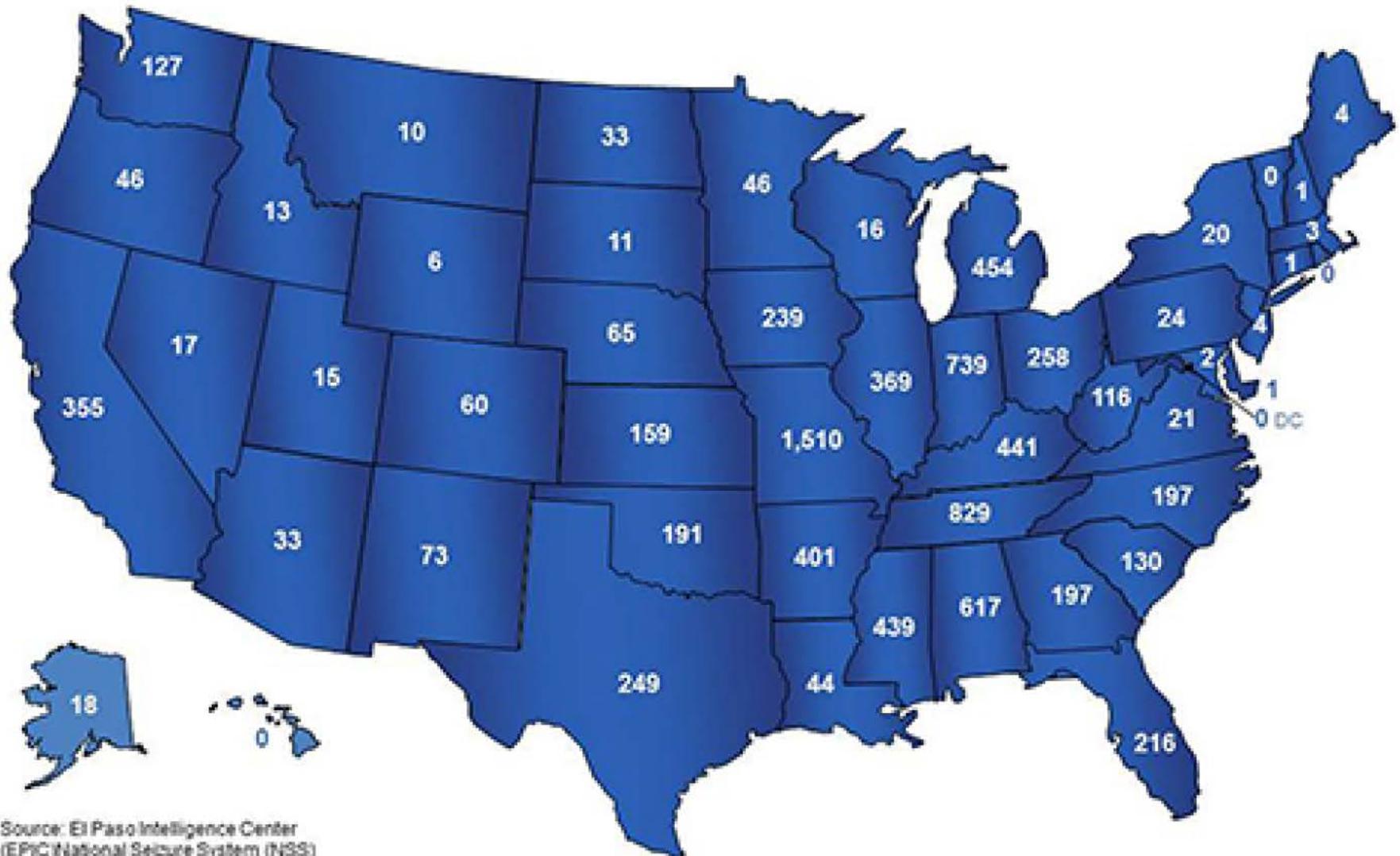
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC) National Seizure System (NSS)
Query Date January 29, 2013

Calendar Year 2008
Total: 8,810

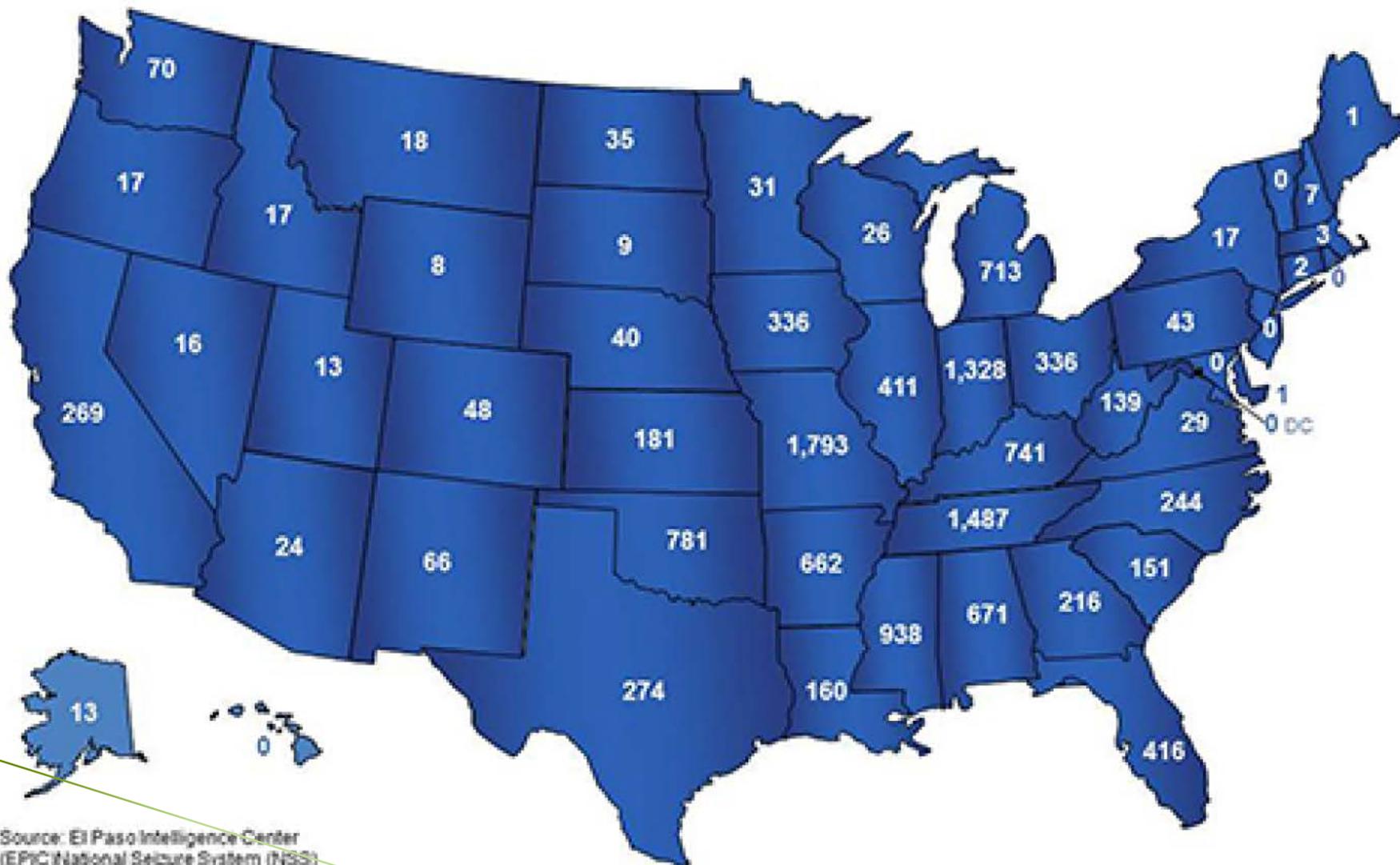
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC)/National Seizure System (NSS)
Query Date: January 29, 2013

Calendar Year 2009
Total: 12,851

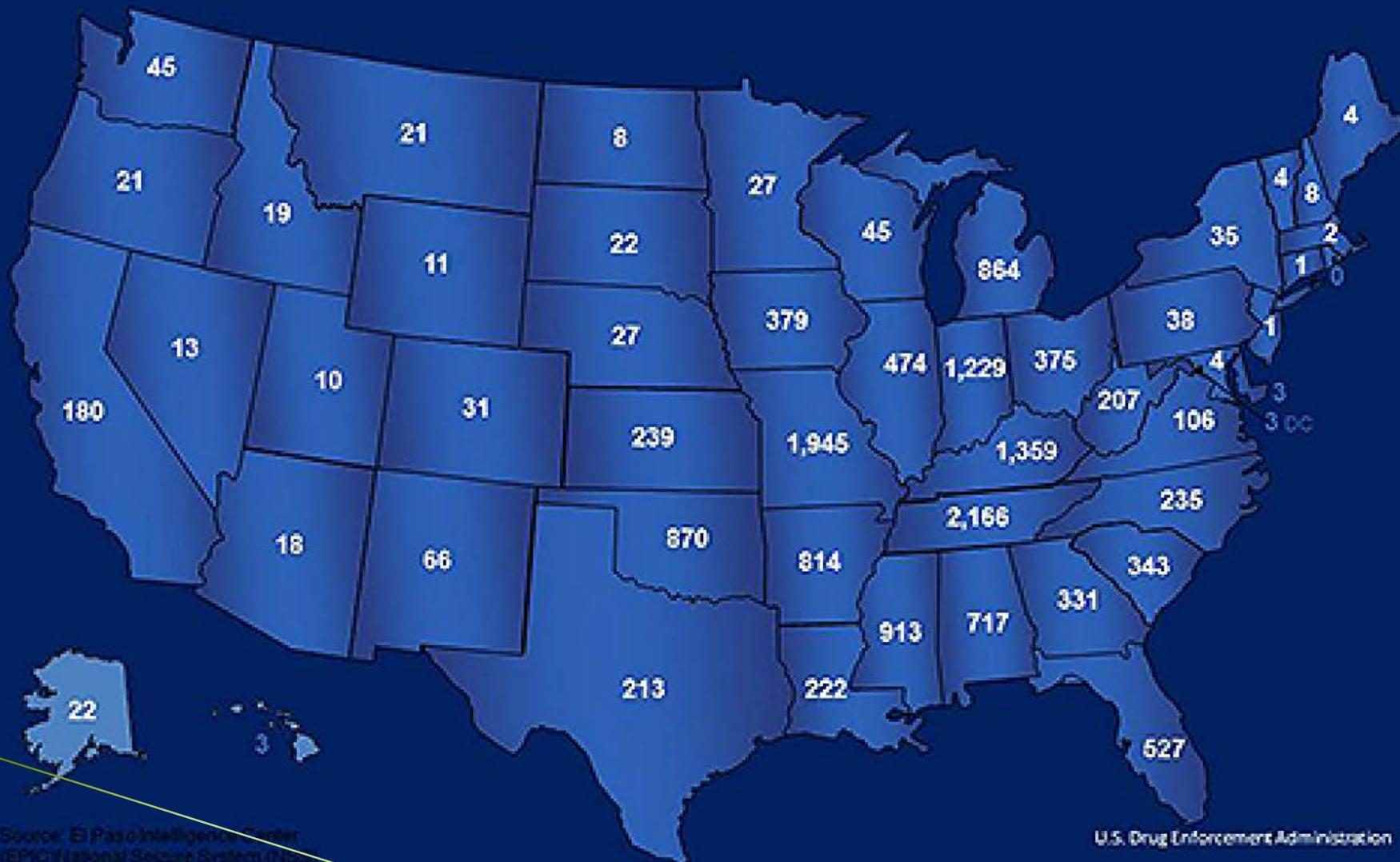
Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC)/National Seizure System (NSS)
Query Date January 29, 2013

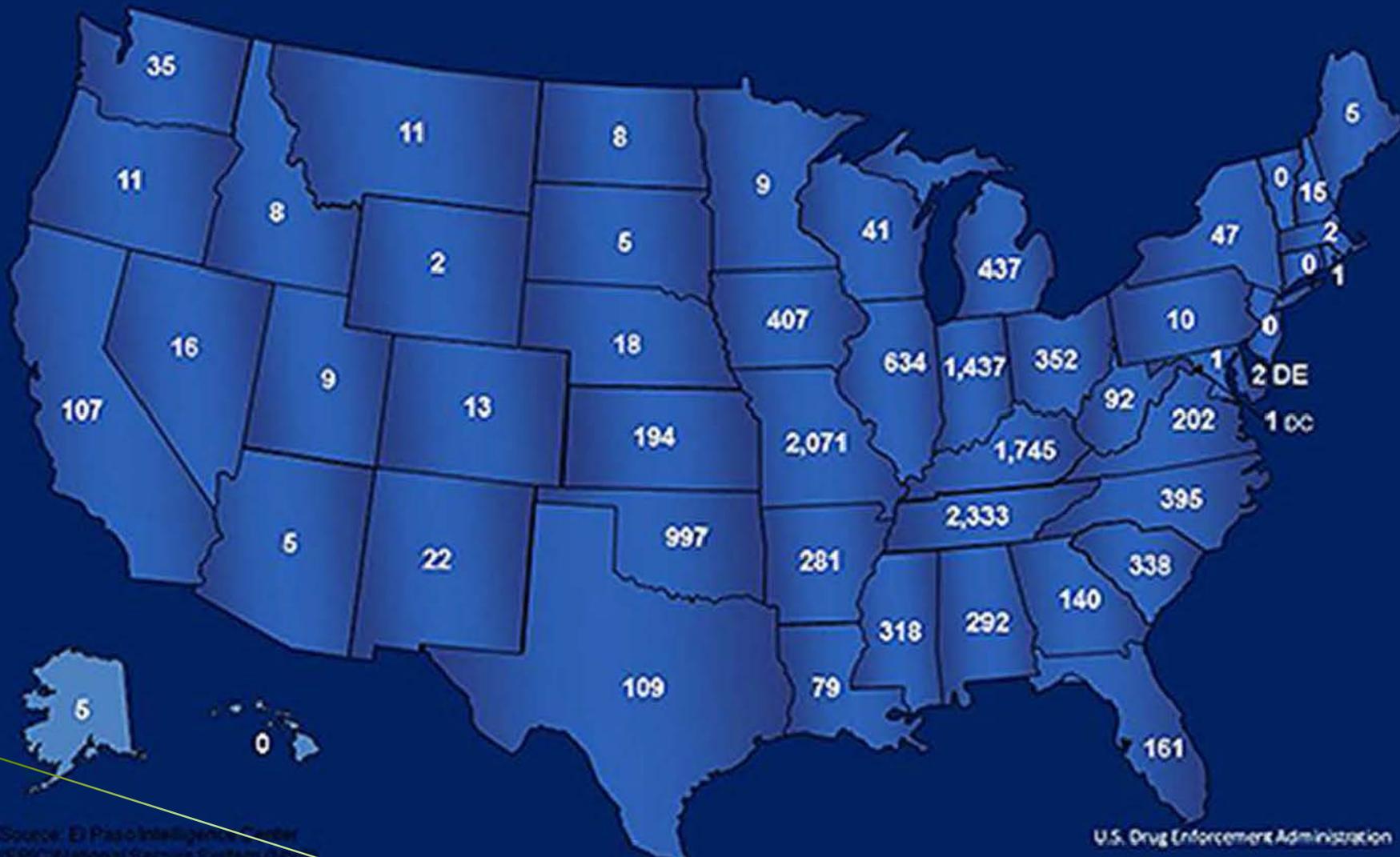
Calendar Year 2010
Total: 15,220

Total of All Meth Clandestine Laboratory Incidents Including Labs, Dumpsites, Chem/Glass/Equipment



Calendar Year 2011
Total: 13,423

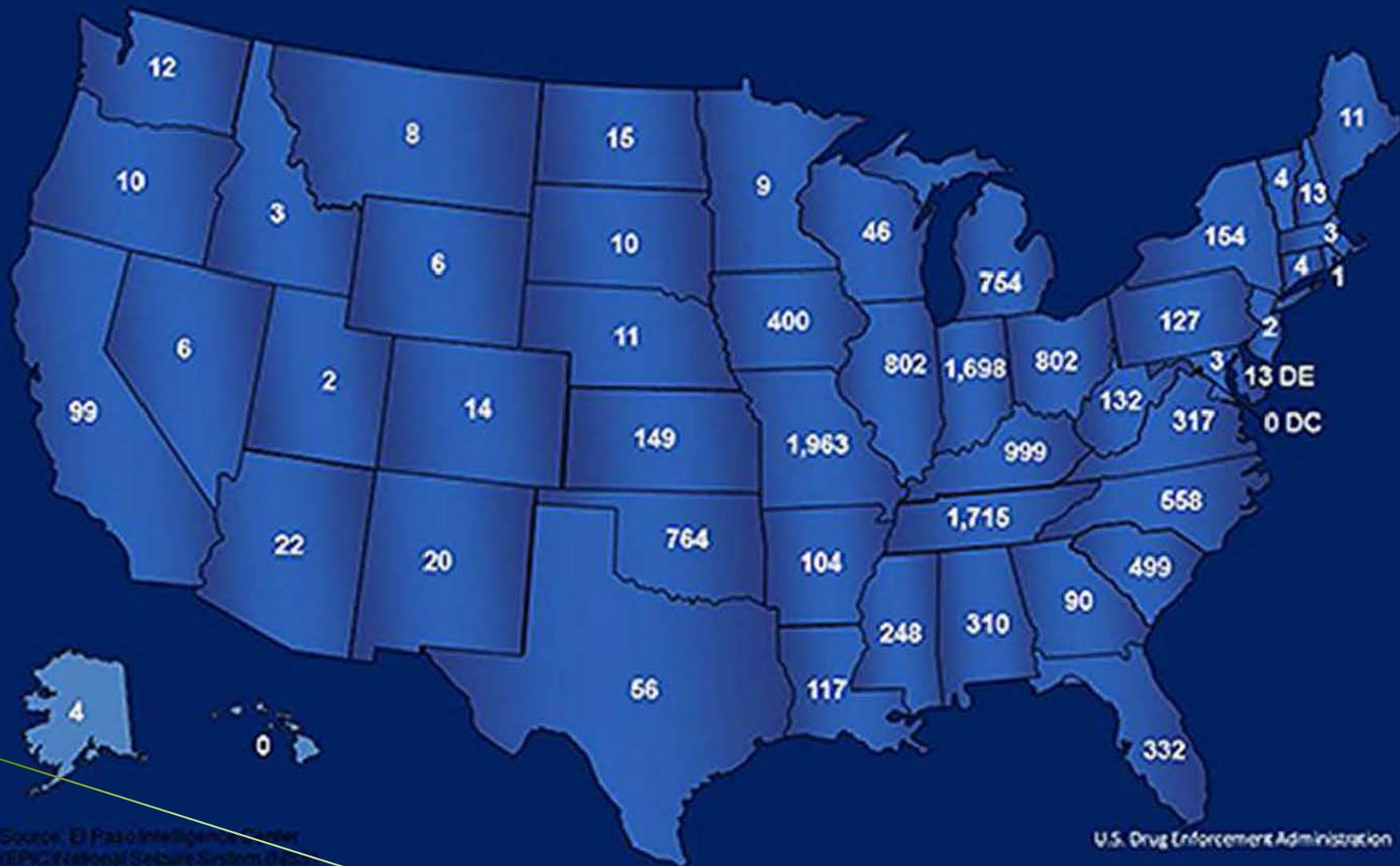
Total of All Meth Clandestine Laboratory Incidents Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC) National Secure System (NSS)

Calendar Year 2012
Total: 13,441

Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment

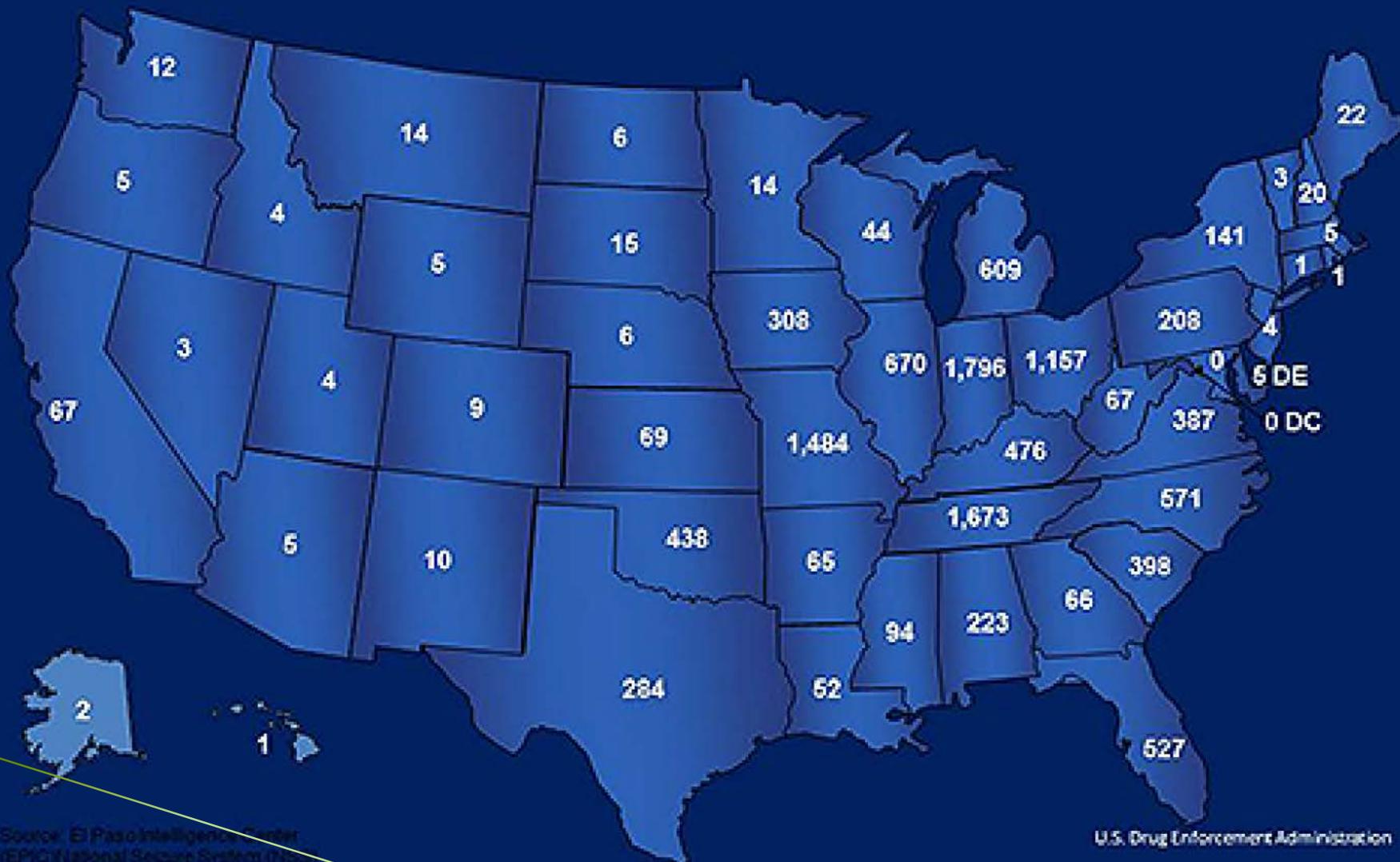


Source: El Paso Intelligence Center
(EPIC/National Secure System (NSS))

U.S. Drug Enforcement Administration

Calendar Year 2013
Total: 12,050

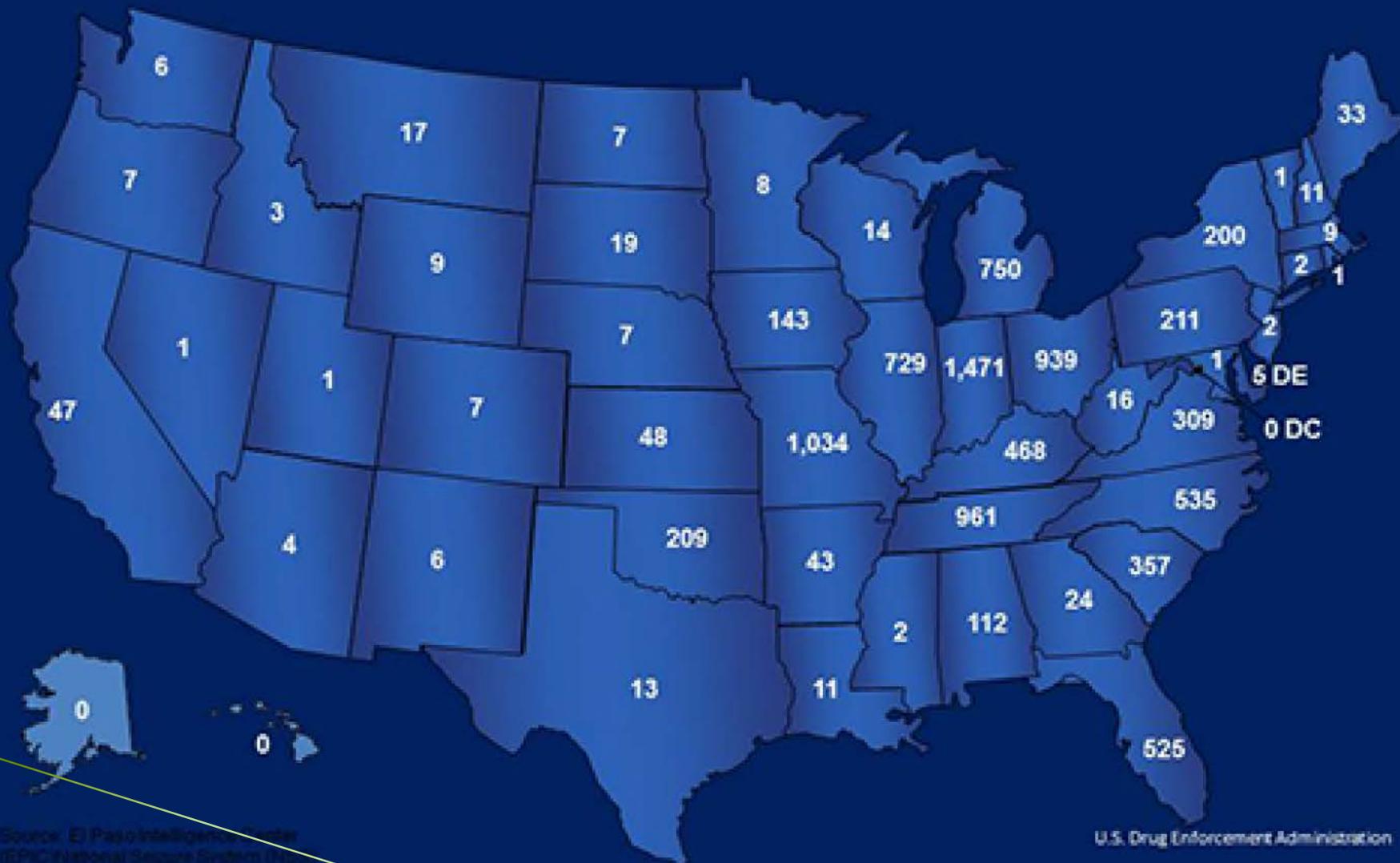
Total of All Meth Clandestine Laboratory Incidents Including Labs, Dumpsites, Chem/Glass/Equipment



Source: El Paso Intelligence Center
(EPIC)/National Secure System (NSS)

Calendar Year 2014
Total: 9,338

Total of All Meth Clandestine Laboratory Incidents
Including Labs, Dumpsites, Chem/Glass/Equipment



Center for Disease Control and Prevention

2016				
Kentucky Mortality Data	Deaths	Rate**	U.S. Deaths	U.S. Rate***
Firearm Deaths	772	17.5	38,658	11.8
Homicide	302	7.2	19,103	6.1
Drug Overdose Deaths	1,419	33.5	63,632	19.8
2015				
Kentucky Mortality Data	Deaths	Rate**	U.S. Deaths	U.S. Rate***
Firearm Deaths	694	15.2	36,252	11.1
Homicide	250	5.8	17,793	5.7
Drug Poisoning Deaths	1,273	29.9	52,404	16.3
2014				
Kentucky Mortality Data	Deaths	Rate**	U.S. Deaths	U.S. Rate***
Firearm Deaths	634	13.9	33,594	10.3
Homicide	203	4.7	15,872	5.1
Drug Poisoning Deaths	1,077	24.7	47,055	14.7
** Rates for the U.S. include the District of Columbia and (for births) U.S. territories. Refer to notes in publication tables for more detail.				
*** Death rates are age-adjusted. Refer to source notes below for more detail.				

Clandestine Laboratories

Known Types of Clandestine Labs

- Production of Methamphetamines
- Production of Fentanyl Analogs
- Production of Spice
- Production/Extraction of THC Oils
- Synthesis of Bath Salts/Flakka
- Counterfeit Pill Production

Typical of many Clan Labs



Cleanliness is not a Priority

- Hazards exist in the products used
- The way they are handled
- The manner in which they are stored
- The residue left from the process
- The general manner in which the producer leaves the location



Photo Courtesy of DEA

Officer/Responder Safety is Paramount

- **The first responders who have to deal with the tear-down, evidence collection, clean-up and securing of the locations face many hazards**
- **The aftermath of a clan lab can affect inhabitants for many months or years**
- **Mitigation procedures may include a total rehab of the property depending on the severity of the contamination**

Dangers Caused by Clandestine Labs

Physical Injury

Mixing chemicals in clan drug labs creates substantial risks of **explosions**, **fires**, **chemical burns**, and **toxic fume** inhalation. These risks not only apply to the people running the lab, but also neighbors, emergency first responders (law enforcement and fire), and hazardous materials clean up crews.

Production of Methamphetamines

- **Primary types of processes used:**

Hydriodic acid/red phosphorus process

Birch - Nazi method

Iodine/hypophosphorous acid method

P2P method

- **Single Pot Method:**

Two liter or 16 oz. bottles are often used, my observations have often times noticed “Mountain Dew” bottles being used.



Photos Courtesy of DEA

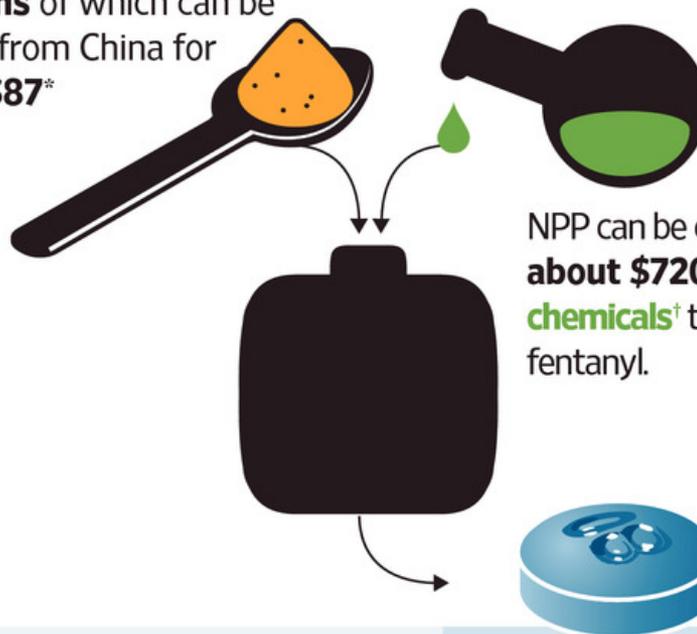
Production of Fentanyl Analogs

- **Raw materials acquired from other Countries due to little or no regulation on the sale or distribution of the products.**
- **Materials combined, distilled or mixed and then pressed into counterfeit pills or cut with Heroin to extend the amount of product and boost the potency of the reduced amount of Heroin. The problem for the end user is one of lack of quality control.**
- **By manipulating the mixture of materials the producer can alter the affects and then his customer base expands as people hear how good his drugs are.**

Criminal Chemistry

Traffickers manufacturing fentanyl often purchase the key ingredient from China, which doesn't regulate its sale. Here's how the chemical building blocks become a highly profitable street drug.

The key ingredient is **NPP**, **25 grams** of which can be bought from China for **about \$87***



NPP can be combined with **about \$720** of **other chemicals†** to produce fentanyl.

The resulting 25 grams of fentanyl cost about \$810 to produce...

...and are equivalent to up to \$800,000 of pills on the black market.

*Average current price from Chinese suppliers

†Prices from U.S. suppliers

Sources: NES Inc.; Drug Enforcement Administration; Calgary Police

THE WALL STREET JOURNAL.

Production of Spice

- **Synthetic marijuana or synthetic cannabis typically refers to run-of-the-mill herbs that have been sprayed with designer drugs known as synthetic cannabinoid receptor agonists. These are often sold as “herbal incense” or “spice,” and although they’re labeled as “not for human consumption,” people often smoke them to get high.**
- **The synthetic cannabinoids are usually analogs of banned substances, and even though such analogs are technically illegal, it’s tough for analytical chemists in law enforcement to keep up with the dozens of new versions that synthetic chemists churn out each month.**



Production/Extraction of THC Oils

- **CO₂ extraction.** The supercritical (or subcritical) CO₂ method uses carbon dioxide under high pressure and extremely low temperatures to isolate, preserve, and maintain the purity of the medicinal oil. This process requires expensive equipment and a steep operational learning curve. But, when done well the end product is safe, potent, and free of chlorophyll.
- **Ethanol.** High-grade grain alcohol can be used to create high-quality cannabis oil appropriate for vape pen cartridges and other products. But this extraction method destroys the plant waxes, which may have health benefits that are favored by some product-makers.
- **Olive oil.** Extra virgin or otherwise, olive oil can also be used to extract cannabis oil.

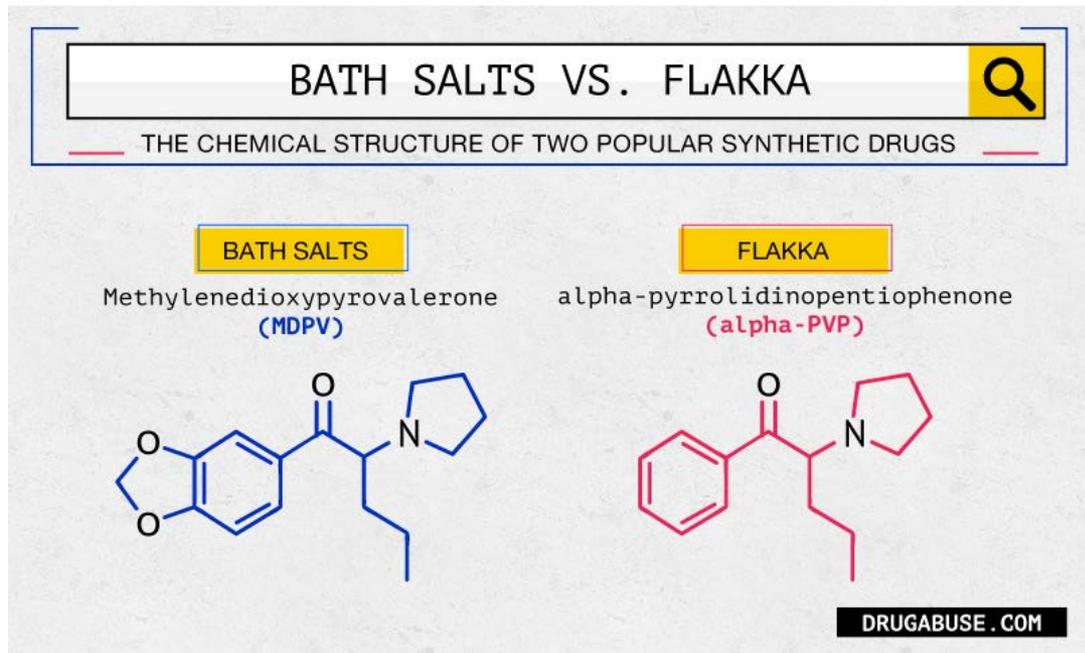
Dr. Arno Hazekamp, director of phytochemical research at Bedrocan BV, which supplies medical cannabis for the Dutch Health Ministry, reports this method is both safe and inexpensive, “You won’t blow yourself up making cannabis-infused olive oil.” However, cannabis-infused olive oil -whether CBD-rich or THC-dominant- is perishable and should be stored in a cool, dark place.



Photo Courtesy of DEA

Synthesis of Bath Salts/Flakka

- Synthetics are a group of potent manmade substances that are designed to give users particular kinds of “highs.” Known by street names such as “Meow Meow,” “Flakka,” and “Arctic Blast,” they are addictive, dangerous drugs, generally made in unregulated foreign factories. The U.S. government bans the sale of many specific synthetic drugs.
- The results are untested mixtures of chemicals that interact in users’ brains in highly unpredictable and sometimes deadly ways. Users have no way of knowing what is in a dose and what its effects will be.



Source - <https://www.phoenixhouse.org>



Source - <https://www.solutions-recovery.com>



Source - <https://www.dea.gov>

Synthesis of Bath Salts/Flakka

- The producers even use a play on words to market their products.



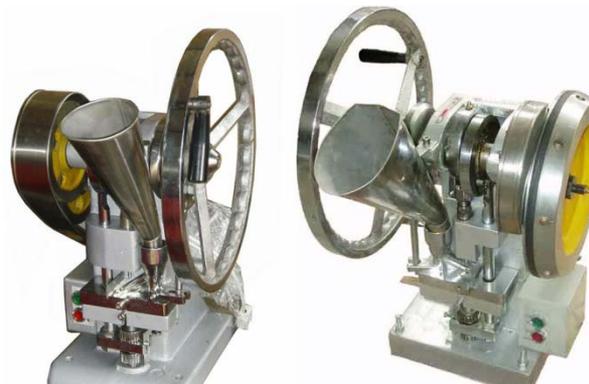
Counterfeit Pill Production

- **Nearly impossible to tell if a pill is real or counterfeit in the field.**
- **Pill presses may be overlooked by first responders.**
- **Never assume it's safe to handle without proper PPE. Many pills contain or are entirely Fentanyl and simply holding in your unprotected hand can cause an unwanted exposure and potential medical emergency.**



Counterfeit Pill Production

- Dies are meticulously made by counterfeit producers to attempt to conceal the fact the pill is a fake or not an original product.
- Color and finish are also replicated to the point the pills look real. The counterfeiters use items like white glue mixed with water to dip the counterfeit pills into before letting them dry to give them a finished sheen like that of the real thing.
- Counterfeit pills even contain mixtures of baby powder or other substances like children's drive-way chalk to mimic the colors of some pills.



Photos Courtesy of DEA

Types of Club Drugs and Their Effects

- **Associated with “Date Rape” complaints more than any other drugs.**
- **Have been found as counterfeit pills containing Fentanyl or other inert powders compressed into pills and sold as the real item to unsuspecting buyers.**
- **Trustees of modern chemistry often test these on unsuspecting friends to determine the strength or effects.**

- ▶ **GHB (liquid X)** is a depressant that comes as a clear liquid or powder, which dissolves easily in liquids and is virtually tasteless. GHB sedates the body and can create feelings of euphoria. It can also slow breathing and the heart rate to dangerously low levels. In high doses, it can quickly cause an overdose, coma, or death. GHB and the club drug Rohypnol are considered “date rape drugs” because they are used to facilitate sexual assault.
- ▶ **Ketamine (special K)** is an anesthetic typically used on animals. It is packaged as a white powder and is either snorted or injected. Ketamine distorts perceptions of sight and sounds and produces feelings of detachment. It can cause confusion, memory loss, agitation, psychosis, and elevated blood pressure. Regular use of ketamine can also severely and permanently damage the bladder’s ability to function effectively.
- ▶ **MDMA (ecstasy, Molly)** is a psychoactive drug with amphetamine-like and hallucinogenic properties usually taken orally as a pill, tablet, or capsule. It can cause potentially dangerous physical effects, such as the inability to regulate body temperature, extreme nausea, a rise in heart rate and blood pressure, and death.
- ▶ **Rohypnol (roofies)** is an illegal benzodiazepine (a tranquilizer that has sleep-inducing, muscle-relaxing properties). It comes as a white pill that may have a pink or brownish tinge. Rohypnol can impair attention, motor function, and memory. It can also cause confusion, loss of coordination, visual disturbances, nausea, and decreased blood pressure. Like GHB, it dissolves easily in carbonated drinks and is used to facilitate sexual assault.

Incredibly Powerful:

To rate their comparative strengths, opioids (synthetic opiates) and heroin are compared to morphine which is rated a 1 of strength. Methadone is 3 to 4 times as strong, and heroin is typically 4 to 5 times as strong. Fentanyl is 10 to 100 times as strong and *Carfentanil is 10,000 to 100,000 times as strong.*

Finding these powerful chemicals mixed with heroin has meant death for hundreds of people in the last few years. **It only takes two (2) milligrams of fentanyl to kill a person who is not used to consuming opioids.** Using heroin is dangerous enough – when heroin supplies have one of these powerful painkillers mixed in, being addicted is far more dangerous than it normally is.

In early 2016, three people in one Oklahoma household lost their lives to heroin that had fentanyl mixed in. The medical examiner for Oklahoma reported that fentanyl killed 47 Oklahomans from the summer of 2015 summer to February 2016. Carfentanil has recently been involved in hundreds of overdoses in New Jersey, West Virginia, Ohio and Kentucky. Because of the antidote naloxone, only a few people have died.

Decontamination Procedures

- **Decontamination is the process of removing contaminants from your skin, clothing or uniform.**
- **Dry decon is the most effective for powders and dusts, however wet decon may have to be employed.**
- **Duct tape wrapped backwards around your gloved hand is the most effective means to remove loose powders.**
- **Be aware that many narcotic powders are extremely hydrophobic. They will become aerosolized when sprayed rather than becoming wet and sticking together or absorbing the water-spray.**

Decontamination continued...

- NOTE: Any personnel exposed to a suspected fentanyl substance as noted above should be carefully monitored by EMS personnel for any signs of opioid exposure.
- **DO NOT** use hand sanitizer. Hand sanitizers that contain alcohol, a skin penetrant, which may increase the absorption of fentanyl through the skin.

Decontamination continued...

➤ **Universal Precautions:**

Due to the hazardous nature of fentanyl, law enforcement personnel should notify any concerned parties of the fact that a clandestine drug laboratory or pill milling site may pose a significant health hazard and prominently display the appropriate warning sign at the site following the identification and/or seizure of a clandestine laboratory or pill milling operation involving fentanyl, fentanyl related substances, or synthetic opioids.

Exposure Risks and Treatment

- Exposure – Fentanyl can be ingested or inhaled through the nose or mouth, or absorbed through the skin or eyes.
- Symptoms – Respiratory depression, drowsiness, sedation, disorientation, pinpoint pupils and clammy skin.
- Immediate Action – Move to fresh air, wash exposed area immediately with soap and water.
- Medical Intervention – Seek medical attention, monitor victim, be prepared to administer Naloxone.

DEA Roll Call Video

- ▶ Fentanyl – A Real Threat to Law Enforcement



End of Module

Any Questions?



This presentation of the OAI HWWT Programs was supported by the National Institute of Environmental Health Sciences of the National Institutes of Health under Award Number U45ES007850. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.”