

The Walking Drugged



Kirk Hughes RN, EMT, CSPI

Costs of Substance Abuse

Abuse of tobacco, alcohol, and illicit drugs is costly to our Nation, exacting more than \$700 billion annually in costs related to crime, lost work productivity and health care.**

	Health Care	Overall
Tobacco	\$130 billion	\$295 billion
Alcohol	\$25 billion	\$224 billion
Illicit Drugs	\$11 billion	\$193 billion

- 50 Years of Progress. A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
- Centers for Disease Control and Prevention. Excessive Drinking Costs U.S. \$223.5 Billion. Accessed March 9, 2015.
 - National Drug Intelligence Center. National Drug Threat Assessment.

Chanhassen Class of 2016

2013 Dylan Turcotte: Heroin

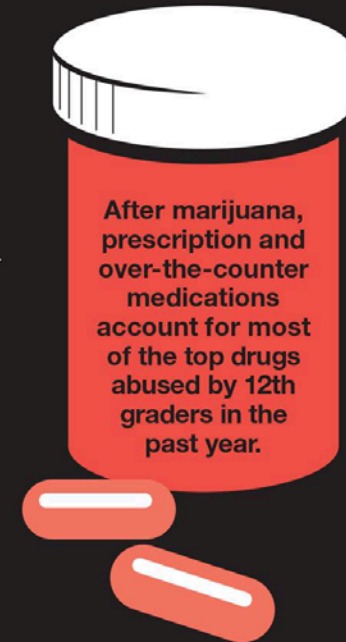
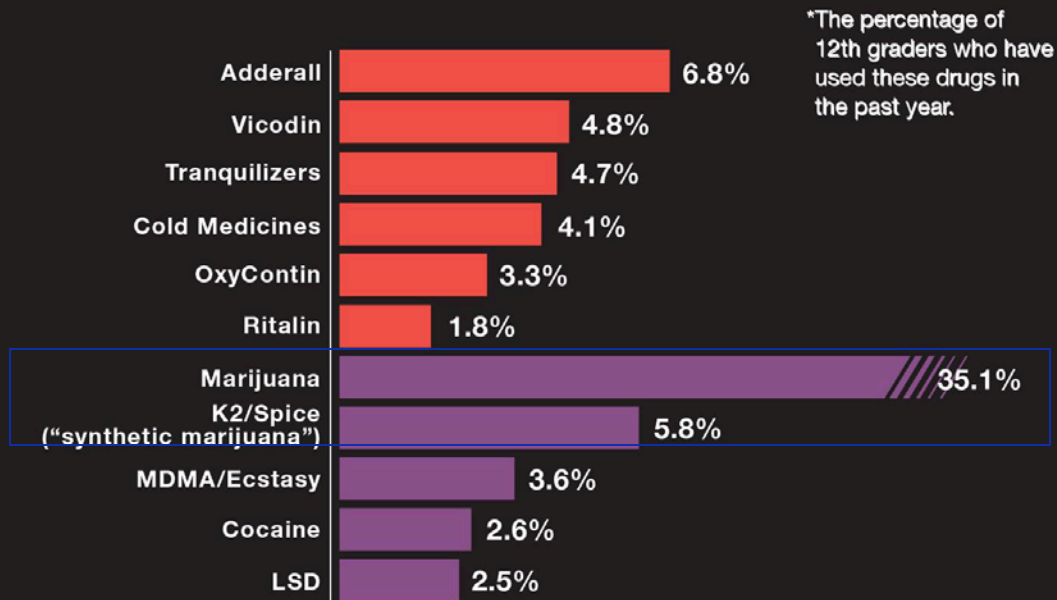
2014 Macalob Bartram:
Heroin

2015 Alex Snyder: DTP?
Synthetic

2014 Carver County, Davis
Colley: Synthetic
cannabinoid contributed



PRESCRIPTION/OVER-THE-COUNTER VS. ILLICIT DRUGS*



PRESCRIPTION



ILLICIT DRUGS

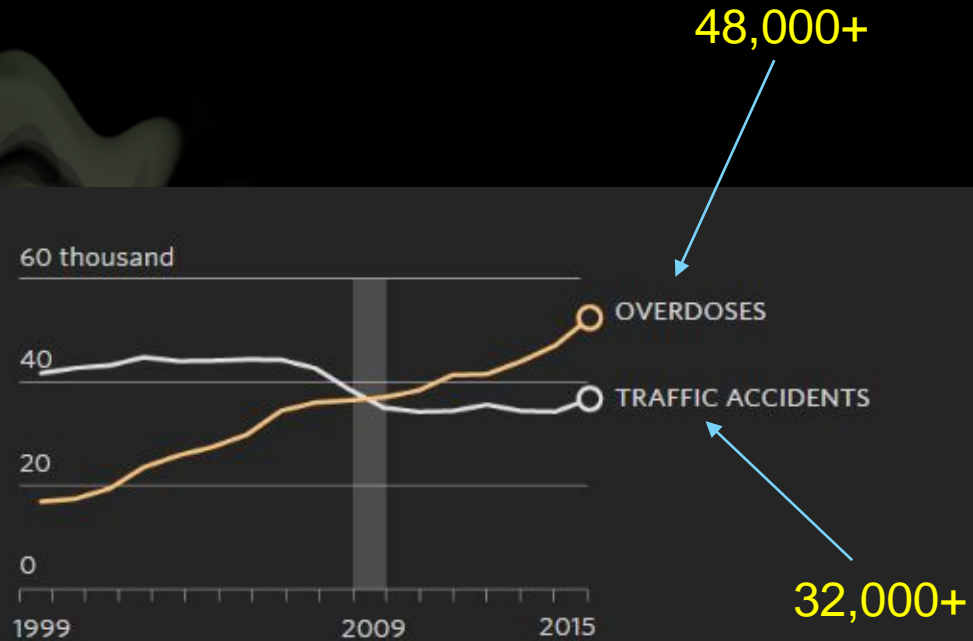


National Institute
on Drug Abuse

The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found at www.drugabuse.gov.

Scope of the Problem

Yearly deaths from all drug-related overdoses vs. traffic accidents



OD Fatalities in MN

MDH Report

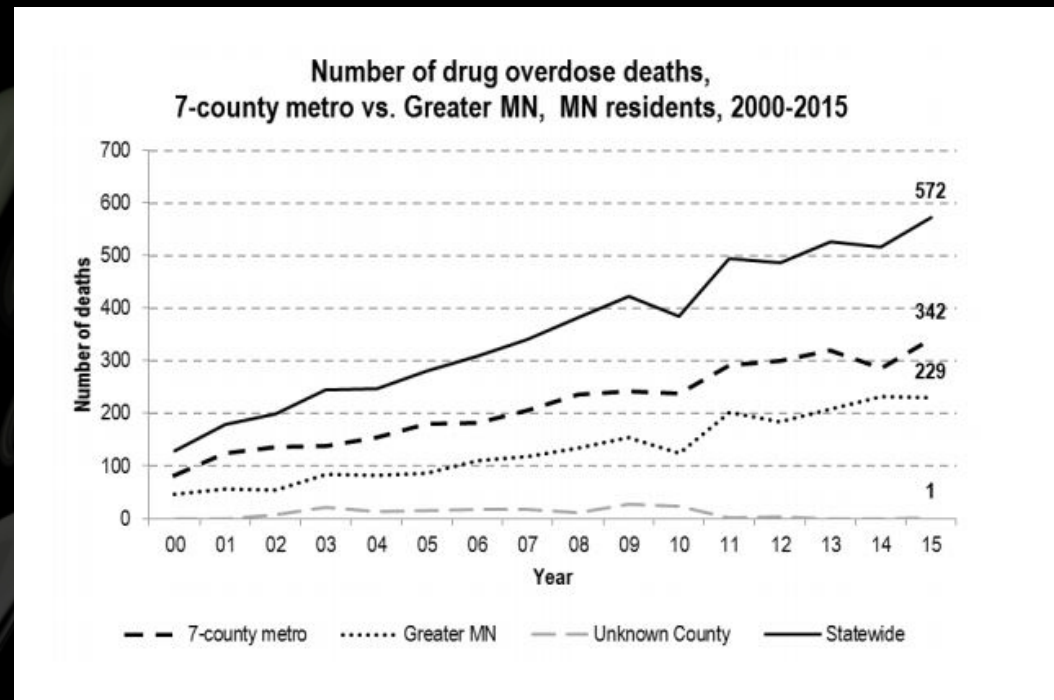
MN 2015

572 Died from OD

411 Died from MVC

Since 2000

~ 5000 died from OD



The Smoking Gun

HEROIN VS GUN DEATHS IN 2015

Heroin Deaths - 12,989

Gun Deaths - 12,979

CDC; THE WASHINGTON POST

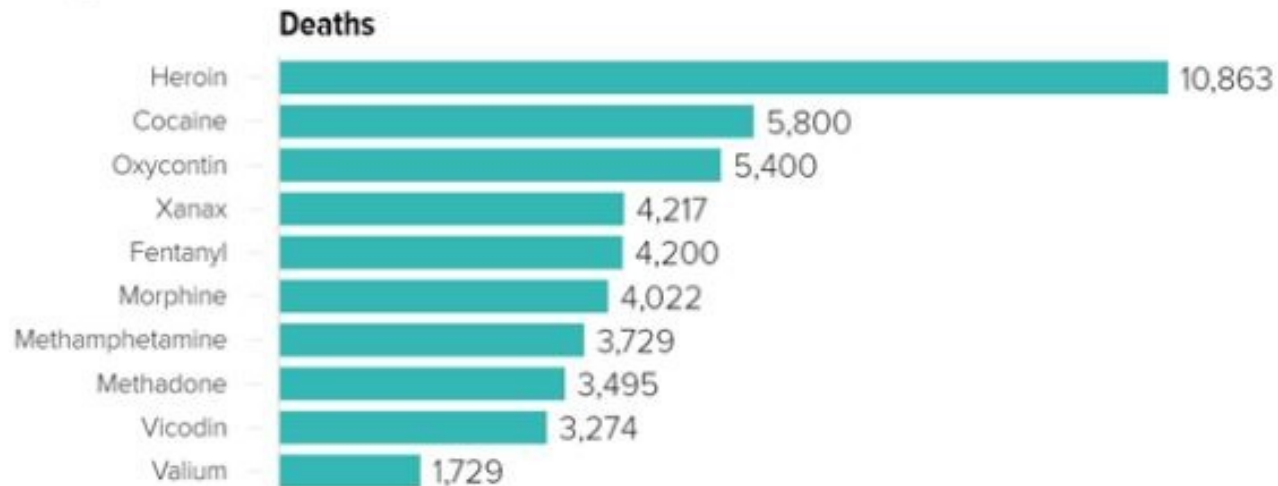
2014 Drug OD Deaths

2010 & 2011 Oxycodone was at the top

2012 Heroin surpassed Oxycodone

Source of Info is Death Certificates.

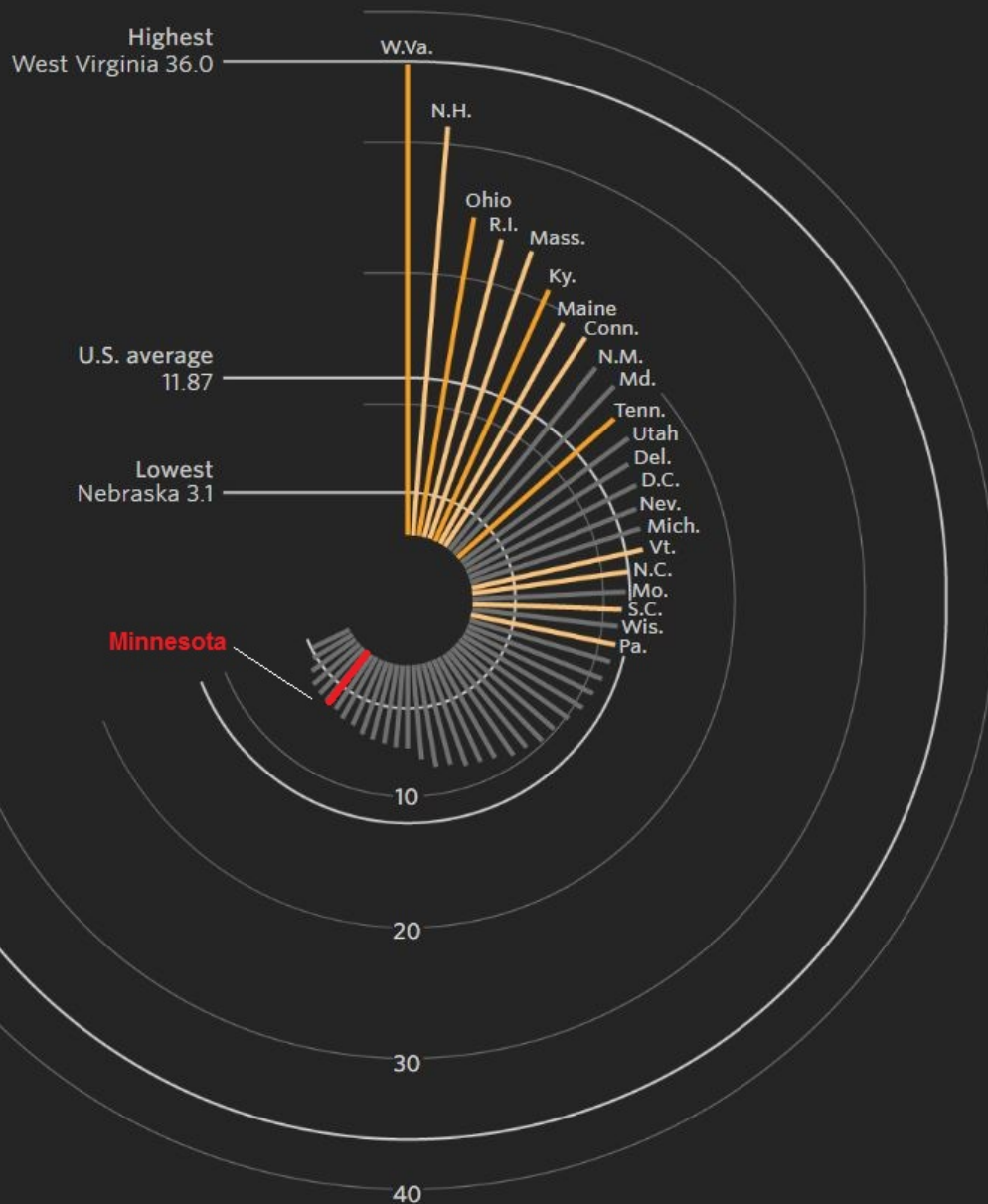
Drug Overdose Deaths in 2014



National Center for Health Statistics

Opioid death rate for every 100,000 by state (2015)

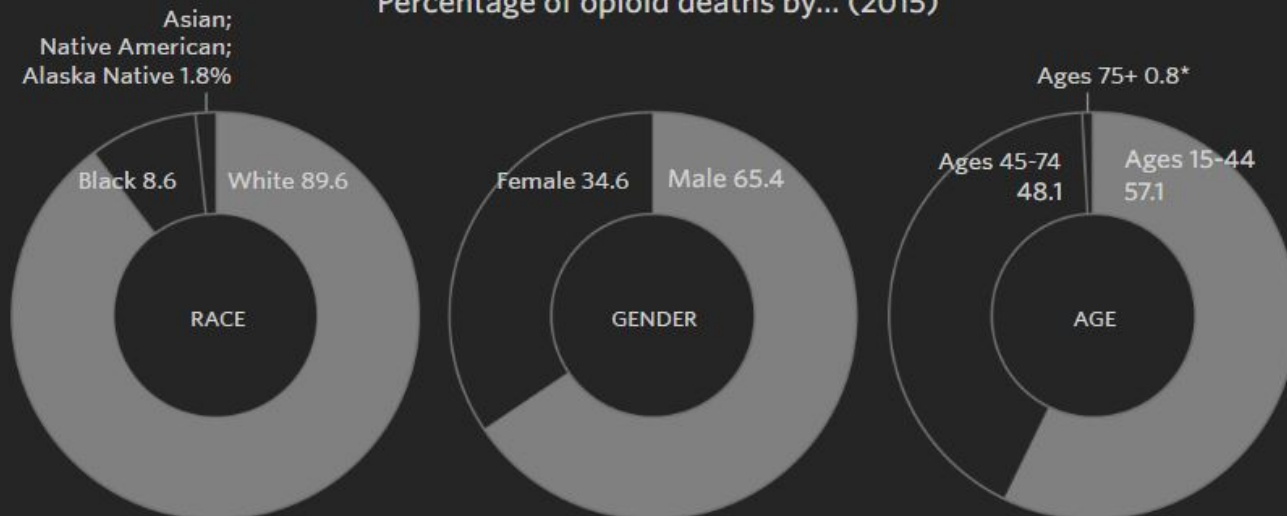
APPALACHIA NORTHEAST



The Face of Opioid OD

The typical victim of opioid overdose is young, white and male.

Percentage of opioid deaths by... (2015)



*Includes ages "not stated" Note: The CDC notes that a person can have multiple causes of death, therefore the total number of deaths per drug may exceed the actual number of dead persons in the selected population. Data may not equal 100 due to rounding. Ages 14 and younger not charted amounted to 0.3%



Over
249,000,000

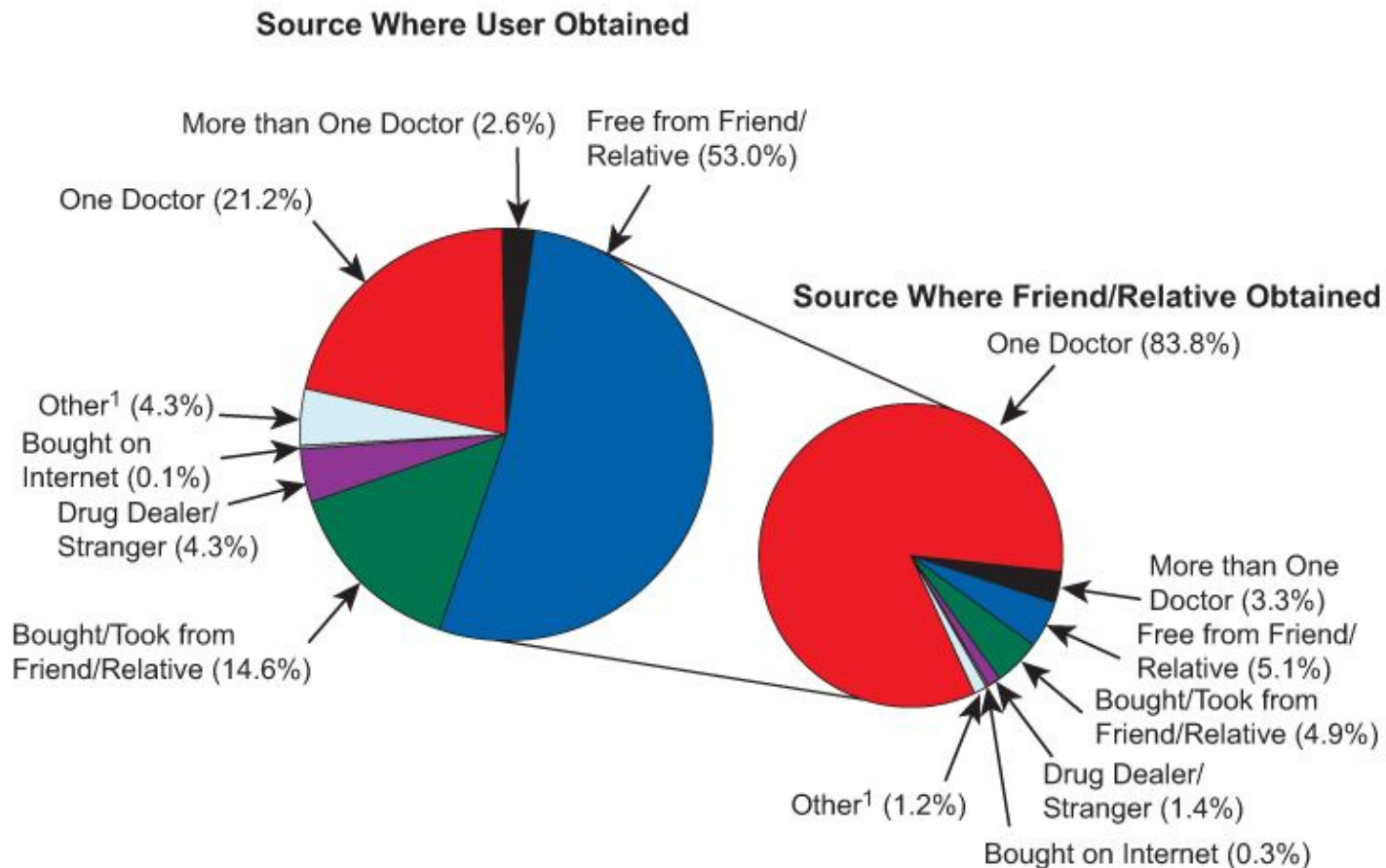
prescriptions for opioids were
written in 2013— enough for
every adult in America to have
a bottle of pills

SOURCE: CDC

TURN
THE
TIDE



Rx Pain Reliever Sources



Substance Abuse and Mental Health Services Administration, *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014.

Heroin

Bayer heroin bottle.

- From 1898 to 1910 heroin was marketed as a non-addictive morphine substitute and cough medicine for children!

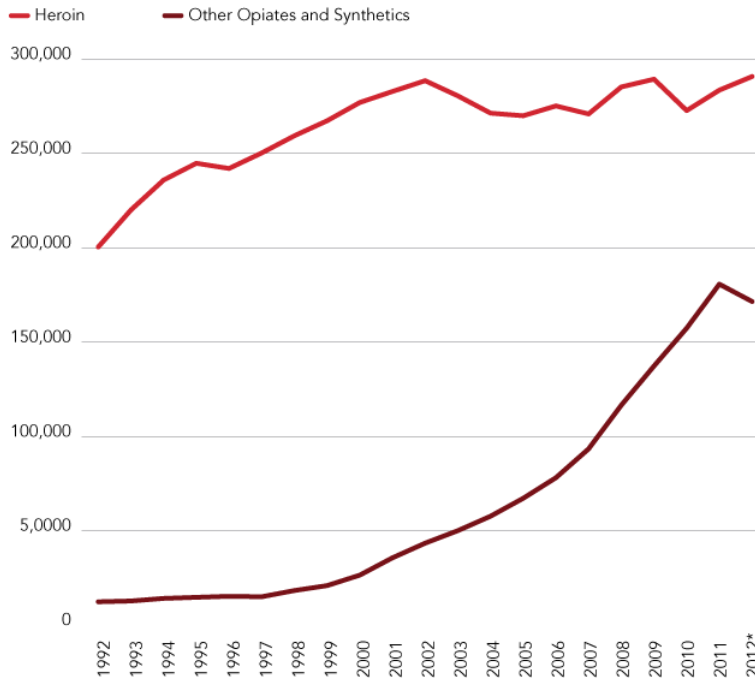


The Jump from RX Opioids to Heroin

Painkillers And The Heroin Market

A growing number of people are using heroin in recent years, in part because it can be cheaper and easier to find than opioid painkillers purchased on the black market. Most heroin users were first hooked on prescription opioids, which generated \$11 billion in 2010 for the pharmaceutical industry.

Substance abuse treatment facilities admissions by primary drug



*2012 data for Mississippi, Pennsylvania, and West Virginia are not available.

4 out of 5

new heroin users have abused painkillers.

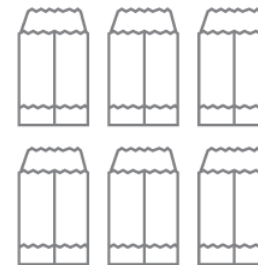


A Cheaper High

\$30 can buy one oxycodone pill on the street in New York...



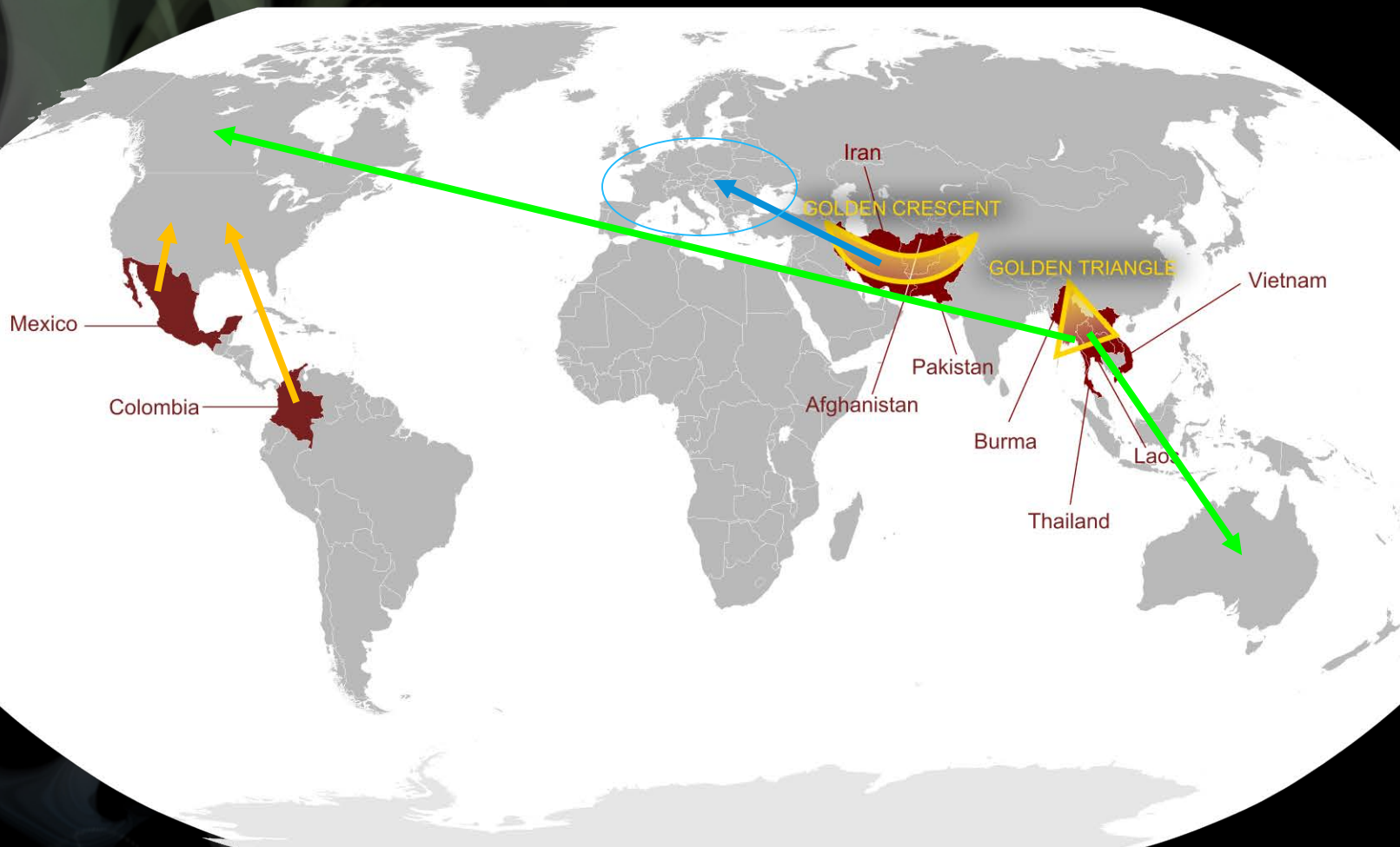
or six hits of heroin.



Ohio 9/16/16 Heroin OD



Global Heroin Source and Distribution*

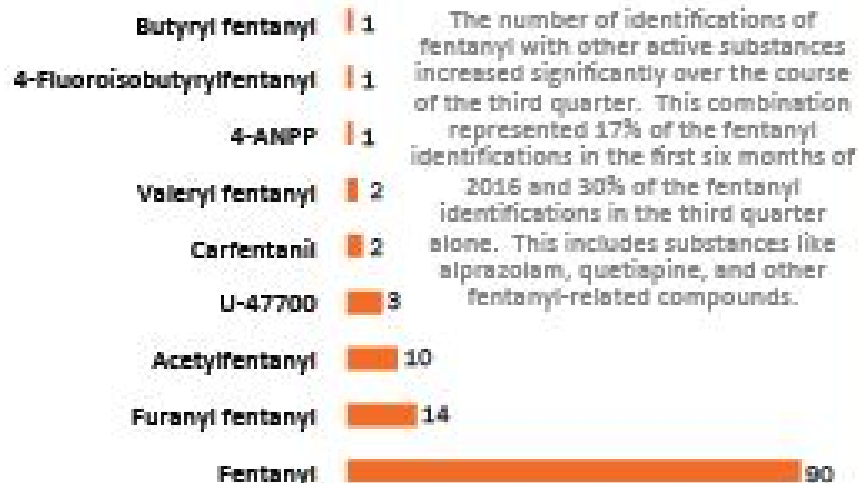




Novel Synthetic Opioids

OPIOIDS/ ANALGESICS

FENTANYL ACCOUNTED FOR APPROXIMATELY **70%** OF THE OPIOID IDENTIFICATIONS. OF THE **90** IDENTIFICATIONS, FENTANYL WAS FOUND AS THE ONLY CONTROLLED SUBSTANCE IN **30%** OF THE IDENTIFICATIONS AND WITH HEROIN IN **40%** OF THE IDENTIFICATIONS. Furanyl fentanyl was the next most prominent opioid identified, accounting for approximately **10%** of the identifications. Furanyl fentanyl was the only active substance reported in **50%** of these identifications.



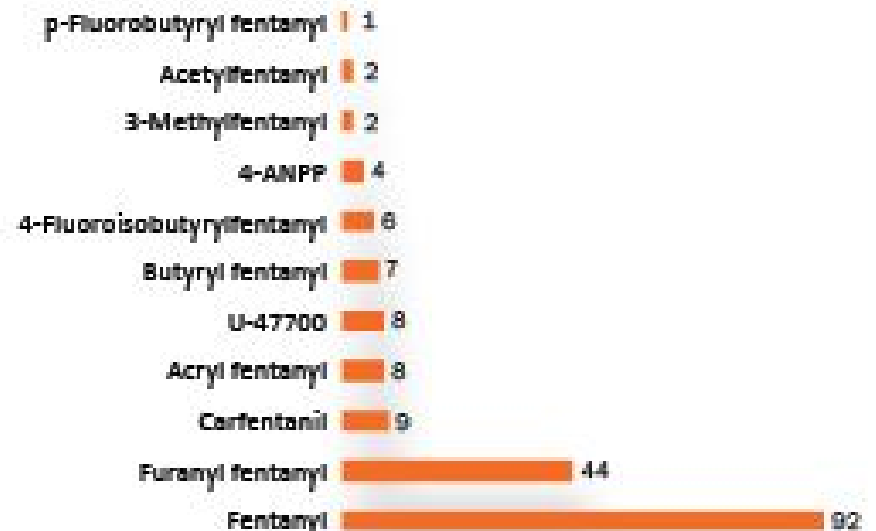
The number of identifications of fentanyl with other active substances increased significantly over the course of the third quarter. This combination represented 17% of the fentanyl identifications in the first six months of 2016 and 30% of the fentanyl identifications in the third quarter alone. This includes substances like alprazolam, quetiapine, and other fentanyl-related compounds.

OPIOIDS/ ANALGESICS

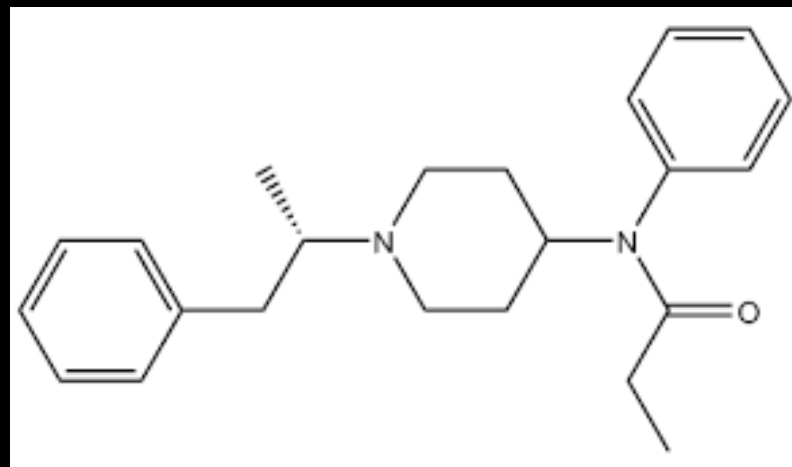
FENTANYL ACCOUNTED FOR **50%** OF THE IDENTIFICATIONS. THE NEXT MOST PROMINENT FENTANYL-RELATED SUBSTANCE, FURANYL FENTANYL, ACCOUNTED FOR **24%** OF THE IDENTIFICATIONS.

ACRYL FENTANYL AND P-FLUOROBUTYRYLFENTANYL WERE REPORTED FOR THE FIRST TIME IN THE FOURTH QUARTER OF 2016.

The relative percentage of fentanyl identifications decreased from between 65 and 70% in previous quarters to 50% due to the significant increase (300%) in furanyl fentanyl identifications during the fourth quarter.



Furranyl Fentanyl (FuF)



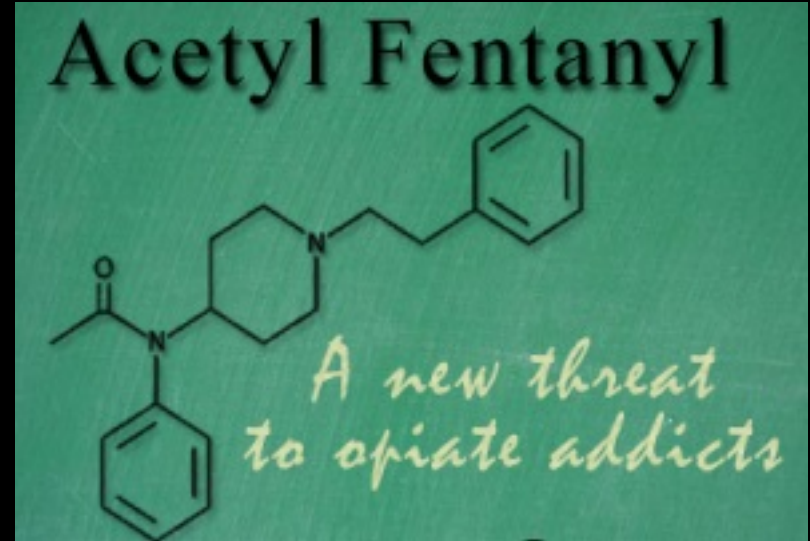
Butyrfentanyl

- Analog of Fentanyl
- $\frac{1}{4}$ the potency of Fentanyl
- Not directly scheduled in the US.
- Onset 15-30 minutes, Duration 90-180 minutes



Acetyl Fentanyl

- Analog of Fentanyl
- 5-15x more potent than Heroin
- 2013 Rhode Island = 14 deaths
- 2013 Pennsylvania = 50 deaths
- Not technically Schedule 1 in the US
- Onset 7-10 minutes, Duration 3-4 hours



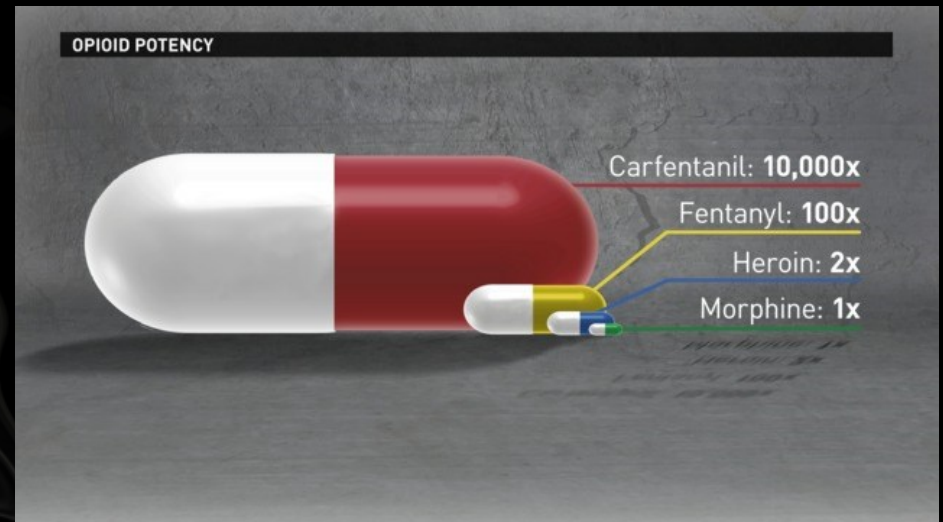
Carfentanil

- Wildnil
 - Develop by Janssen Pharmaceuticals 1974
 - Large animal anesthetic
 - 10,000 more potent than morphine
 - Used in gas form by Russians in 2002 Moscow Theater Chechen hostage crisis 40 Terrorists killed & 130 Hostages died



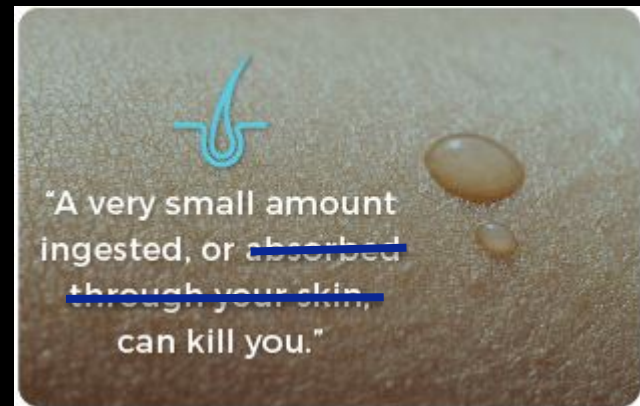
MN & Carfentanil

- 6 Deaths directly related to adulterated Heroin
- 10 more possible
- Though Potent, lethality has not been established



Urban Myths with Carfentanil

- Dermal absorption causing opioid effects
- Inhalation of small incidental amounts causing significant opioid effects



DEA Quote

Oxycodone with “Pinky”

Research Chemical U-47700 in Counterfeit Oxycodone Pills

In March 2016, law enforcement officers in Lorain County, Ohio, seized 500 pills that visually appeared to be oxycodone. The pills were blue and had “A 215” markings, consistent with 30 milligram oxycodone pills (see Figure 5). Laboratory analysis indicated that the pills did not contain oxycodone, but were instead the research chemical U-47700.¹⁹ U-47700 is an unscheduled synthetic opioid not studied for human use that has caused at least 17 overdoses and several deaths in the United States. Although counterfeit opioid pill traffickers currently use fentanyl, it is likely that other synthetic opioids will be utilized if fentanyl becomes inaccessible, or if market preferences shift to other substances.

Figure 5: Counterfeit Oxycodone Pills Containing U-47700.



Source: Lorain County, Ohio, Sheriff's Office

Fentanyl Deaths Double from 2013-2014

2013: 1,905 (6 per Million)

2014: 4,200 (13 per Million)



CDC Reports Increase in Fentanyl adulterated Opiates

- 2013-2014
- 426% Increase of seized Drugs testing (+) for fentanyl
- Data from 27 states
- Increase in number of deaths from Fentanyl & Synthetic opioids 79%
- No increase in Rx of Fentanyl during this period



Why Fentanyl Laced Heroin?

- Longer more potent high
 - Heroin is more euphoric, but has short $\frac{1}{2}$ life.
 - Fentanyl = longer $\frac{1}{2}$ life and in combination prolongs high
- Cheaper
 - 1 kilo of Heroin ~ \$35K
 - 1 kilo of Fentanyl ~3.5K



Gray Death

- New Street Slang a Mixture of any of the following: Heroin, U47700, Fentanyl, Carfentanil
- Routes
 - Ingested
 - Injected
 - Smoked
 - Snorted



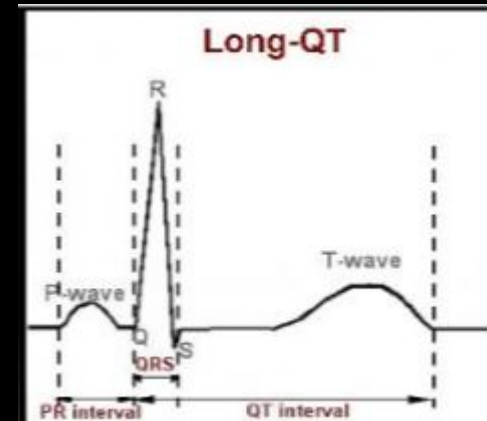
Withdrawal

- Opiate withdrawal generally not life threatening
- Can induce agitation- Safety issue for agency that cannot titrate naloxone doses



Other Trends

- Loperamide HCl
- Urban indications
 - Withdrawal
 - Abuse
- Unadvertised adverse effects
 - QRS widening/QTc Prolongation



Kratom (*Mitragyna speciosa*)

Naturally occurring. Plant is dried then smoked, chewed, or made into a Tea/Capsules

Effects dose dependent

Low Dose = Stimulant

Medium/High Dose = Opiate-like effects

No reported deaths from using only Kratom, but when mixed with OTC cold & cough meds or benzos, deaths have been reported

Withdrawal reported; No likely life threatening: Agitation, pain, insomnia, fever, diarrhea, tremors, sweating. Generally last 1-3 days

Briefly listed by DEA as "Schedule 1" in 2016, but withdrawn shortly after



Minnesota Treatment

Methadone

- 15 Clinics Statewide
- ~6000 Patients

Suboxone

- Dr can dispense after 8 hour course
- 128 Certified in MN
- Previously manage 100 Patients, now 275

Kinetics

- $\frac{1}{2}$ life of Buprenorphine = 24-48 hr
- $\frac{1}{2}$ life of Naloxone = 2-12 hours



Robotripping

- Seeking DEX (non-addictive opiate effects in high amts)
- Coricidin HBP cough and cold also has antihistamine = anticholinergic effects
- Patients act intoxicated



Toxidromes

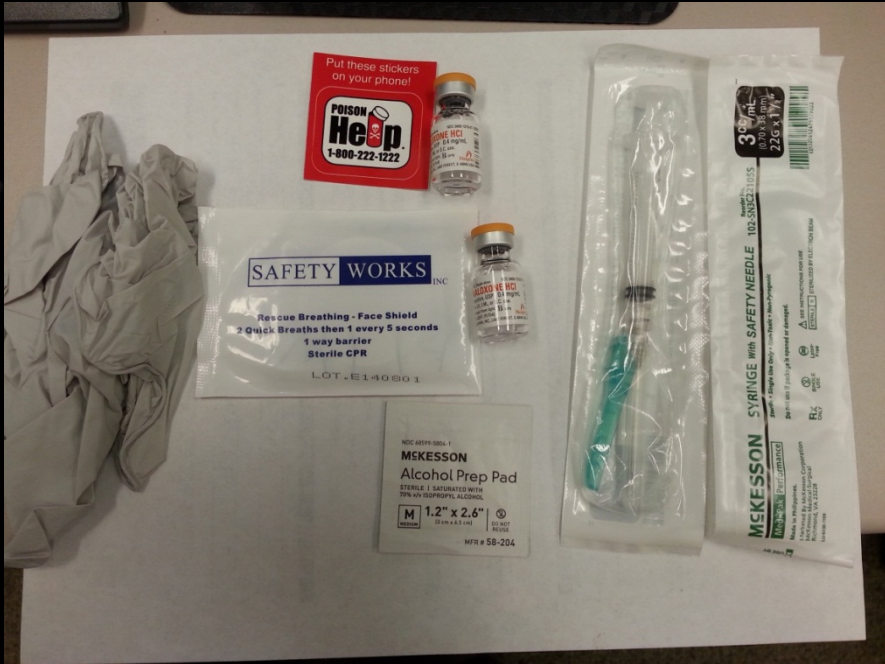
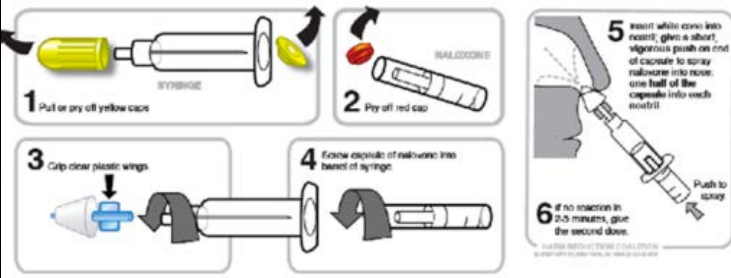


- Opioid
 - CNS depression
 - Respiratory depression
 - Miosis
 - Hypothermia

TX: Narcan

**Narcan also be effective in
Clonidine, Tramadol**

HOW TO GIVE NASAL SPRAY NARCAN





WEED.



EAT.



WEED.



LOVE.



SLEEP.



REPEAT.

WHAT WEED?



I HAVEN'T SEEN ANY WEED

MemeCarnegie.com

MJ Kinetics

Smoked



Kinetics

Onset: Seconds to Minutes

Peak Effects: 15-30

Ingested



Kinetics

Onset: 30-90 minutes

Peak: 1-6 hours*

P450
Cytochrome



11-hydroxy-
THC

**Clin Pharmacokinet* 2003;42[4]:327

147% in Peds MJ Exposures

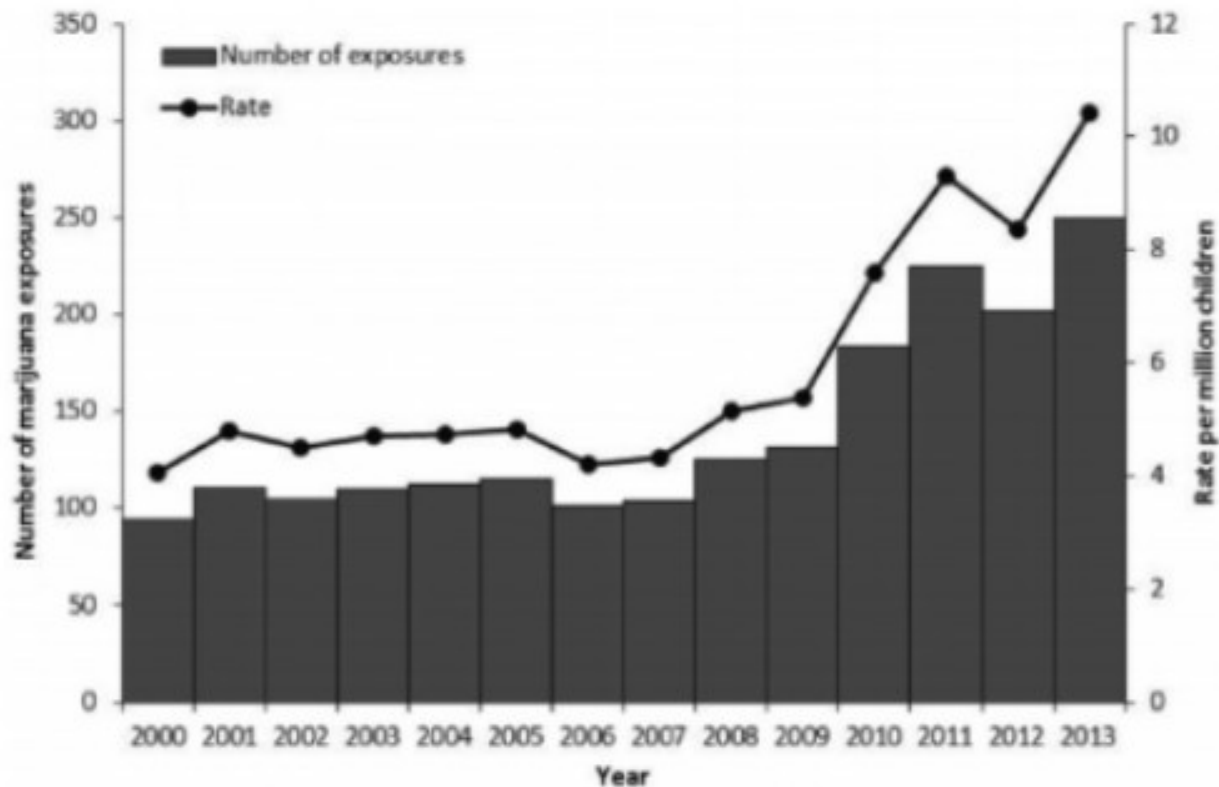


Figure 1. Annual number and rate of marijuana exposures among children younger than 6 years (National Poison Data System 2000-2013).

**The
Legalization of
Marijuana in
Colorado
*The Impact***

**Volume 4
September 2016**



Rocky Mountain High Intensity
Drug Trafficking Area
www.rmhidta.org

Colorado Experience

Marijuana and Traffic Fatalities

Percent of All Traffic Deaths That Were Marijuana Related*



*Percent of All Fatalities Where the Operators Tested Positive for Marijuana

SOURCE: National Highway Transportation Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014. NOTE: Cannot confirm 100% reporting prior to 2012.

New MJ Products



New MJ Products



MJ & Hyperemesis

MJ use can cause
hyperemesis

TX: Capsaicin cream
0.075% on abdomen



MJ Ingestion Case Study

Omaha, NE: Aug
2016

53 y.o. male's wife calls
911

Unknowingly ate 4
brownies made by son
w/ MJ

Crawling on floor using
profanities and calling
the cat "Bitch"



Dabs/Wax



Shatter is smooth, clear and solid.

>80 percent THC.



Budder or Wax has a creamy consistency from being whipped

70% THC.



Honey Oil

Liquid

THC % Varies

Wax Manufacture Hazards

3/25/15 Stearns County: 2 men, 18 and 19, were charged with third-degree murder in Stearns County on allegations that a fire that started while making wax killed an 85-year-old woman

Advantages:

- Easy to hide
- High THC content
- Can be “Vaped”
- Low Smell



UPDATE

- One plead guilty to aiding & abetting 3rd degree murder: 7 years in prison
- Other plead guilty: 7 months in jail & 25 years probation

MJ labs causing Explosions Nationwide

9/27/16: Explosion in the Bronx killing a FDNY Battalion Chief.

- Propane/Butane powering CO2 generators for accelerated MJ plant growth
- Precipitating hash oil from MJ extractors using butane while heating the precipitant



Synthetic Cannabinoids

Street Slang: Spice, K2, Klimax, Scooby Snax, Joker

12% of High Schoolers have tried in the last year

Multiple ingredients: Active compound mixed and sprayed on dried, leafy material

400+ synthetic variants exist = no consistent toxidrome

Paranoia, hallucinations, increased physical activity =
Rhabdo, Acidosis, Hyperthermia, **Renal Failure**, **Seizures**

Addiction/Withdrawal potential unknown at this time

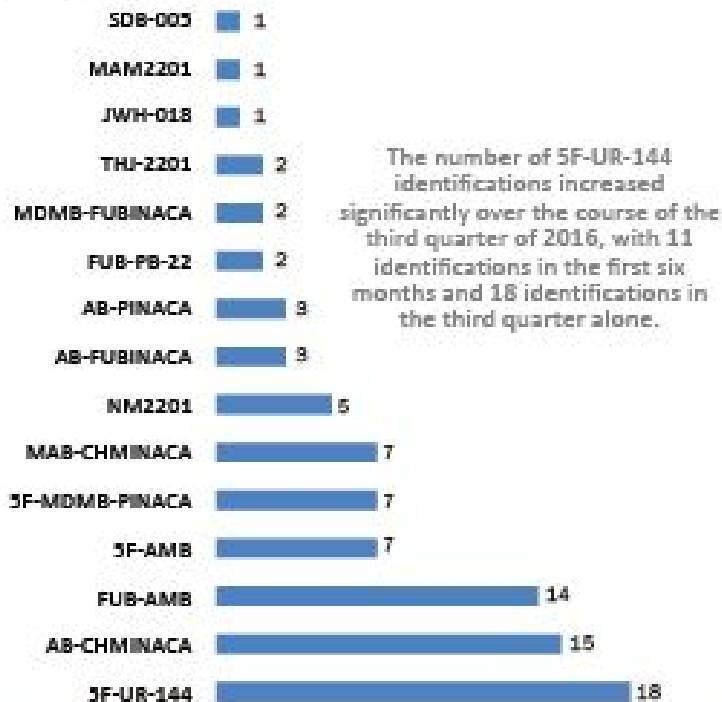


3rd Qtr 2016

SYNTHETIC CANNABINOIDS

THERE WERE **88** SYNTHETIC CANNABINOID IDENTIFICATIONS IN THE THIRD QUARTER OF CY 2016. 5F-UR-144, AB-CHMINACA, AND

FUB-AMB ACCOUNTED FOR APPROXIMATELY **53%** OF THE SYNTHETIC CANNABINOID IDENTIFICATIONS DURING THE REPORTING PERIOD.

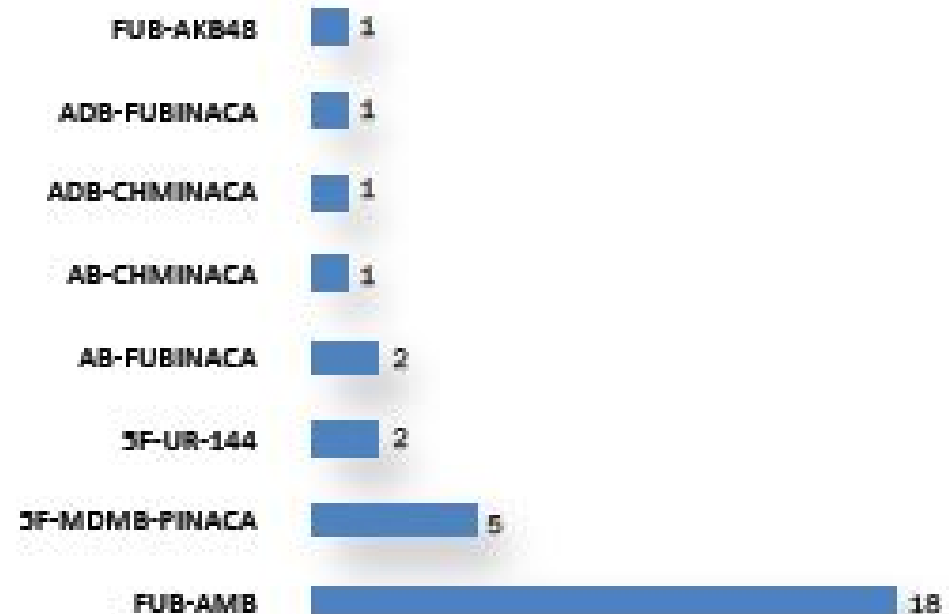


4th Qtr 2016

SYNTHETIC CANNABINOIDS

THERE WERE **31** SYNTHETIC CANNABINOID IDENTIFICATIONS IN THE FOURTH QUARTER OF CY 2016.

FUB-AMB ACCOUNTED FOR APPROXIMATELY **58%** OF THE IDENTIFICATIONS.



MAB-CHMINACA = ADB-CHMINACA

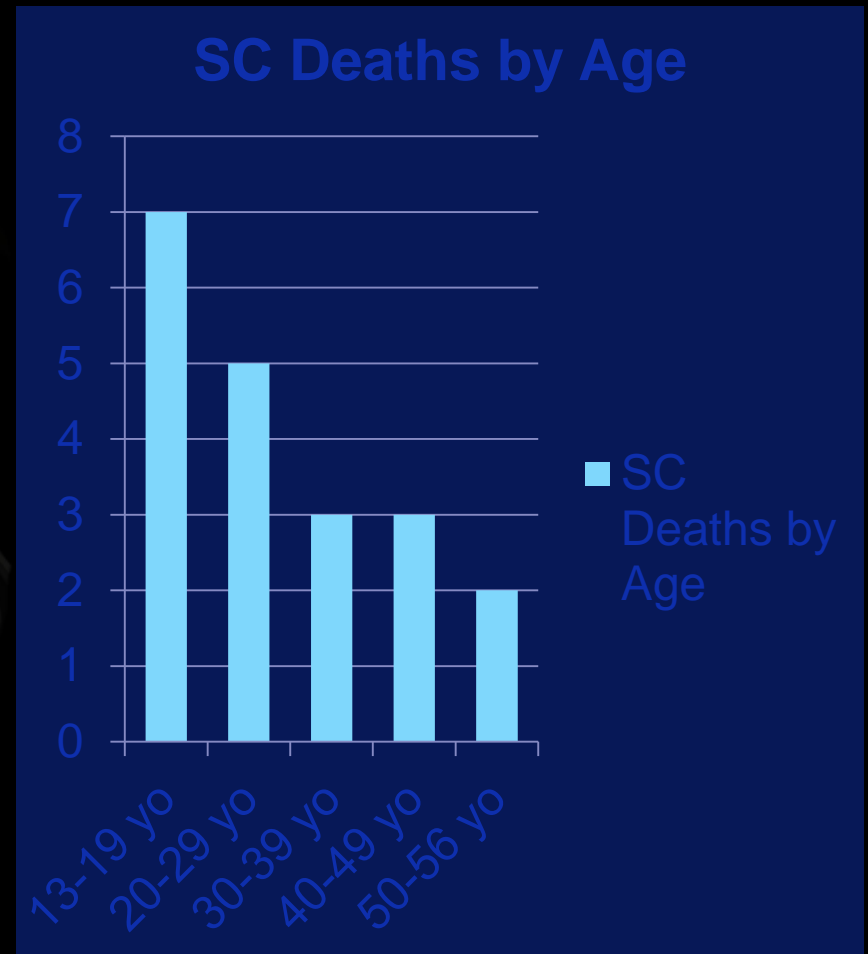
SC Morbidity/Mortality

Source:

NEJM 373;2 Jul 9,2015

- N=810
- Mar 2012 – Jan 2015
- Deaths = 23 or 3%

16 different SC homologs identified in the study



Bath Salts

Synthetic Cathinone

Also known as:

- Plant food
- Fertilizer

Wellbutrin
structurally related

Zombie Attack

*The Truth Behind
The Bath Salts Craze*



Synthetic Cathinone

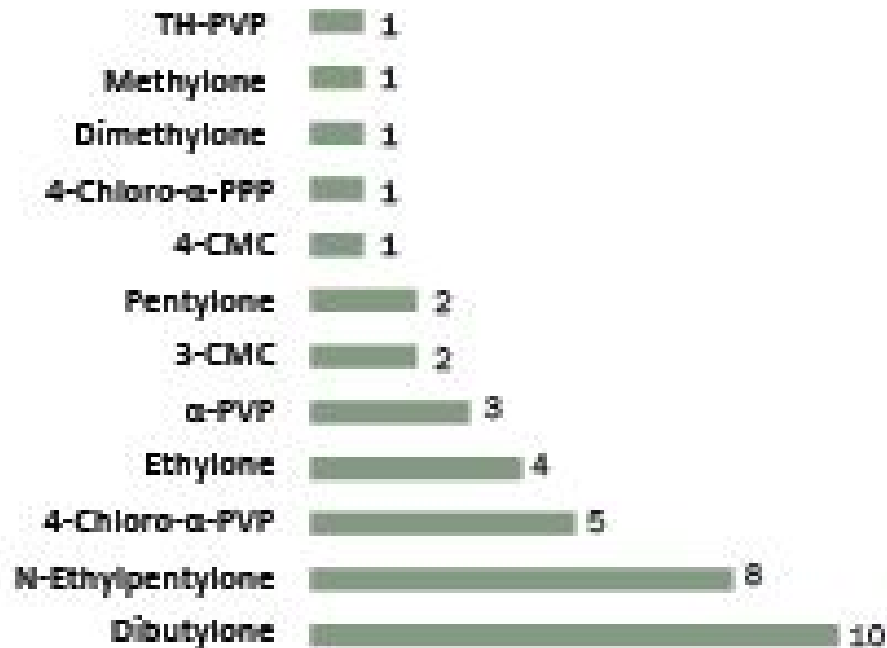
- MDMA/MAMA (Ecstasy)
- Bath Salts
 - Alpha PVP (Flakka)
 - Ethylone
 - MDPV
 - Mephedrone (Meow Meow)
 - Methylone
 - BZP (Party Pills)
 - Many more
- 2C's: 2C-b, 2C-e, 2C-I



3rd Qtr 2016

CATHINONES

DIBUTYLONE WAS THE MOST COMMONLY IDENTIFIED CATHINONE, ACCOUNTING FOR APPROXIMATELY 25% OF THE IDENTIFICATIONS.



Bath Salt Effects

- **Hyperthermia**
- Chest Pain
- Hypertension
- Tachycardia
- Excited Delirium
- Violent Behavior
- Foaming at the Mouth
- Limb Twitching
- Suicidal Thoughts
- Delusions



Acid, LSD, or NBOMe?

Analog of 2C-i/2C-c = 25C NBOMe

Street Names

- N-Bomb
- Smiles
- Acid

-Mistaken for LSD/Acid (Blotter)

-Very Potent (16x more than parent compound) 50-250 mcg are purported dosages



Cocaine


- > 90% cut with Levamisole
- Old Vet dewormer
- Causes as an unintended side effects leukopenia (Low White Blood cells)



PCP...Its Back

- Street Names: Wet, Sherm. Illie
- Low use in the last decade +
- Disconnects pain receptors from the brain
- **Very unpredictable & dangerous patients**



A man is lying on a bed in a room with peeling blue paint and a yellow curtain. He is wearing a white tank top and is picking at his skin on his arm. The scene is dimly lit and appears to be a makeshift or neglected living space.

PICKING FOR BUGS UNDER
YOUR SKIN ISN'T NORMAL.
BUT ON METH IT IS.

METH

GET EVEN SICK.

METHAMPHETAMINE

www.meth.com

Stuffer or Packer



Stuffer/Packer Obs

Meth = 24 hours

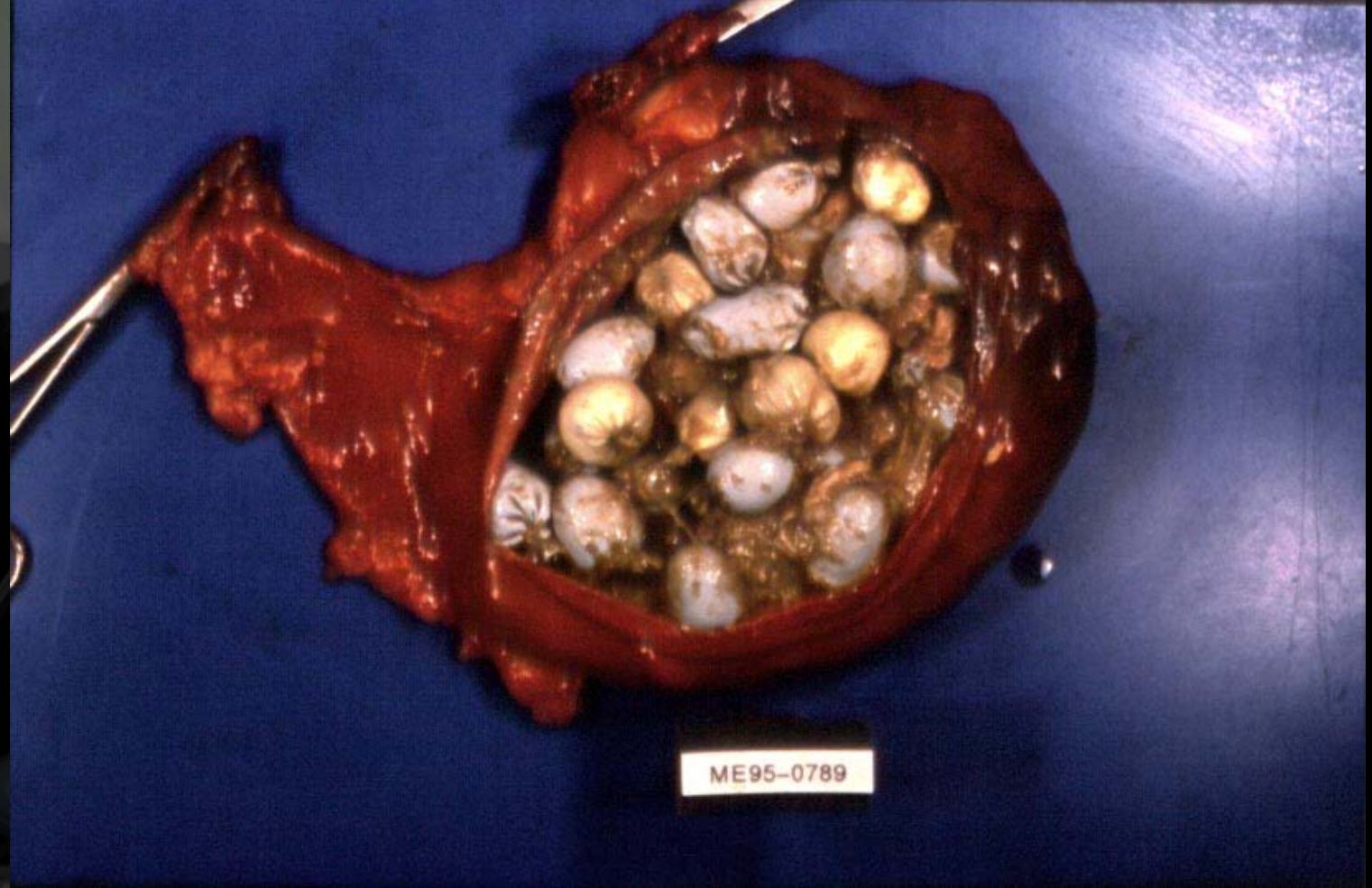


Heroin = 6 hours

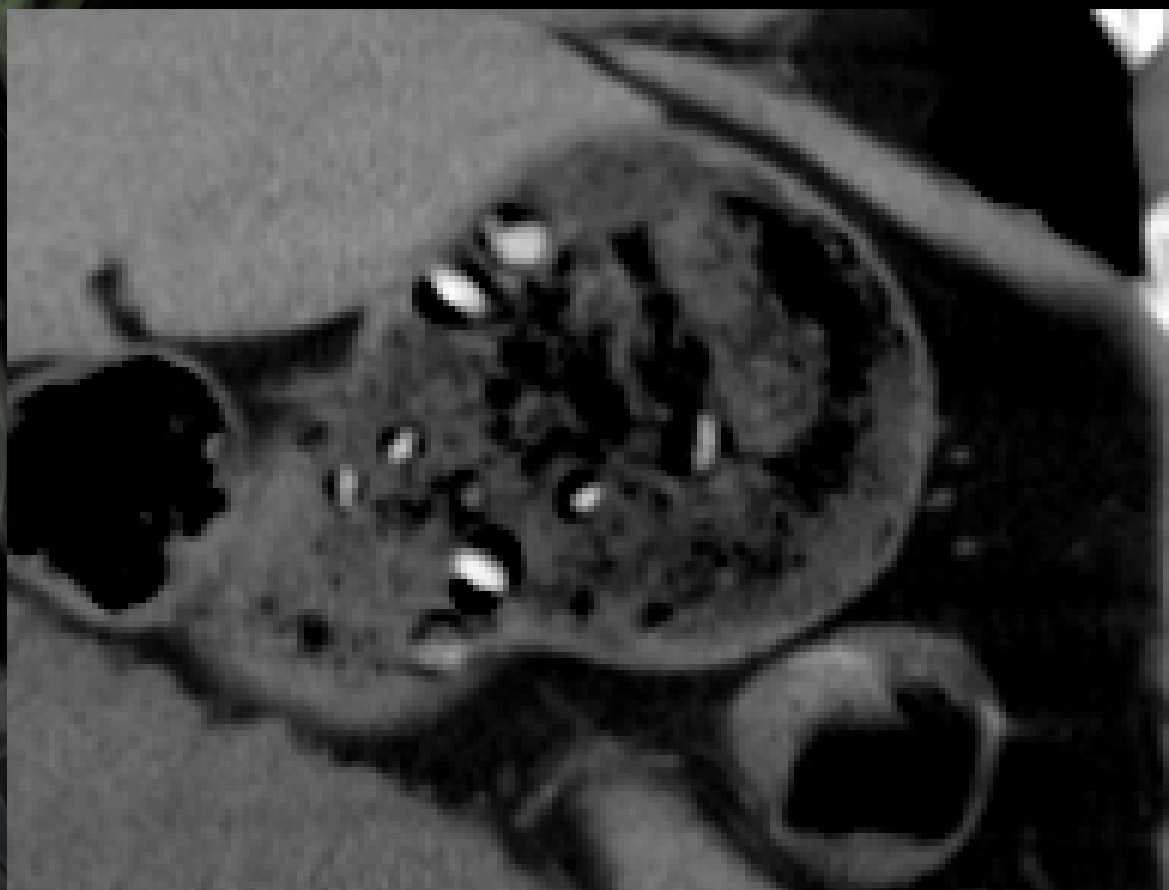


Cocaine = 6 hours





ME95-0789



Other Trends

Counterfeit Xanax &
Oxycodone contain
Fentanyl

- Xanax G3722
“Bars”
- Green Hulk



Questions?

