Objectives

• Recognize how each substance behaves in the body
  • Fentanyl
  • Kratom
  • Methamphetamine

• Contrast facts versus fiction cases
• Recognize the difference between customary use of therapeutic fentanyl and misuse or abuse of the fentanyl
• Describe the trends of drug usage at Virginia Poison Center
• Describe the proposed indications for Kratom and the current landscape of use
• Recognize the potential risks for Kratom use
Fact or Fiction?

• The source of abused fentanyl is pharmaceutical grade.
• Fentanyl will NOT be detected on routine urine drug screen.
• Fentanyl comes in all shapes and sizes and can mimic other drugs.
• Fentanyl kills as many people heroin.
• Powdered synthetic fentanyl, like carfentil, will NOT kill you if it is present in the room or touches your skin.
• You should wear protective equipment and decontaminate any fentanyl skin exposure.

• Kratom kills less people than heroin.
• Kratom will NOT cause life-threatening effects.
• Kratom can lead to addiction and withdrawal.
• Kratom has been tested to make sure it works and it is safe.
• Methamphetamines counteract the effect of opioids.
• The use of methamphetamines with opioids leads to more overdoses.
• If you live in the Eastern US don’t worry about methamphetamine.
Fentanyl – What is it good for?
2019 VPC Fentanyl cases

• 9 cases
• 5 Police/EMS
• 7 Discharged
• 2 Admitted
• 1 Critical care
Prince died after taking fake Vicodin laced with fentanyl, prosecutor says

"In all likelihood, Prince had no idea he was taking a counterfeit pill that could kill him," the Minnesota prosecutor said.
Fentanyl
Despropionyl fentanyl
Acetyl fentanyl
Oxycodone
Temazepam
Alprazolam
Citalopram

How did that get there?
(U) Illicit Fentanyl and Fentanyl Precursor Flow Originating in China

1. Fentanyl in powder form and pill presses are shipped via mail services.
2. The powder fentanyl is processed and mixed with heroin, or sold as heroin, or pressed into pills and sold in the Canadian drug market. Some fentanyl products are smuggled from Canada into the United States for sale on a smaller scale.
3. The powder fentanyl is processed and mixed with heroin, or sold as heroin, or pressed into pills and sold in the United States drug market.
4. The powder fentanyl is cut and diluted for further smuggling, or pressed into counterfeit prescription pills. Diluted powder fentanyl and counterfeit prescription pills containing fentanyl are smuggled from Mexico into the United States.
5. Precursors for manufacturing fentanyl are shipped via mail services.
6. Precursors are used to manufacture fentanyl in clandestine laboratories.
7. Precursors are likely smuggled across the Southwest border into Mexico to manufacture fentanyl.
8. Precursors are likely used to manufacture fentanyl in clandestine laboratories.

Source: DEA
*Arrows do not represent specific transportation routes.
Lethal doses of Fentanyl and Carfentanil relative to a lethal dose of Heroin

Carfentanil: 10,000x
Fentanyl: 100x
Heroin: 2x
Morphine: 1x

Courtesy DEA
Drug Test

Passed

Personal Information

Name
Phone number
E-mail

Other information

Date

Signature
Figure 4. Age-adjusted drug overdose death rates, by opioid category: United States, 1999–2017

NOTES: Deaths are classified using the International Classification of Diseases, 10th Revision. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural and semisynthetic opioid) are counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 through 2013 and 81%–88% from 2014 through 2017. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#4.

Fatal fentanyl and/or heroin overdoses in Virginia

In 2016
- Heroin and fentanyl: 151
- Heroin: 229
- Fentanyl: 224

Data for 2016 is a predicted total for the entire year

Source: Virginia Department of Health
“Gray Death”

• Combination
  • Heroin
  • Fentanyl
  • U-47700
  • $10-20 on street
7.5x morphine.
Deadly fentanyl changes the rules for those who abuse opioids

By Martha Bebinger, WBUR

Updated 9:22 AM ET, Tue April 11, 2017
Can you distinguish the real from the fake?

Image of counterfeit and authentic Norco tablets, side by side.

Image courtesy of California Poison Control.
June 26, 2017

Police Information - Carfentanil in Tablets
Self-identification of nonpharmaceutical fentanyl exposure following heroin overdose

Matthew K. Griswold, Peter R. Chai, Alex J. Krotulski, Melissa Frisca, Brittany Chapman, Edward W. Boyer, Barry K. Logan and Kavita M. Babu

*Division of Medical Toxicology, Department of Emergency Medicine, University of Massachusetts Medical School, Worcester, MA, USA; †Division of Medical Toxicology, Department of Emergency Medicine, Brigham and Women’s Hospital, Harvard Medical School, Boston, MA, USA; ‡The Center for Forensic Science Research and Education (CFSRE), Willow Grove, PA, USA; §NMS Labs, Willow Grove, PA, USA

Table 4. Self-identification of nonpharmaceutical fentanyl exposure versus urine drug testing results.

<table>
<thead>
<tr>
<th>Self-Report of Fentanyl Exposure</th>
<th>Urine drug testing for fentanyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Positive 16</td>
</tr>
<tr>
<td>No</td>
<td>Positive 13</td>
</tr>
</tbody>
</table>

Sensitivity 55%, Cohen’s kappa index value 0.76.
Vancouver Testimonials

• “It tastes like vinegar.”
• “Always do test shots of small doses.”
• “With heroin you feel it coming, you feel the intensity.”
• “Fentanyl, you’re sitting there waiting for something and, the next thing you know, there is an ambulance attendant there. It hits you like a Mack truck.”
• Rigidity
• Multiple doses of naloxone
Fentanyl-Contaminated Nonfatal OD

- 45-54 year olds
- Non-Hispanic Black
- 12 grade or GED
- Own or rent/homeless
- 53% perceived fentanyl
- 93% used heroin last 6 months
- 90% witnessed OD
- 44% used naloxone – 99% successful
Public Safety

Elephant tranquilizer is the latest lethal addition to the heroin epidemic

Members of the Royal Canadian Mounted Police go through a decontamination procedure in Vancouver, British Columbia, in June 2016 after intercepting a package containing approximately one kilogram (2.2 pounds) of the opioid carfentanil imported from China. (Royal Canadian Mounted Police via AP/CP)
SAN DIEGO — A Hazmat team was called and a firefighter was sent to the hospital after a man died of a fentanyl overdose at a northern San Diego home Thursday morning.

The 27-year-old man overdosed at the house in Rancho Bernardo, a few blocks north of Rancho Bernardo Road on Calenda Road, around 4 a.m.

When authorities found fentanyl, a synthetic opioid the DEA says is 80 to 100 times stronger than morphine, they called a Hazmat team.

Authorities were seen leading a woman out of the home in handcuffs, though police did not comment on whether she was suspected of a crime. While police spoke with the woman and officials wheeled the man's body out of the home, the Hazmat team worked to ensure no one else was exposed to the drug.
Fentanyl case

• 34 year-old male deputy arrived about 1 hour ago following exposure to heroin and fentanyl.

• He pulled a vehicle over, found a powder substance in the car.

• Was wearing gloves, but as he was transferring powder to the test kit, apparently inhaled some.

• Powder tested positive for both heroin and fentanyl.

• Pt is complaining of dizziness, headache, and nausea.

• He has been decontaminated well.

• He is awake and alert.

• Vital signs are normal.
ACMT and AACT position statement: preventing occupational fentanyl and fentanyl analog exposure to emergency responders

Michael J. Moss, Brandon J. Warrick, Lewis S. Nelson, Charles A. McKay, Pierre-André Dubé, Sophie Gosselin, Robert B. Palmer and Andrew I. Stolbach

Emergence Medicine, VCU Medical Center, Richmond, VA, USA; Emergency Medicine, University of New Mexico, Albuquerque, NM, USA; Department of Emergence Medicine, Rutgers New Jersey Medical School, Newark, NJ; Traumatology & Emergency Medicine, Hartford Hospital, Hartford, CT, USA; Institut national de santé publique du Québec, Québec, Canada; Centre Antipoison du Québec, Québec, Canada; Toxicology Associates, PLLC, Littleton, CO, USA; Johns Hopkins University School of Medicine, Baltimore, MD, USA
PPE for Occupational Fentanyl Exposure
Occupational Fentanyl Exposure: Decontamination/Treatment
2019 VPC Kratom Cases

- 20
- Polysubstance 2
- Critical care 3
- Admission 9
- Discharged 8
- Withdrawal 2
- Treating heroin addiction 1
- Naloxone 1
- Home 2 (2 year old)
- Death 1
The DEA Changes Its Mind on Kratom

Gerald Ganatsos, PhD, JD
Associate Professor of Pharmacology
University of Connecticut School of Pharmacy
Storrs, Connecticut


When the Drug Enforcement Administration (DEA) proposes to use its emergency scheduling authority to place a temporary ban on a “legal” drug due to concerns about abuse and safety, it is usually a fairly routine event. However, one recent decision by the DEA to ban a substance was anything but routine, resulting in a widespread public backlash that was sufficient to convince the DEA to reconsider its action.

The substance causing the controversy is the herbal opioid-like drug kratom. In August 2016, the DEA announced that it would temporarily reclassify kratom as a Schedule I drug.¹ This action brought about a strong reaction, including public demonstrations, petitions, and calls by Congress to overrule the decision. These events resulted in the DEA withdrawing its notice of intent to institute the emergency scheduling of the active ingredients of kratom in October 2016 and to solicit further public comment.²

What Is Kratom?
Kratom is a plant used in ceremony and as a medicine in traditional cultures in Southeast Asia for centuries. The plant is harvested and dried to produce a powder that is chewed, swallowed, or brewed into tea. The active ingredients of kratom are alkaloids, including mitragynine and 7-hydroxymitragynine.

Related CE
Opioid Analgesics: Best Practices for Prescribing, Dispensing, and Preventing Diversion
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FDA and Kratom

The U.S. Food and Drug Administration is warning consumers not to use *Mitragyna speciosa*, commonly known as kratom, a plant which grows naturally in Thailand, Malaysia, Indonesia, and Papua New Guinea. FDA is concerned that kratom, which affects the same opioid brain receptors as morphine, appears to have properties that expose users to the risks of addiction, abuse, and dependence.

There are no FDA-approved uses for kratom, and the agency has received concerning reports about the safety of kratom. FDA is actively evaluating all available scientific information on this issue and continues to warn consumers not to use any products labeled as containing the botanical substance kratom or its psychoactive compounds, mitragynine and 7-hydroxymitragynine. FDA encourages more research to better understand kratom’s safety profile, including the use of kratom combined with other drugs.

Since identifying kratom on an import alert for unapproved drugs in 2012 and on a second import alert in February 2014 regarding kratom-containing dietary supplements and bulk dietary ingredients, FDA has taken a number of additional actions, including:

- In September 2014, U.S. Marshals, at the FDA’s request, seized more than 25,000 pounds of raw kratom material worth more than $5 million from Rosefield Management, Inc. in Van Nuys, California.
- In January 2016, U.S. Marshals, at the FDA’s request, seized nearly 90,000 bottles of
Kratom: Unsafe and ineffective

Users swear by kratom for mood enhancement and fatigue reduction, but safety issues and questions about its effectiveness abound.

If you read health news or visit vitamin stores, you may have heard about kratom, a supplement that is sold as an energy booster, mood enhancer, pain reliever and antidote for opioid withdrawal. However, the truth about kratom is more complicated, and the safety problems related to its use are concerning.

Kratom is an herbal extract that comes from the leaves of an evergreen tree (Mitragyna speciosa) grown in Southwest Asia. Kratom leaves can be chewed, and dry kratom can be swallowed or brewed. Kratom extract can be used to make a liquid product. The liquid form is often marketed as a treatment for muscle pain, or to suppress appetite and stop cramps and diarrhea. Kratom is also sold as a treatment for panic attacks.

Kratom is believed to act on opioid receptors. At low doses, kratom acts as a stimulant, making users feel more energetic. At higher doses, it reduces pain and may bring on euphoria. At very high doses, it acts as a sedative, making users quiet and perhaps
Kratom Saves Lives

JOIN THE FIGHT & DONATE

Kratom News
DAYS THE FDA HAS IGNORED AKA’S MEETING REQUEST

518 : 20 : 29 : 14
DAYS	HOURS	MINUTES	SECONDS

Thank you to NIDA Director Nora Volkow for recognizing and following the science on kratom.

The FDA should follow Dr. Volkow’s lead: Meet with the AKA and follow the science.

Get Involved
Help us fight for a beautiful future.
Kratom?

- What are you paying for?
- What is the best dose of kratom?
- Does kratom work?
- Can kratom harm you?
- Can you become addicted to kratom?
Why Kratom?

• Euphoria
• Pain
• Withdrawal
• Opioid abstinence
• Physical performance
POISON CENTRE RESEARCH

Natural psychoactive substance-related exposures reported to United States poison control centers, 2000–2017

Connor O'Neill-Deek¹,², Henry A. Spiller¹,⁴, Marcel J. Casavant¹,⁴, Sandhya Kistamgari⁵, Thitphalak Chounthirath⁶ and Gary A. Smith⁷,⁸,⁹

¹Center for Injury Research and Policy, The Research Institute at Nationwide Children’s Hospital, Columbus, OH, USA; ²Creighton University School of Medicine, Omaha, NE, USA; ³Department of Pediatrics, The Ohio State University College of Medicine, Columbus, OH, USA; ⁴Central Ohio Poison Center at Nationwide Children’s Hospital, Columbus, OH, USA; ⁵Child Injury Prevention Alliance, Columbus, OH, USA.

Figure 2. Annual number of exposures to selected natural psychoactive substances, NPDS 2000–2017.
### TABLE. Co-occurrence of substances and circumstances among overdose decedents with kratom detected on postmortem toxicology — State Unintentional Drug Overdose Reporting System, 27 states,\(^a\) July 2016–December 2017

<table>
<thead>
<tr>
<th>Characteristic/Circumstance</th>
<th>Kratom detected on toxicology (n=152) No. (%)</th>
<th>Kratom determined to be a cause of death (n=91) No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>116 (76.3)</td>
<td>69 (75.8)</td>
</tr>
<tr>
<td>Female</td>
<td>36 (23.7)</td>
<td>22 (24.2)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White(^†)</td>
<td>119 (91.5)</td>
<td>81 (93.1)</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>11 (8.5)</td>
<td>—(^5)</td>
</tr>
<tr>
<td><strong>Medically supervised pain treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No evidence</td>
<td>138 (90.8)</td>
<td>80 (87.9)</td>
</tr>
<tr>
<td>Evidence</td>
<td>14 (9.2)</td>
<td>11 (12.1)</td>
</tr>
<tr>
<td><strong>Previous overdose reported</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>139 (91.5)</td>
<td>81 (89.0)</td>
</tr>
<tr>
<td>One or more</td>
<td>13 (8.5)</td>
<td>10 (11.0)</td>
</tr>
<tr>
<td><strong>History of substance misuse reported (opioid and/or nonopioid)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No evidence</td>
<td>29 (19.1)</td>
<td>20 (22.0)</td>
</tr>
<tr>
<td>Evidence</td>
<td>123 (80.9)</td>
<td>71 (78.0)</td>
</tr>
<tr>
<td><strong>Co-occurring substances listed as a cause of death(^†)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any fentanyl (including analogs)</td>
<td>99 (65.1)</td>
<td>51 (56.0)</td>
</tr>
<tr>
<td>Heroin(^††)</td>
<td>50 (32.9)</td>
<td>23 (25.3)</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>34 (22.4)</td>
<td>24 (26.4)</td>
</tr>
<tr>
<td>Prescription opioids(^§§)</td>
<td>30 (19.7)</td>
<td>22 (24.2)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>28 (18.4)</td>
<td>15 (16.5)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>19 (12.5)</td>
<td>11 (12.1)</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>13 (8.6)</td>
<td>—</td>
</tr>
</tbody>
</table>

\(^a\) States included in the State Unintentional Drug Overdose Reporting System are Alabama, Connecticut, Georgia, Illinois, Massachusetts, Maine, Maryland, Mississippi, New Hampshire, New Jersey, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, Wyoming, and the District of Columbia.

\(^†\) Includes all races.

\(^††\) Excludes fentanyl.

\(^§§\) Excludes benzodiazepines and prescription opioids.

\(^5\) Excludes all substances listed as a cause of death.
Kratom Use and Toxicities in the United States

William E. Eggleston1,2,3, Robert Stoppacher,4 Kyle Suen,2,5 Jeana M. Marraffa,2,4 and Lewis S. Nelson5

1School of Pharmacy and Pharmaceutical Sciences, Binghamton University, Binghamton, New York; 2Department of Emergency Medicine, SUNY Upstate Medical University, Syracuse, New York; 3Department of Pathology, SUNY Upstate Medical University, Syracuse, New York; 4Upstate New York Poison Center, Syracuse, New York; 5Department of Emergency Medicine, Rutgers New Jersey Medical School, Newark, New Jersey

Figure 1. Kratom exposures reported to the National Poison Data System from January 1, 2011, to July 31, 2018. *Data for 2018 is partial and includes exposures from January 1, 2018, to July 31, 2018.

**Results** A total of 2312 kratom exposures were reported, with 935 cases involving kratom as the only substance. Kratom most commonly caused agitation (18.6%), tachycardia (16.9%), drowsiness (13.6%), vomiting (11.2%), and confusion (8.1%). Serious effects of seizure (6.1%), withdrawal (6.1%), hallucinations (4.8%), respiratory depression (2.8%), coma (2.3%), and cardiac or respiratory arrest (0.6%) were also reported. Kratom was listed as a cause or contributing factor in the death of four decedents identified by the county medical examiner’s office.
SPECIAL KRATOM POWDER
ULTRA ENHANCED BALI KRATOM POWDER
BY: KratomCrazy

NEW VIVAZEN Botanicals
Green Maeng Da KRATOM
1,000 Grams (powder)

Herbal Dietary Supplement
Fig. 1 CT angiogram of the head revealed intraparenchymal hemorrhage with intraventricular extension.
Evidence of a potential mechanism for Kratom-related cardiac arrest

Figure 1. Commercially available kratom preparation purchased by the patient.
Other effects

• Salmonella
• Liver injury
• Addiction
• Withdrawal
2019 VPC Methamphetamine
More than a dozen meth dealers supplied by Mexican Cartel arrested in middle Tennessee

by Kaylin Jorge | Monday, January 13th, 2020

The Wayne County Grand Jury returned indictments for conspiracy to distribute over 300 grams of methamphetamine against Darrell Aloma "Choppa" White, Raymond "Chico" Jones, Marilyn Loggins, Michael Shaw-Rizer, Michael Tray, Steyne Monique McDonald, Miranda Moggard, Laic Renner, Luke Freeman, Brian Keith Smith, Roy Dee Harton and April Rumbleugh, as well as Sandra Stansfield, who is still at large (WZTV, Wayne County Sheriff's Office).

WAYNE COUNTY, Tenn. (WZTV) — UPDATE:

The Wayne County Sheriff's Office has released more information regarding a major methamphetamine bust in middle Tennessee.
A New Drug Scourge: Deaths Involving Meth Are Rising Fast

Today’s meth is far more potent than earlier versions, but because it isn’t an opioid, many federal addiction treatment funds can’t be used to fight it.

Shayla Divilbiss used methamphetamine for six years, ignoring a thyroid condition and going days at a time without sleep. She united her protest for a lack of treatment options with her addiction. She’s been sober for six weeks.
Meth, the Forgotten Killer, Is Back. And It’s Everywhere.
PUBLIC HEALTH

Meth In The Morning, Heroin At Night: Inside The Seesaw Struggle of Dual Addiction

June 17, 2019 · 117 PM ET
Heard on All Things Considered

APRIL DEMBOSKY FROM KQED

3-Minute Listen
Figure 1  Primary heroin treatment admissions involving methamphetamine use among people 12 years or older, United States, 2008–17. Data source: 2008–17 Treatment Episode Data Set. Heroin treatment admissions were defined as admissions where heroin was the primary substance of use. Heroin treatment admissions involving methamphetamine were those where heroin was the primary substance of use and methamphetamine was listed as the secondary or tertiary substance of use.
• White
• Male
• Rural
• West
Drug overdose deaths by region

Methamphetamine was the top drug involved in overdose deaths in most of the western half of the U.S. while fentanyl pervaded the eastern half.

NOTE: Data from 2017. Deaths may include additional drugs.
SOURCE: NCHS National Vital Statistics System
<table>
<thead>
<tr>
<th>Coded responses</th>
<th>N (%)</th>
<th>Representative quotes</th>
</tr>
</thead>
</table>
| High-seeking               | 74 (51.0) | (1) *The high was like a roller coaster*  
(2) *I enjoyed the synergetic effect*  
(3) *I was told that it was a fabulous high, so I tried it and loved it* |
| Balance of effect          | 56 (38.6) | (1) *I could function on them together*  
(2) *I used meth to give me the rush & to have energy. I used heroin to numb myself or to get the high from the opioids. If I used too much meth id use heroin to calm down*  
(3) *Cause I was trying to get allot of work done energy with no pain make you be able to get stuff done*  
(4) *Use meth sometimes to counter the drowsiness from opioids* |
| Available as Opioid Substitute | 22 (15.2) | (1) *So when i couldn’t use opioids because of money or availability, i used methamphetamine*  
(2) *I would use meth when I had ran out.*  
(3) *When I was really sick from the withdrawal and I couldn’t find opioids, I would use methamphetamine* |
| Escape from life/ Numbness | 14 (9.7) | (1) *Just feel numb n not worry about my problems*  
(2) *Because I hated to be fully aware and have to perceieve my surroundings, situations and life. When I was high it was like walking around in a dream state. I was numbed*  
(3) *Escape from the reality of life* |
| Addiction                  | 13 (9.0) | (1) *Because I’m a drug addict and would do anything I could to avoid being sober. I would use any excuse I could to justify use of different drugs*  
(2) *Because I’m a addict and it didn’t matter how I got high just that I did.* |
| Social Setting             | 9 (6.2) | (1) *Initially it was just to party with socially then became addicted and had to use daily*  
(2) *The pupil dilation and other signs that would make it obvious that I was high would be less noticable as well. Made it a lot easily to hide from people around me.* |
Table 4

Association between overdose and drug injection pattern in the past 12 months in a sample of persons who inject drugs.

<table>
<thead>
<tr>
<th>Drug injection pattern</th>
<th>Overdosed at least once</th>
<th>Unadjusted prevalence ratio (95% CI)</th>
<th>Adjusted prevalence ratio * (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin only</td>
<td>20 (11.6)</td>
<td>1.0 (ref)</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Methamphetamine only</td>
<td>9 (7.4)</td>
<td>0.63 (0.30, 1.35)</td>
<td>0.64 (0.29, 1.43)</td>
</tr>
<tr>
<td>Both heroin and methamphetamine</td>
<td>99 (33.6)</td>
<td>2.89 (1.85, 4.49)</td>
<td>2.80 (1.72, 4.53)</td>
</tr>
</tbody>
</table>


*Adjusted for race/ethnicity, age, frequency of injection, incarceration, and homelessness.
Fact or Fiction?

- The source of abused fentanyl is pharmaceutical grade.
- Fentanyl will NOT be detected on routine urine drug screen.
- Fentanyl comes in all shapes and sizes and can mimic other drugs.
- Fentanyl kills as many people heroin.
- Powdered synthetic fentanyl, like carfentanil, will NOT kill you if it is present in the room or touches your skin.
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