Drug Use Trends and Treatment Approaches: 2017 Update

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Carma Health, ABRI Integrated Health
DISCLOSURE

Maxwell--None

Tirado—Indivior & Alkemes

- Cocaine
- Heroin
- Methamphetamine
- Marijuana
Abused Drugs Identified by Forensic Labs by US Region: NFLIS 2016

- Heroin
- Fentanyl
- Alprazolam
- Cocaine
- Methamphetamine
- Cannabis

DEA NFLIS

Heroin Sources and Supply Routes
Mexican Black Tar Heroin

Mexican Brown Heroin

South American Heroin & “new” Mexican White Heroin
Texas Treatment Admissions: 1975 & 2016

% of All Admissions

<table>
<thead>
<tr>
<th>Substances</th>
<th>1975</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>58</td>
<td>14</td>
</tr>
<tr>
<td>Marijuana</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Cocaine</td>
<td>0.4</td>
<td>23</td>
</tr>
<tr>
<td>Meth/Amp</td>
<td>6</td>
<td>17</td>
</tr>
</tbody>
</table>

% Male

<table>
<thead>
<tr>
<th>Substances</th>
<th>1975</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>75</td>
<td>59</td>
</tr>
<tr>
<td>Other Opiates</td>
<td>63</td>
<td>40</td>
</tr>
<tr>
<td>Cocaine</td>
<td>66</td>
<td>53</td>
</tr>
<tr>
<td>Meth/Amp</td>
<td>65</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: TCADA & DSHS
Fentanyl Items Identified in US Forensic Laboratories: 2000-1/2 2017
Figure 76. Two Milligrams of Fentanyl - A Potential Lethal Dose

Source: Network Environmental Systems (NES)
Fentanyl and Alprazolam (Xanax)
Comparison of Semi-Annual Oxycodone Trends in Drug Testing in the General Workforce and Drug Submissions of Forensic Labs

Source: National Forensic Laboratory Information System (NFLIS), DEA, May 2017; Quest Diagnostics Drug Testing Index, Mar 2017
July, 2017-Medicare Strike Force closed Houston Pill Mill which gave 60-70 medically unnecessary hydrocodone scripts daily at $300 cash per visit

Ft. Lauderdale Pill Mille picture courtesy of Miami Herald
<table>
<thead>
<tr>
<th>Prescription</th>
<th>Quantity</th>
<th>Amount</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>LorCet 10/650</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>1 PO Q4-6 HRS. PRN PAIN QID</td>
</tr>
<tr>
<td>Lortab 10/500</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Vicodin ES 7.5/750</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Vicodin HP 10/660</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Norco 10/325</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Soma 350 MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>1 PO 6-8 HRS. PRN MUSCLE SPASM QID</td>
</tr>
<tr>
<td>Flexeril 10MG 5MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Motrin 800MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Suboxone 2MG  8MG</td>
<td>30</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alprazolam 2MG 1MG 0.5MG 0.25MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>1 PO QID TID PRN</td>
</tr>
<tr>
<td>Diazepam 10MG 5MG 2.5MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Lorazepam 2MG 1MG 0.5MG 0.25MG</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>
Texas Pill Mill Pharmacy Shelves
<table>
<thead>
<tr>
<th>County</th>
<th>1990</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bexar County</td>
<td>2.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Collin County</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Dallas County</td>
<td>2.9</td>
<td>6.1</td>
</tr>
<tr>
<td>Denton County</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>El Paso County</td>
<td>5.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Galveston County</td>
<td></td>
<td>7.4</td>
</tr>
<tr>
<td>Harris County</td>
<td>1.3</td>
<td>5.5</td>
</tr>
<tr>
<td>Montgomery County</td>
<td></td>
<td>6.3</td>
</tr>
<tr>
<td>Nueces County</td>
<td></td>
<td>10.0</td>
</tr>
<tr>
<td>Tarrant County</td>
<td>2.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Travis County</td>
<td></td>
<td>7.2</td>
</tr>
<tr>
<td>Statewide</td>
<td>1.7</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Counties with fewer than 20 deaths were suppressed but termed "unreliable“ for Bell, Fort Bend, Hidalgo, Liberty, Lubbock, McLennan, Nacogdoches, Smith, Webb, Williamson
Opioid and Heroin Patients Receiving Methadone or Prescriptions for Buprenorphine or Naltrexone vs. Abuse/Dependent or Past Month Users of Pain Relievers Nonmedically or Heroin: 2012

1,462,069 vs. 5,197,000

* Number of individuals receiving buprenorphine or naltrexone from IMS plus number of patients receiving methadone from NSSATS. Source: IMS Total Patient Tracker, Sept 2014 and SAMHSA NSSATS. Buprenorphine data exclude forms indicated for pain. Oral naltrexone factored for opioid dependence use. Methadone patients from SAMHSA, N-SSATS 2012.
Pharmacotherapy

FDA Approved Medications

• Opioids
  – Methadone
  – Buprenorphine-
    Buprenorphine/Naloxone
  – Naltrexone (oral and injectable)

• Not FDA approved
  – Ibogaine
  – Clonidine
Latest medication advances

- Probuphine
- 6 month implantable buprenorphine
- Each rod contains 80mg buprenorphine (4 implanted)
- Stable on 8mg oral buprenorphine for at least 3 months
- 85.7% opioid free, sign advantage over oral (p = 0.034).
Latest medication advances

- **Very Low Dose Naltrexone (methadone)**
  - 0.125mg and 0.250mg doses
  - Significant reductions in withdrawal sx and reduced craving
  - Possible additive effect with clonidine

- **Lofexidine (2.4mg and 3.2mg a day)**
  - Alpha agonist (like clonidine) with more favorable cardiovascular profile

- **Injectable Buprenorphine in development**
Cocaine Indicators in Texas: 1998-2016

# PCC Calls, % Treatment, % Tox Items, # Deaths


Logarithmic scale for # PCC Calls, % Treatment, % Tox Items, # Deaths

Percent Positive Tests

Export Quality Cocaine Production (MT)

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Positive Tests</th>
<th>Export Quality Cocaine Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0.58%</td>
<td>630</td>
</tr>
<tr>
<td>2008</td>
<td>0.41%</td>
<td>400</td>
</tr>
<tr>
<td>2009</td>
<td>0.29%</td>
<td>420</td>
</tr>
<tr>
<td>2010</td>
<td>0.25%</td>
<td>380</td>
</tr>
<tr>
<td>2011</td>
<td>0.27%</td>
<td>290</td>
</tr>
<tr>
<td>2012</td>
<td>0.21%</td>
<td>270</td>
</tr>
<tr>
<td>2013</td>
<td>0.22%</td>
<td>305</td>
</tr>
<tr>
<td>2014</td>
<td>0.24%</td>
<td>420</td>
</tr>
<tr>
<td>2015</td>
<td>0.25%</td>
<td>690</td>
</tr>
<tr>
<td>2016</td>
<td>0.28%</td>
<td>910</td>
</tr>
</tbody>
</table>
Cocaine: Coming Changes?

- Poison control, treatment, deaths, & tox lab indicators in Texas have stabilized after decreasing for several years.
- The acreage under cultivation in Columbia is up from 83,000 hectares in 2011 to 159,000 in 2015.
- In 2015, DEA reports price per pure gram increased from $98 to $244 while purity decreased from 67% to 44%.
- Cocaine powder can be injected or sniffed/inhaled. Crack is cocaine to which baking soda or an other base chemical has been added and with water turned into crack “rock”. Acidic cocaine will flash and burn while basic cocaine will smolder so it can be smoked.
- Prepare to see more powder cocaine and base crack.
Summary of Cocaine Medication Trials

Table 1

<table>
<thead>
<tr>
<th>Citation</th>
<th>Study Type</th>
<th>Treatment Conditions*</th>
<th>Outcomes</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofuoglu et al., 2003</td>
<td>Human Laboratory</td>
<td>Placebo, Naltrexone (50 mg), Isradipine (10 mg), Naltrexone and Isradipine</td>
<td>Isradipine, alone or with naltrexone, reduced the pressor effects of cocaine. Greater reductions in blood pressure were observed with the combination. Naltrexone alone reduced subjective ratings of Good Effects produced by cocaine.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Rotheram-Fuller et al., 2007</td>
<td>Human Laboratory</td>
<td>Placebo, Amantadine (300 mg/day) and Baclofen (90 mg/day)</td>
<td>Combined amantadine and baclofen reduced subjective ratings of Desire to Use Cocaine.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Giannini and Billett, 1987</td>
<td>Clinical Trial</td>
<td>Placebo, Bromocriptine (2.5 mg/day), Bromocriptine and Desipramine (200 mg/day)</td>
<td>Bromocriptine, alone or with desipramine, reduced cocaine withdrawal symptoms. Greater reductions were observed for the combination relative to bromocriptine alone.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Chadwick et al., 1990</td>
<td>Clinical Trial</td>
<td>Placebo, L-Tryptophan (1 g/day) and L-Tyrosine (1 g/day)</td>
<td>No treatment group differences.</td>
<td>3</td>
</tr>
<tr>
<td>Kampman et al., 2006</td>
<td>Clinical Trial</td>
<td>Placebo, Amantadine (300 mg/day), Propranolol (100 mg/day), Amantadine and Propranolol</td>
<td>No treatment group differences in overall analysis. Sub-analysis indicated that highly adherent subjects in the propranolol alone condition were more likely to be cocaine abstinent and stay in treatment.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Pettinati et al., 2008</td>
<td>Clinical Trial</td>
<td>Placebo, Disulfiram (250 mg/day), Naltrexone (100 mg/day), Disulfiram and Naltrexone</td>
<td>No treatment group differences in overall analysis. Sub-analysis indicated that disulfiram maintenance, alone or with naltrexone, increased abstinence from cocaine and alcohol.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Kablinger et al., 2012</td>
<td>Clinical Trial</td>
<td>Placebo, Metopyrione (500 mg/day) and Oxazepam (20 mg/day), Metopyrione (1500 mg/day) and Oxazepam</td>
<td>No treatment group differences in overall analysis. Sub-analysis indicated that both active treatments reduced cocaine craving. Cocaine abstinence was also increased in the high-dose metopyrione group.</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Mariani et al., 2012</td>
<td>Clinical Trial</td>
<td>Placebo, Mixed Amphetamine Salts (60 mg/day) and Topiramate (300 mg/day)</td>
<td>Combined amphetamine salts and topiramate doubled the likelihood that subjects would achieve three consecutive weeks of cocaine abstinence.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Schmitz et al., 2012</td>
<td>Clinical Trial</td>
<td>Placebo, d-Amphetamine (60 mg/day), Modafinil (400 mg/day), d-Amphetamine (30 mg/day) and Modafinil (200 mg/day)</td>
<td>Combined d-amphetamine and modafinil increased cocaine use. Placebo and d-amphetamine alone decreased cocaine use.</td>
<td>1, 2, 3</td>
</tr>
</tbody>
</table>
QUICK HISTORY OF METH

• Before 1970, amphetamine could be purchased over the counter.

• 1970-1985-meth made using pseudoephedrine + red phosphorus or iodine—Cooked at home. Bikers carrying the product in their “crank cases”.

• 1982- phenyl-2-propanone(P2P) banned in the US but is still legal in Mexico. Cooks moved from use of pseudoephedrine, which is now regulated in the US and banned in Mexico, to P2P with new P2P analogs under development.
Purity vs. Potency

**Purity** is a measure of the amount of an illicit substance compared to other substances such as adulterants or solvents.

**Potency** is the measure of drug activity in terms of the dosage required to exert an effect on the body.

Methamphetamine has 2 isomers:

- The *l*-isomer form is sold over-the-counter and exhibits vasoconstrictive effects (Vicks inhaler).
- The *d*-isomer form is 3-5 times stronger on the central nervous system activity (Ciccarone 2011).

If drug is 100% potent, it’s all *d*-form. If 0% potent, is all *l*-form.

DEA Methamphetamine Profiling Program: National Data 2006-2016

Production Routes
- P2P
- Pseudoephedrine

Purity and Potency
- Purity
- Potency

Source: DEA

Comparison of Semi-Annual Methamphetamine Trends in Drug Testing in the General Workforce and Drug Submissions of Forensic Labs
Texas Male and Female AIDS Cases by Race/Ethnicity: 1999-2016

[Bar chart showing the percentage of AIDS cases by race/ethnicity for males and females from 1999 to 2011.]
Percent of Texas AIDS Cases Reported by Mode of Exposure

Source: DSHS
### Table 2

Outcomes of Clinical Studies of Combination Treatments for Amphetamine Use Disorder.

<table>
<thead>
<tr>
<th>Citation</th>
<th>Study Type</th>
<th>Treatment Conditions +</th>
<th>Outcomes</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marks et al., 2014</td>
<td>Human Laboratory</td>
<td>Placebo, Naltrexone (50 mg), Alprazolam (0.5 mg), Naltrexone and Alprazolam.</td>
<td>Combined naltrexone and alprazolam significantly reduced a greater number of subjective effects produced by d-amphetamine than placebo, naltrexone or alprazolam alone.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Grant et al., 2010</td>
<td>Clinical Trial</td>
<td>Placebo, Naltrexone (200 mg/day final dose) and n-Acetylcysteine (2400 mg/day final dose)</td>
<td>No treatment group differences.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Urschel et al., 2011</td>
<td>Clinical Trial</td>
<td>Placebo, Hydroxyzine (50 mg/day), Gabapentin (1200 mg/day target dose) and Flumazenil (5, 2 mg/infusions)</td>
<td>Active treatment reduced amphetamine use and craving.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Ling et al., 2012</td>
<td>Clinical Trial</td>
<td>Placebo (Hydroxyzine, 50 mg/day), Hydroxyzine, Gabapentin (1200 mg/day target dose) and Flumazenil (5, 2 mg/infusions)</td>
<td>No treatment group differences.</td>
<td>2, 3</td>
</tr>
</tbody>
</table>

Summary of Amphetamine Medication Trials
Behavioral Treatments for Stimulant Disorders

- Community Reinforcement + Vouchers
- Contingency Management
- Relapse Prevention
- Matrix Model
The Synthetics: Calls to US Poison Control Centers: 2010-2016
Synthetic Cannabis Items Identified and Reported to U.S. NFLIS: 2010-2016
Khat

- Pronounced “cot”
- Stimulant drug derived from a shrub (*Catha edulis*) native to East Africa and southern Arabia
- Use is considered illegal, because one of its chemical constituents, cathinone, is a Schedule I drug
- Khat found in the U.S. often comes in by mail from Africa

Synthetic Cathinone Items Identified & Reported to U.S. NFLIS: 2000-2016

- MDPV
- METHYLONE
- 4-MEC
- PENTEDRONE
- ALPHA-PVP
- ETHYLONE
- OTHER
## Synthetic Cannabis and Cathinone Items Identified & Reported to U.S. NFLIS: 2000-½ 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>CANNABIS</th>
<th>CATHINONES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Seizures</td>
<td># Types</td>
</tr>
<tr>
<td>2010</td>
<td>3288</td>
<td>19</td>
</tr>
<tr>
<td>2011</td>
<td>23686</td>
<td>38</td>
</tr>
<tr>
<td>2012</td>
<td>43126</td>
<td>46</td>
</tr>
<tr>
<td>2013</td>
<td>34276</td>
<td>47</td>
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<tr>
<td>2014</td>
<td>3734</td>
<td>78</td>
</tr>
<tr>
<td>2015</td>
<td>34041</td>
<td>79</td>
</tr>
<tr>
<td>2016</td>
<td>22121</td>
<td>82</td>
</tr>
<tr>
<td>½ 2017</td>
<td>5848</td>
<td>47</td>
</tr>
</tbody>
</table>

Source: US NFLIS.
Synthetics
Change in Packaging
Characteristics of Clients Admitted to Texas Treatment with Primary Problem with Cannabis vs. Synthetic Cannabis: 2016

- % Black: Cannabis 28, Synthetic Cannabis 15
- % White: Cannabis 32, Synthetic Cannabis 42
- % Hispanic: Cannabis 40, Synthetic Cannabis 44
- % Male: Cannabis 69, Synthetic Cannabis 69
- % No CJ Issues: Cannabis 45, Synthetic Cannabis 45
- % Full Time: Cannabis 25, Synthetic Cannabis 18
- Lag (1st Use to Treatment): Cannabis 7, Synthetic Cannabis 4
- Age: Cannabis 24, Synthetic Cannabis 27
- % Use Daily: Cannabis 49, Synthetic Cannabis 21
- % Homeless: Cannabis 2, Synthetic Cannabis 15
Cannabis vs. Cannabinoids: Effects Seen in Clinical Cases

• Most symptoms are similar to cannabis intoxication:
  – Tachycardia
  – Reddened eyes
  – Anxiousness
  – Mild sedation
  – Hallucinations
  – Acute psychosis
  – Memory deficits

• Symptoms not typically seen after cannabis intoxication:
  – Seizures
  – Hypertension
  – Nausea/vomiting
  – Coma
  – Severe agitation
  – Rhabdomyolysis, renal failure
  – Hyperthermia
  – Respiratory Depression

Synthetic Cannabinoids: Other Clinical Factors

- **Overall more severe manifestations of:**
  - Tolerance and withdrawal
    - Withdrawal associated seizure, tachycardia, chest pain, palpitations, dyspnea.
  - Requirement for hospitalization
  - Psychosis and mania

- **Unknown how premorbid history, other substance use interact with specific SC compounds.**

SOURCE: Cooper, ZD; *Adverse effects of synthetic cannabinoids: management of acute toxicity and withdrawal*; Curr Psychiatry Rep (2016) 18:52
Sample Clinical Treatment Protocol for Synthetic Cannabinoid Users

• Direct individual to emergency room via ambulance
• Consult a regional Poison Control Center
• Acute management consists of:
  – Supportive care with the use of benzodiazepines and low dose neuroleptic, if needed, to control agitation and anxiety
  – Observe until resolution of abnormal vital signs, vomiting, and psychiatric symptoms

## Clinical Symptoms of Synthetic Cathinone Use in Patients Admitted to the Emergency Department (N=236)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agitation</td>
<td>82%</td>
</tr>
<tr>
<td>Combative/Violent behavior</td>
<td>57%</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>56%</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>40%</td>
</tr>
<tr>
<td>Paranoia</td>
<td>36%</td>
</tr>
<tr>
<td>Confusion</td>
<td>34%</td>
</tr>
<tr>
<td>Myoclonus/Movement disorders</td>
<td>19%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>17%</td>
</tr>
<tr>
<td>Chest pain</td>
<td>17%</td>
</tr>
<tr>
<td>CPK elevations</td>
<td>9%</td>
</tr>
</tbody>
</table>

**SOURCE:** Spiller et al. (2011). *Clinical Toxicology, 49*, 499-505.
Sample Clinical Treatment Protocol for Synthetic Cathinone Users

- **Supportive care**
- **Aggressive sedation with benzodiazepines and low dose neuroleptic (for agitation, seizures, tachycardia, and hypertension)**
- **Significant hyperthemia may require passive or active cooling.**
- **Lab studies including electrolytes, renal and liver function tests, cardiac markers, and creatine kinase should be considered.**

What do you do if someone has taken a Spice Product or Bath Salts?

- **Call your local poison center at 1-800-222-1222**
  - 57 poison centers around the country have experts waiting to answer your call.
  - Experts can help you decide whether someone can be treated at home, or whether he or she must go to a hospital.

- **Dial 9-1-1 immediately if they:**
  - Stop breathing
  - Collapse
  - Have a seizure

...or if they have taken one of these and are having physical symptoms or behaving in a way that is concerning to you


*http://www.ecstasydata.org/stats_substance_by_year.php*
Phencyclidine

- PCP, Angel Dust, Killer Weed
- Dissolved in embalming fluid (“Fry,” “Amp,” “Water, Water”).
- Swallowed, sniffed, smoked on joints dipped in “Fry”.
- Out-of-body strength.
- Dissociative drug like DXM and ketamine; effects are similar to cathinones.
Will They Turn You into a Zombie? What Clinicians Need to Know about Synthetic Drugs (2nd Edition)
New Issues?

• Need better way to disseminate information on harms of new drugs. Adults know very little about them. How can parents talk to their kids when they have no idea what they are talking about?

• Need information on the new and “more potent” generation of cannabinoids and opioids and other new drugs.
Unifying Principles

- Addiction is a chronic, medical disease of the brain.
- **Aberrant behaviors and unhealthy choices are a consequence of the acute and accumulated toxic effects of the substance on the individual**
- Addiction resembles other chronic diseases like diabetes and heart disease in regard to genetic transmission, relapsing and remitting course and the important role of *personal responsibility* in determining how well the disease is controlled
- If you treat it as a chronic disease, you have a much better chance for staying sober and in sustained recovery from the disease
- People relapse because relapse or recurrence is one of the core features of this and all chronic diseases
Incorrect assumptions about CD treatment

• Certain addictions are conditions that can be effectively treated by “detoxification” or “drying out”.

• An episode of treatment is expected to “guarantee” long-lasting abstinence following termination of treatment.

• If a person relapses after treatment it is often considered a treatment “failure”.

• Treatment doesn’t work!!! BUT not one size fits all.
Treatment: Basic Elements

- Screening and Recognition
- Treat urgent medical aspects of disease
- Make the correct diagnosis (consider all comorbidities)
- Avoid negative stereotypes, judgments and value-laden interventions
- Involve family and significant others
- Employ an effective behavioral treatment
- Pharmacological (when available) therapies employed as complimentary treatments to enhance outcome
Are all use disorders the same?

• Important similarities and differences between opioids, alcohol, stimulants, cannabinoids, nicotine
  – Withdrawal states and cravings
  – Risk of accidental overdose
  – Medical comorbidity and long term health effects
  – Availability of proven effective medication therapies
  – Relapse rates after detox or residential treatment
  – Psychiatric comorbidity
  – All respond to treatment
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Worrisome Trends

• DEA’s EPIC says there is an association between heroin and methamphetamine trafficking. Meth is cheap now and profit margins are higher if they also sell heroin.
• Latest cocaine seizures on the border may be initial indications of increase in cocaine due to increased acreage in Colombia, no use of herbicides, and FARC treaty.
• Cannabis imports from Mexico down 49%; users prefer domestic indoor grown and cannabis from California and Colorado.
• Shift in synthetic cannabis users Getting older, use daily, unemployed, homeless, self-referral to treatment, more serious effects if have past history of mental health problems.
• Continuing role of Dark Web in providing drugs.
Kratom

- Structurally similar to some hallucinogens but no hallucinogenic activity or effects
- Acts on opioid receptors
- Not scheduled in U.S. Used by natives in SE Asia
- Some users claim it helps with detoxification from opioids
- Seems to be a stimulant in lower doses
  - Mitragynine
- Seems to be a sedative at higher doses
  - 7 hydroxymitragynine
- Often produces a mixed effect
- Onset of effects within 5 to 10 minutes of ingestion; effects last for several hours

SOURCE: Ken Dickenson, MS, RPh, Hon DSc, July 2013 (Emerging Drug Trends 2013: Beyond Synthetics and Bath Salts).
Krokodil

• Russian cheap replacement drug for heroin made from cooking down desomorphine with gasoline, paint thinner, alcohol, iodine, red phosphorous (match heads), etc.

• In Russia, lack of clean needles and methadone, high cost of heroin, poverty, high numbers of HIV+ individuals, etc.

• No confirmed cases of desomorphine in the U.S. since 2 were identified in 2004.

• Injuries that look like krokodil can be due to shared dirty needles, bacteria, toxic adulterants, gangrene, staph infection, MRSA.
“SYRUP” in Texas

- Codeine cough syrup (purple) and promethazine syrup with codeine (green) continues to be abused.
- Codeine cut with Karo syrup, jolly ranchers, and soft drink.
- Promethazine mixed in liter bottle of lime or other soft drink.
- Google “Leaning on Syrup”
New “Relaxation” Drinks: Drank and Lean

Valerian Roots
Melatonin
Rose Hips
“Slow Your Roll”
“Slow Motion Potion”
Legal Lean Syrup Act - Grape Flavor Herbal Relaxation Supplement

- $9.95 from eBay
- Find Legal Lean Syrup Act - Grape Flavor Herbal Relaxation Supplement on eBay in the category Health & Beauty>Vitamins & Dietary Supplements ...
Indicators of PCP Trends in Texas: 1998-2016