“What’s the word on the street?”
Update on Drugs of Abuse

Brian Levine, MD, FACEP
Program Director
Emergency Medicine Residency
Associate Medical Director
Lifenet Aeromedical Transport
Department of Emergency Medicine
Christiana Care Health System
**State Facts**

Population: 885,165  
Law Enforcement Officers: 1,878  
State Prison Population: 6,900  
Probation Population: 19,995  
Violent Crime Rate  
National Ranking: 6  
Violent crimes per 100,000: 547.4  
Poverty rate: 12.0%  
Pct. of population with bachelor’s degree or higher: 29.5%  
Property crimes per 100,000: 3,340.9 (13th highest)

**2008 Federal Drug Seizures**

Cocaine: 26.2 Kgs.  
Heroin: 0 Kgs.  
Methamphetamine: 0.0 Kgs.  
Marijuana: 6.0 Kgs.  
Ecstasy: 0 tablets  
Methamphetamine Laboratories: 2 (DEA, state, local)

No. 6:  
**DELAWARE**  
Assault: 7  
Burglary: 18  
Murder: 10  
Motor Vehicle Theft: 19  
Rape: 9  
Robbery: 3
### Heroin Busts Per 100K People - The Top 20

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Delaware</td>
<td>3.56</td>
</tr>
<tr>
<td>2</td>
<td>Vermont</td>
<td>2.23</td>
</tr>
<tr>
<td>3</td>
<td>Connecticut</td>
<td>1.25</td>
</tr>
<tr>
<td>4</td>
<td>New Jersey</td>
<td>1.14</td>
</tr>
<tr>
<td>5</td>
<td>Arizona</td>
<td>1.11</td>
</tr>
<tr>
<td>6</td>
<td>Pennsylvania</td>
<td>1.05</td>
</tr>
<tr>
<td>7</td>
<td>Oregon</td>
<td>0.80</td>
</tr>
<tr>
<td>8</td>
<td>Massachusetts</td>
<td>0.73</td>
</tr>
<tr>
<td>9</td>
<td>Alaska</td>
<td>0.70</td>
</tr>
<tr>
<td>10</td>
<td>Rhode Island</td>
<td>0.66</td>
</tr>
<tr>
<td>11</td>
<td>West Virginia</td>
<td>0.53</td>
</tr>
<tr>
<td>12</td>
<td>Ohio</td>
<td>0.43</td>
</tr>
<tr>
<td>13</td>
<td>New York</td>
<td>0.43</td>
</tr>
<tr>
<td>14</td>
<td>North Carolina</td>
<td>0.37</td>
</tr>
<tr>
<td>15</td>
<td>Maine</td>
<td>0.37</td>
</tr>
<tr>
<td>16</td>
<td>Texas</td>
<td>0.33</td>
</tr>
<tr>
<td>17</td>
<td>D.C.</td>
<td>0.33</td>
</tr>
<tr>
<td>18</td>
<td>New Mexico</td>
<td>0.29</td>
</tr>
<tr>
<td>19</td>
<td>Indiana</td>
<td>0.26</td>
</tr>
<tr>
<td>20</td>
<td>Maryland</td>
<td>0.24</td>
</tr>
</tbody>
</table>
The money spent on drugs saps our economic power

U.S. Users Spend $63.2 Billion Annually

Billions of Dollars (Projections for 1999)

- Cocaine: 37.1
- Heroin: 11.9
- Marijuana: 10.4
- Meth: 1.6
- Other: 2.3

Source: ONDCP Paper, *What America’s Users Spend on Illegal Drugs*
Health Care Cost Components

- Community-based specialty treatment
- Federally provided specialty treatment
- Support for drug abuse related services
- Medical consequences of drug abuse
  - hospital and ambulatory care
  - special disease costs
  - crime victim health care costs
  - health administration costs
In 2000, more than 600,000 drug-related ED episodes were reported in DAWN -- cocaine is the most often mentioned drug.

Rates of ED visits involving selected illicit drugs: 2006

- Cocaine: 182 per 100,000 population
- Marijuana: 96 per 100,000 population
- Heroin: 63 per 100,000 population
- Stimulants: 36 per 100,000 population

Among young adults (ages 18 to 25), current use of any illicit drugs is unchanged from 1999 to 2000.

Source: SAMHSA, National Household Survey on Drug Abuse.
Current Drug Use Varies Widely, by Age, but the Cohort Effect Lasts a Lifetime.

Prime example of an aging cohort of drug users -- this group began use in 1970s.

Source: 2000 National Household Survey on Drug Abuse
The need for screening

• Injury is strongly related to substance abuse
• Hospitals do NOT routinely screen trauma patients
  – 1989 survey – 62% BAC, 39% drugs
• Patients with diseases have the right to expect hospitals to seek the underlying causes of their illnesses, and hospitals and physicians are responsible for doing so
NIH facts

- Rivara et al., 1993
- 2,500 trauma patients followed for 18 months after their injury
- Patients who were intoxicated at the time of the initial injury were 2.5 times more likely than other patients in this group to sustain a second injury during the 18-month period
- Those who were found to have chronic alcohol/drug use were 3.5 times more likely
Initial Evaluation

• You are a detective and it can be fun
• History is very important
  – friends
  – relatives
  – police
  – paramedics
• Ask someone to check the house!
Physical Exam - Toxidromes

• Sympathomimetic - cocaine, PCP
  – HTN, tachycardia, diaphoresis, seizures

• Anticholinergic - jimson weed, fertilizers, antihistamines
  – dry mouth, dilated pupils, flushing, tachycardia, hand air grabbing is classic

• Opiates
  – pinpoint pupils, hypotension, resp depression

• Sedative/Hypnotics – alcohol, benzos, barbiturates
  – Normal vital signs yet less responsive
What to do immediately....

• ABCs, vital signs
  – “They’re called vital because....”
• when in doubt, intubate
  – extreme agitation or somnolence
  – controversial – “airway protection”
  – gastric lavage
• check the temperature
  – hypothermia
  – hyperthermia - sympathomimetics
Cocaine “Snow”

- 3.7 million users in US in 2000
  - “look to your left, look to your right”
  - 25 million in US have tried once
- snorted, smoked, injected or squirted into nose
- any mucosal lining is absorptive
- Na channel blocker, ester local anesthetic
- mydriasis, tachycardia, HTN, diaphoresis
- 1980s - recreational use
- 1990s - regular use with dependence
- 18-24 yo, males
- all socioeconomic groups
  - upper: powder
  - lower: crack
# Pharmacokinetics of cocaine

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak Absorption</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injected</td>
<td>Seconds</td>
<td>3-5 minutes</td>
<td>15-30 min</td>
</tr>
<tr>
<td>Insufflation</td>
<td>1-3 min</td>
<td>20-30 min</td>
<td>60-90 min</td>
</tr>
<tr>
<td>GI</td>
<td>Variable</td>
<td>60-90 min</td>
<td>&gt;180 min</td>
</tr>
</tbody>
</table>
Cocaine (2) “Charlie”

- Na channel blocker (local anesthetic and type I antidysrhythmic) and presynaptic uptake of NE, DA, serotonin
- Increase in SNS
- Intracranial HTN:
  - talkative, active, sociable, occ. Agitated
- Hyperthermia:
  - stimulation of thermoregulatory center
  - increase in psychomotor agitation
  - vasoconstriction
- seizures, strokes, migraines, blindness
Cocaine (3) “Blow”

• Myocardial ischemia
  – may not develop CP for 24-72 hrs
  – myocardial depression of depolarization
  – vasoconstriction, tachycardia, HTN, plt aggregation, thrombus formation
  – EKG sensitivity 35% (high false-negatives)
  – complications usually within 12 hrs, uncommon, AMI rate 5%, arrhythmias, CHF
  – Very low mortality (if any) in studies

Cocaine (4) “Rock”

• Pulmonary complications:
  – asthma exacerbation, PTX, pneumomediastinum, noncardiogenic PE
  – thermal airway injury

• Pregnancy:
  – prematurity, w/d, abruption

• Rhabdomyolysis:
  – seizures, hyperthermia, immobility, vascular insufficiency
Cocaine (5)

- Treatment
  - attenuate excessive sympathomimetic response
  - sedative/hypnotics - benzos, benzos, benzos
  - consider phenobarbital for status epilepticus
  - cool patient if hyperthermic
  - treat rhabdo with fluids and bicarbonate
  - theoretically hold beta-blockers
  - Phentolamine, nitrates, ?ASA, PTCA
Heroin “Smack”

• Purity ranges from 1%-98% -
  – national average 35%
  – Increase in snorting and smoking due to ↑ purity
  – Increase in effect due to acetyl fentanyl combo

• Increased teenager use

• Inject (<1min), snort (3min) or smoke (5min)

• mu receptor activation
  – peaks in minutes
Heroin “Junk”

• Deaths mostly from IV use and resp dep
• euphoria, analgesia, clouding, miosis
• “rush” = drug
• “reward” = dependence
• Complications:
  – endocarditis - tricuspid mostly, but can affect left heart valves too - Staph aureus
  – noncardiogenic pulmonary edema may be delayed 24 hours
  – constipation
Heroin “Skag”

• Treatment
  – airway - consider naloxone in 0.2mg alloquots (IV, SQ, IM)
    • DOA of narcan is 20-90 minutes so observation for hours is recommended due to re-sedation

  – Consider mixed drugs in confusing toxidromes
    • alcohol
    • cocaine
Heroin “Brown”

• Withdrawal
  – piloerection, yawning, rhinorrhea, sweating, lacrimation, vomiking, abd cramping, diarrhea
  – appears 9-14 hrs after last use
  – tachycardia, HTN, tachypnea
  – Not life threatening
  – symptomatic - IV fluids, antiemetics, clonidine

• Stuffers/Packers
  – Observe, charcoal, Go-Lytley (or heavily)
Annual Numbers of New Nonmedical Users of Psychotherapeutics: 1965–2001
Prescription opiates

- Oxycontin, Vicodin, Percocet
- 2nd most abused category of drugs
- Rx forgery used to be a monthly occurrence at CCHS
- 12th graders
  - 10.5% using Vicodin (non-medical)
  - 4.5% using Oxycontin without Rx
- Chew, crush and snort, dissolve in water and inject
Oxycontin®

Walgreens:  
10mg = $1.25  
80mg = $6

On the street:  
10mg = $5-10  
80mg = $65-80

Two tablets of generic oxycodone. One side of each tablet is marked "93" and the other is marked "33."
• More generic deaths due to 80mg tablet (oral ingestion)

• **Nonmedical Use of Pain Relievers.** Lifetime nonmedical pain reliever prevalence among youths aged 12 to 17 quadrupled
Metamphetamines “Crank/Ice”

• Structurally similar to catecholamines
• Injected, smoked, snorted
• Immediate effects
  – Aroused, restless, hyperpyrexia, N, V, mydriasis, HTN, occ psychosis
• Treat like cocaine - benzos
• Can last hours (unlike cocaine)
• Keep cardiac ischemia in mind (no data)
LSD “Acid”

- Hallucinogen from the seeds of the morning glory plant
- absorbed from all mucous membranes
- onset of action less than one hour
- hallucinations, paranoia, psychosis
- synesthesia: hearing colors, seeing sounds
LSD “blotter”

- Sympathomimetic:
  - HTN, mydriasis, tachycardia, diaphoresis
  - Improvement within 4 hrs, baseline at 12 hrs

- Treatment:
  - Prevent behavioral toxicity
  - Gentle reassurance
  - Consider halodol, benzos
PCP/Ketamine

- “angel dust” “vitamin K” “special K”
- dissociative anesthetic
- smoked, snorted
- on in 3 minutes, off in 15 min
- agitation, confusion, hallucinations, ataxia,
- any nystagmus (vertical is pathognemonic)
- prevent the violence
- Psychosis – ziprasidone, 20mg IM
Jimson Weed “Weed”

- Plant grown right outside Christiana Hospital
- eaten or smoked
- hallucinogen
- high concentration of atropine
- anticholinergic: flushed, tachy, ur retention, hallucinations
- watch bradycardia, heart block, seizures
- consider physostigmine
Marijuana “Grass”

• Most commonly used illegal drug in US
  – “again, look to your left, look to your right”
• tachycardia, injected conjunctiva, euphoria, postural hypotension
• euphoria
• slowed reaction times
Inhalants

- Common household products: glue, gasoline, spray paint, nail polish remover
- Hydrocarbons
- Sniffed = nose; huffed = mouth
- Peaks in 15 to 30 min
- Relaxed, sleepy, hallucinations
Inhalants (2)

- Appear drunk
- Smell of solvents or remnants on clothes
- Complications:
  - Neurologic depression, seizures, asphyxia
  - Chronic use: decreased myocardial contractility
  - Chemical pneumonitis
  - Dysrhythmias
Inhalants (4)

• Gasoline sniffing
  – greatest in adolescents
  – intoxicated in 5 minutes, lasts hours
  – giddiness, excitable, hunger, ataxia, confusion
  – chronics can get lead poisoning - N,V, tremors, delirium, irritability
  – burn injuries
GHB

• Initially developed as a GABA analog in the 1960s, anesthetic
• FDA approved for narcolepsy
• Recreational, rave parties, muscle bulking agent, hypnotic, occ “date rape”
• consider physostigmine
GHB

- disinhibition, euphoria
- rapid respiratory/CNS depression
- hypotension, bradycardia, vomiting with aspiration (60% GCS <9), seizures
- Peak 30-60 min, half life 20-53 min,
- Typically recover over 2-6 hrs
- Treatment is supportive, bradycardia responds to atropine
- self extubate, discharge from ED
- Case reports of narcan, physostigmine reversal
Ecstasy

- MDMA, MDEA, MDA – designer drugs (methamphetamines)
- used in ‘Raves’
- Round, white tablets (birds)
- reduces anxiety and lowers defenses
- Lasts 4-6 hrs
- damages serotonin producing neurons
- Hyperthermia, CNS stimulant, alterations in intensity of colors or texture sensation
  - euphoria, heightened sexual interest, verbosity
Ecstasy or MDMA “Molly”

– death due to fatal dysrhythmias regardless of CAD
– severe HTN, IC hemorrhage
– hyperthermia, sz, DIC, RF, rhabdo (serotonin syndrome like)
– Hyponatremia (?excessive water intake from all night raves)
– chronic usage leads to cognitive deficits

National Institute on Drug Abuse, 2004
Ecstasy

• Treatment:
  – quite room
  – gentle sedation (benzos, haldol)
  – toxicity similar to cocaine, yet can last hours
  – consider charcoal for recent tablet ingestion
Methylphenidate

- AKA - Ritalin
- psychomotor stimulant - like amphetamines
- po, IV, IN
- crushed into powder for more rapid onset and greater toxicity (fatalities)
- sympathetic hyperactivity
- supportive care, benzos, cooling
Designer Drugs

• In the past decade:
  – Older drugs (LSD, cocaine) up 29-48%
  – Non-traditional, emerging, Web-based (NEW) drugs up 187-5, 400%!

• Internet influence
  – “Anyone with an internet connection can get almost anything delivered to their home or dorm rooms”
Bath Salts “Ivory Wave”

• The substances sold as “bath salts” and “plant food” products are based on the Schedule I controlled substance cathinone, which is a potent central nervous system stimulant

• They are not typical bath salts and have absolutely nothing in common with actual bath salts
Bath Salts “White Lightening”

• Products are sold in a powder or capsule form that can be easily ingested – it can be snorted, smoked, injected and even mixed with water and consumed

• Product can be found in convenience stores, discount tobacco outlets, gas stations, pawnshops, tattoo parlors, truck stops and other locations
Bath Salts “Bliss”

- Cathinone is an active ingredient in the leaves of the khat plant, native to Africa

- These synthetic substances are suspected to be manufactured in bulk quantities in countries such as China, Pakistan, and India, and some of the actual products may be packaged for wholesale distribution in intermediate locations such as Eastern Europe
Bath Salts “Magic Plant Food”

• Distributed and abused in Europe, particularly Great Britain and Germany, for several years

• Mephedrone was first detected as a drug of abuse in Europe in November 2007
Bath Salts

• A small packet of the chemicals typically costs as little as $20
• They are indirectly marketed as “legal” alternatives to the controlled substances cocaine, amphetamine, Ecstasy, and methcathinone
• The most prevalent synthetic substances encountered within these products include MDPV (3,4-methylenedioxypyrovalerone), mephedrone (4-methylmethcathinone) and methylone (3,4-methylenedioxymethcathinone).
Bath Salts

- mephedrone and methylenedioxypyrovalerone (MDPV), had been previously unregulated because they aren’t marketed, or likely intended, for human consumption
- These substances are marketed as “research chemicals,” “plant food”, or “bath salts”, “not for human consumption,” to circumvent the Controlled Substances Act
Bath Salts

• Unique combination of effects and toxicities:
  – In rats:
    • Like meth (unlike ecstasy) – craving occur quickly
    • Like meth – increases cerebral dopamine
    • Like ecstasy – increases cerebral serotonin
    • Like meth and ecstasy – leads to hyperthermia
Bath Salts

- mephedrone causes euphoria, stimulation, an enhanced appreciation for music, an elevated mood, decreased hostility, improved mental function and mild sexual stimulation
- similar to the effects of cocaine, amphetamines and MDMA
- effects last different amounts of time, depending on the way the drug is taken
Bath Salts

- When taken orally, effects within 15–45 minutes
- Snorted, effects are felt within minutes and peak within half an hour
- Effects last between two and three hours when taken orally or nasally, but only half an hour if taken intravenously
- 70 Dutch users of mephedrone, 58 described it as an overall pleasant experience and 12 described it as an unpleasant experience. A survey of UK users, who had previously taken cocaine, found that most users found it produced a better quality and longer lasting high, was less addictive and carried the same risk as using cocaine.
Bath Salts

• Most common effects:
  – poor concentration, teeth grinding, problems focusing visually, poor short-term memory, hallucinations, delusions, erratic behavior and dilated pupils
  – most severe effects appear anecdotally to be linked with high doses or prolonged usage and that the effects may be due to users taking other intoxicants at the same time
  – Other effects:
    • changes in body temperature, increased heart rate, breathing difficulties, loss of appetite, increased sweating, discoloration of extremities, anxiety, paranoia, and depression
Bath Salts

• Snorting can cause nose bleeds or burns
• VERY ADDICTING
• National Addiction Centre, UK found:
  – 67% experienced sweating
  – 51% headaches
  – 43% heart palpitations
  – 27% nausea and vomiting
  – 15% cold or blue fingers (vasoconstriction)
• Guy's Hospital, London
  – 15 patients they treated after taking mephedrone in 2009
    • 53% were agitated, 40% had increased heart rates, 20% had systolic hypertension and 20% had seizures; three required treatment with benzodiazepines, predominantly to control their agitation
Bath Salts

• Users hurt themselves, are agitated and could act paranoid
• Mimic the signs that are common to most drugs, including mood swings, change in dress and friends, a need for money and items missing, a drop in grades, a change in sleep patterns and trouble with relationships
• Abusers reported that they experienced many adverse effects such as chest pain, increased blood pressure, increased heart rate, agitation, panic attacks, hallucinations, extreme paranoia, and delusions
• The drugs cause intense cravings
• Users often binge on it three or four days before they show up in an ED
Bath Salts

• *“Doctors and clinicians at U.S. poison centers have indicated that ingesting or snorting ‘bath salts’ containing synthetic stimulants can cause chest pains, increased blood pressure, increased heart rate, agitation, hallucinations, extreme paranoia, and delusions.”

  Nora D. Volkow, M.D., Director of NIDA

• 40% reported seizures

• 13-40% reported psychosis
Bath Salts

• In 2010, poison control centers in the United States received 302 calls regarding bath salts. In January 2011, US poison control centers had already received 2,237 calls regarding bath salts.

• Entire 2011 - 13,000 calls!
Bath Salts

• In Blair County, at least one death has been attributed to a bath salts overdose. In another incident, two friends high on bath salts reportedly fought, stabbing at each other, over another container of the product. It also was reported last week a man high on bath salts in Scranton broke into a church monastery and stabbed a priest.

*A Lebanon County woman was using bath salts, which contain a synthetic drug, and got behind the wheel with a toddler in the car. Witnesses reported “an erratic driver who had run a red light and was banging her head against the steering wheel.”
Bath Salts

- As of April 15, 2011, two of the chemicals used in making MDPV have been banned in 7 states, including Louisiana, Florida, Alabama, Mississippi, North Dakota, Washington and New Jersey. 23,000 ED visits in 2011.

- One of the chemicals used in MDPV have been banned in 10 more states, including, Idaho, Utah, Wyoming, New Mexico, Arkansas, Kentucky, Michigan, Virgina, West Virginia and North Carolina. Similar measures are pending in Hawaii.
Bath Salts

• The trend in the development, distribution, and consumption of this class of substances in Europe has resulted in the United Kingdom and Germany banning products containing these substances

• *DEA temporarily labelled MDPV as a Schedule 1 controlled substance

• U.S. Reps. Charlie Dent and Pat Meehan are pushing for a federal ban on bath salts
Spice or K2

- Synthetic cannabinoid
  - Yet not truly related to THC but have nonselective affinity for cannabinoid receptors CB1 and CB3 – full agonists
- Originally developed for animal research
- Manufactured mostly in China/SE Asia
- 2014 monitoring the future study of middle and HS students ranked it 3rd behind marijuana and incense
- Jan, 2015-May, 2015 3500 calls to poison control centers (double 2014)
- Sold as “herbal incense” or “potpourri”
  - Gas stations, convenience stores and internet
- More potent and powerful than natural marijuana
  - Liquid forms being put in electronic cigarettes
- Agitation (23%), tachycardia (40%), HTN, inappropriate affect

Clin.Toxicol. 2011;49;431-3
Spice or K2

• Many states banned existing compounds
• Federal legislation is pending
• “chemists” create newer synthetic analogs which look different from Spice/K2
  – Evades the legal system
  – Cannot be detected in standard drug screens
  – Do NOT test positive for THC
• 11% of high school seniors have used
Meow-Meow

- Mephedrone, 4-methylmethcathinone
- “Drone, Bubble, MCAT”
- Synthetic cathinone from the African shrub
- Stimulant and sympathomimetic
  - Like ephedra and amphetamine
  - Sz, agitation, HTN, tachycardia, hyperthermia

Nutmeg

• Doses as high as 50g leads to hallucinations
• Tachycardia, palpitations, agitation

• Clin. Toxicol. 2011;39:177-80
CRAZY CLOWN HERBAL INCENSE

(U//FOUO) The Georgia Department of Health has issued an emergency alert to doctors and physician assistants concerning “Crazy Clown,” “Herbal Madness Incense,” or “Crazy Clown 5x Herbal Madness” after eight people were hospitalized after using the potentially lethal substances. Some of the patients have been admitted to intensive care units and are on life support. The substances, sold at convenience stores and other gift shops, are commonly smoked or burned in a small bowl similar to the inhalation of marijuana. When ingested or inhaled, the neurotoxin can render a person immobile or unconscious and cause severe cardiac problems.

(U//FOUO) Although these substances have been around for years, there are indications the chemicals and ingredients have been altered recently causing far more dangerous or deadly reactions. First responders have reported unusual strength, agitation, and combativeness in people using the substance, while others have exhibited abnormal or absent reflexes and some experience unconsciousness. Other symptoms may include: alterations in mood and perception, red eyes, nausea, vomiting, dry mouth, weakness, cardiac abnormalities, hypertension, disorientation, and an increase in pulse rate similar to marijuana.

(U//FOUO) Since 08/23/2013, three additional individuals have been transported to the hospital after smoking different products from the same convenience store in Georgia. Indicators suggest the products came from a distributor of synthetic cannabinoids, and possibly medical marijuana in Colorado. Additional product names include: Crazy Clown, 20x Premium Blend, xXx, Black Lion, and Original Shamrock.
FINALLY

• July 9, 2012 President Obama signed
  – Synthetic Drug Abuse Prevention Act of 2012
  – Added 31 compounds to schedule I
    • 9 fall into cathinone-based “bath salts” category
    • 20 found in synthetic marijuana (Spice or K2)
  – Enhances existing laws in 44 states
The Problem

• Underground chemists constantly alter the molecular makeup of the compounds

• Create versions that are not covered under the new laws
  – Technically legal
What to do when we see these patients?

- No treatment guidelines
- Drug screens are not helpful
- Ask the patient, know the slang
- Check the patient’s belongings, pockets
- Symptomatic and supportive
  - Calm quiet room, minimal stimulation
- Benzodiazepines (lorazepam, valium)
- Consider antipsychotics (haloperidol)
What to do when we see these patients?

- Erowid.org
- Lycaeum.org
- Shroomery.org
- Talktofrank.com
- No antidotes
- Symptom-based, goal-directed treatment
  - IVF, EKG, sedation, monitor VS
  - Some NEW drugs last 24 hours
  - Consider counseling!
Overview of Findings from the National Survey on Drug Use and Health
DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Office of Applied Studies

Current and prior national surveys are available at SAMHSA's website:
http://www.oas.samhsa.gov