

## Teenage Use of Over-the-Counter and Prescription Drugs Safe and Drug-Free Schools Consortium

February 7, 2007

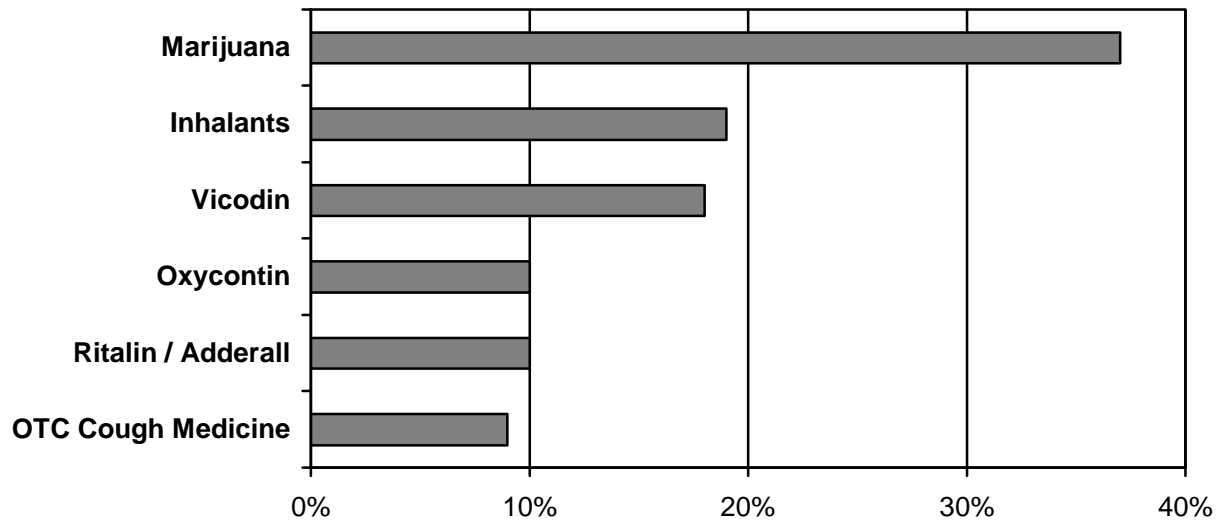
Stuart Beatty, Pharm.D., BCPS

The Ohio State University College of Pharmacy

### Generation Rx

- 1 in 11 teens has used OTC cough medicines to get high
- 1 in 10 teens has used prescription stimulants without a doctor's orders
- 1 in 5 teens use inhalants to get high
- 1 in 5 teens has reported using Vicodin
- 1 in 10 has reported using Oxycontin
- 1 in 5 teenagers report being offered a prescription painkiller to get high

### Teens Who Have Tried Select Agents



*Adapted from Partnership Attitude Tracking Study, 2004*

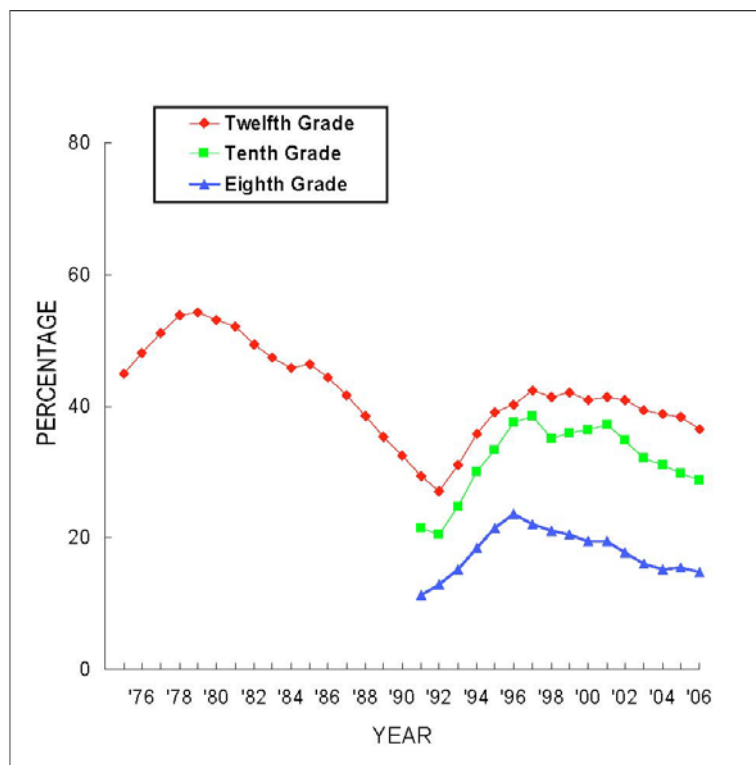
### PPAAUS (Data taken from 2003 survey results)

- Drug use amongst Franklin county teenagers is declining
- 20% of students reported regular use of marijuana (once a month)
- 0.5% of students reported use of inhalants at least once a month
- 2% of students reported regularly using someone else's prescription drugs
- 1% of students reported using OTC medications at least once a month
- 83% of Franklin county students participate in D.A.R.E.

## Monitoring the Future

An ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults performed by the University of Michigan. Each year, a total of approximately 50,000 8th, 10th and 12th grade students are surveyed (12th graders since 1975, and 8th and 10th graders since 1991).

### **Trends in Annual Prevalence of an Illicit Drug Use Index Eighth, Tenth, and Twelfth Graders**



### Specific Results from 2006

- Drug use dropped for the 10<sup>th</sup> consecutive year
- Marijuana, methamphetamine, and crack cocaine use declined
- Narcotic, inhalant, and stimulant use did not change
- OTC cough medicines are used by 1 in 25 (4%) 8<sup>th</sup> graders and 1 in 14 (7%) 12<sup>th</sup> graders (*first measured in 2006*)

Source: *The Monitoring the Future Study, University of Michigan*

## Dextromethorphan

Products: Robitussin, Vicks 44 D, Delsym, Drixoral, Coricidin HBP

- Over 100 OTC products available containing dextromethorphan
- Can be ordered as powder over internet



Street Names: DEX, DXM, DM, Tussin, Robo, Vitamin D, CCC, Triple C, Skittles

How does it work:

- Similar to codeine as cough suppressant (no pain relief from DXM)
- At high doses, becomes similar to PCP (accumulation of metabolite)
  - Produces euphoric “high” and intense hallucinations

Dose: Cough – 10-30mg every 4-8 hours (max of 120 mg/day)

Abuse – 4 oz. bottle of cough syrup (240-360 mg)

CCC box = 420 mg

Desired symptoms:

- Laughing
- Euphoria
- Hallucinations
- Overcome social anxiety
- Dissociation of mind
- “Out-of-body” sensation

Adverse effects:

- Confusion
- Dizziness
- Drowsiness
- Numbness
- Double or blurry vision (dilated pupils)
- Slurred speech
- Loss of coordination
- Abdominal pain, including N/V
- Disorientation
- Rapid heart beat
- Blood pressure increase
- Body temperature increase
- Death

Other:

- OTC products often contain other medications; can lead to additional toxicities
  - Antihistamine (Benadryl)
  - Decongestant (Sudafed)
  - Pain reliever (Tylenol)
- Use has been increasing in recent years
- Can have serious interaction if also using antidepressants

## Inhalants

Products: Rubber cement, paint, glue, nail polish remover, paint thinner, butane lighters, hairspray, gasoline, Freon, nitrous oxide, amyl nitrate, computer duster

- More than 1,000 common products have potential for abuse



Street names: Poppers, Snappers, Whippets, Climax, Rush, Locker room

How does it work:

- Rapidly absorbed through lungs and into brain, resulting in quick high
- Quickly metabolized in body, resulting in short, intense high
- Metabolites may cause toxicities and cell death

Desired effects:

- Laughing
- Euphoria
- Dissociation of the mind
- Distorted time and space perception

Adverse effects:

- Headache
- Nausea and vomiting
- Loss of appetite
- Hearing loss
- Short-term memory loss
- Limb spasms and/or seizures
- Liver and/or kidney damage
- Suffocation
- Brain damage
- Sudden sniffing death syndrome

Other:

- Huffing, Sniffing, Bagging – abused by huffing on fumes, “collecting” fumes in plastic bag and breathing through hole; saturating rag with liquid and placing rag over mouth
- Use is as common as marijuana according to some studies
- Use is increasing while most other drug use is decreasing

## Pseudoephedrine

- Precursor for production of methamphetamine
- US Patriot Act (3/06) sets nationwide restrictions on sale



PBS Frontline Documentary – The Meth Epidemic

<http://www.pbs.org/wgbh/pages/frontline/meth/>

## Stimulants

Products: Adderall, Dexedrine, Ritalin, Concerta



Street Names: Speed, Bumping



How does it work:

- Stimulant effect in body for increased awareness and mental stimulation
- Originally used in WWII to keep soldiers awake and alert

Medical use:

- Used for treatment of ADHD and narcolepsy

Abuse Potential:

- Increased availability in high schools (accessible)
- Used to cram for tests and exams
- Produces intense withdrawal when coming down

Adverse Effects:

- Insomnia
- Agitation
- Dry mouth
- Anorexia / weight loss
- Hyperactivity
- Palpitations
- Depression (withdrawal)
- Increased blood pressure
- Increased body temperature
- Arrhythmias

PBS Frontline Documentary – Medicating Kids

<http://www.pbs.org/wgbh/pages/frontline/shows/medicating/>

## Narcotics

Products: Vicodin, Lortab, Percocet, Morphine, Oxycontin



Street Names: Hydros, Vike, Watson-387, Oxy-cotton, OCs, Hillbilly Heroin

### How does it work:

- Works on pain relief receptors in the body (effective for pain relief)
- Mimics pain relievers made within our body (endorphins)
- Same receptors as opium, heroin

### Medical use:

- Effective for pain relief and cough suppression
- Used for mild pain up to malignant pain
- Oxycontin is controlled release formula to provide pain relief for 12 hours
- Often combined with other pain relievers for additive effects

### Abuse Potential:

- Intensifies the euphoric feeling of alcohol
- Vicodin/Lortab are frequently prescribed (accessible) and generic (cheap)
- Oxycontin abuse well-known and documented
  - Tablets crushed and snorted to provide immediate release of drug

### Adverse Effects:

- Confusion
- Drowsiness
- Severe itching
- Constipation
- Abdominal pain, including N/V
- Double or blurry vision (dilated pupils)
- Slurred speech
- Loss of coordination
- Disorientation
- Liver failure (with Tylenol)
- Difficulty breathing
- Death

## Useful Web Sites

[www.drugfree.org](http://www.drugfree.org)

- Partnership for Drug Free America

[www.monitoringthefuture.org](http://www.monitoringthefuture.org)

- ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults. Each year, a total of approximately 50,000 8th, 10th and 12th grade students are surveyed (12th graders since 1975, and 8th and 10th graders since 1991).

[www.nida.nih.gov](http://www.nida.nih.gov)

- National Abuse on Drug Abuse – the science of drug abuse & addiction

[www.teendrugabuse.us](http://www.teendrugabuse.us)

- designed to educate why teens are abusing, what they are abusing, and effects

[www.painfullyobvious.com](http://www.painfullyobvious.com)

- designed for teenagers to educate about the harm drugs can have on health

[www.abovetheinfluence.com](http://www.abovetheinfluence.com)

- new campaign to educate on drug abuse and fighting peer pressure  
- similar program cut in half the number of students that began marijuana use

[www.erowid.org](http://www.erowid.org)

“We imagine a world where people treat psychoactives with respect and awareness; where people work together to collect and share knowledge in ways that strengthen their understanding of themselves and provide insight into the complex choices faced by individuals and societies alike. We believe that truth, accuracy, and integrity in publishing information about psychoactives will lead to healthier and more balanced choices, behaviors, and policies around all psychoactive medications, entheogens, herbs, and recreational drugs. Erowid's vision is to facilitate and create resources that are part of the evolution towards this goal.”