

Prescription Drug Abuse: Trends and Consequences

“Putting the Pieces Together for Children and Families”

The National Conference on Substance Abuse, Child Welfare and the Courts

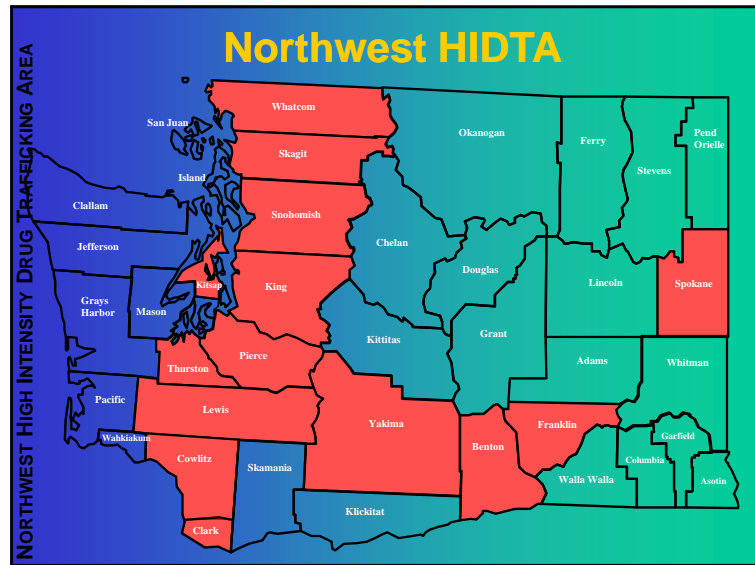
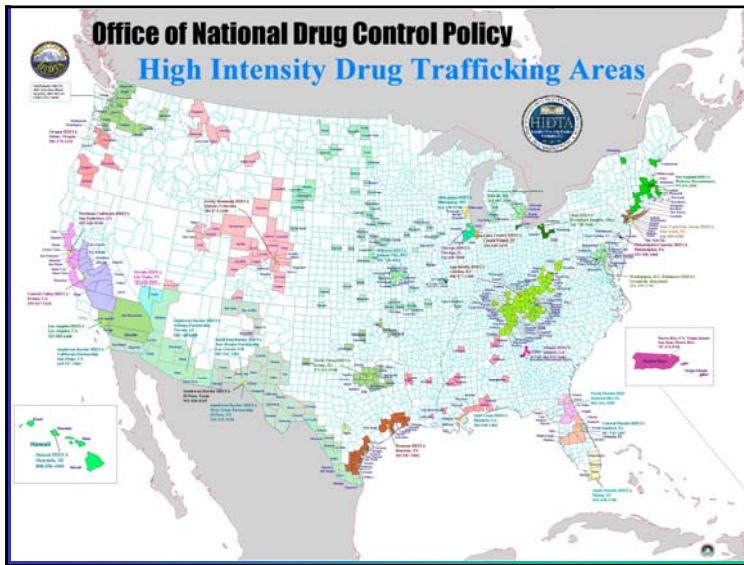
Gaylord National Resort and Convention Center
Potomac National Harbor, Maryland
September 15, 2011

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NW HIDTA Prevention/Treatment Manager

What is a HIDTA?

“HIGH INTENSITY DRUG TRAFFICKING AREA”

HIDTAs are part of the national drug control strategy. They are grant programs managed by the Office of National Drug Control Policy, awarded to geographic areas that are considered to be critical centers of drug production, manufacturing, importation, distribution and/or chronic consumption.



Northwest HIDTA Strategy

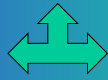
Combining Public Safety and Public Health Approaches:

ENFORCEMENT

Investigative Support
Task Force Support

PREVENTION

Community Coalition Support
Public Education & Awareness



TREATMENT

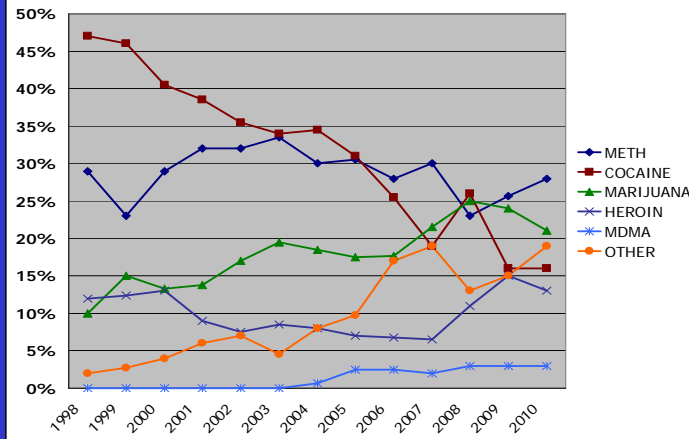
Drug Court Programs
Data Management & Evaluation

Threat Indicators

"Critical Events" registered with the NW HIDTA by 61 L.E.A.s in 1998:

• Cocaine:	128
• Methamphetamine	79
• Heroin	33
• Marijuana:	27
• Other:	<u>6</u>
	273

Percentage CEV by Drug



Threat Indicators

"Critical Events" registered with the NW HIDTA by 75 L.E.A.s in 2010:

• Methamphetamine:	819
• Marijuana:	639
• Cocaine	475
• Rx Opiates:	413
• Heroin:	383
• MDMA (Ecstasy):	97
• Other:	<u>146</u>
	2,972

Psychoactive Drugs by Group/Type

- Nicotine
- Marijuana
- Stimulants
- Opiates
- Sedatives
- “Atypical” Drugs
- Hallucinogens

What Makes a Substance “Psychoactive”?

- Psychoactive substances -- “drugs” -- modify the neurochemistry of the reward/pleasure process
- Drugs activate or imitate the chemicals -- neurotransmitters -- associated with and/or located in the reward/pleasure center
- Specifically, drugs stimulate the release of dopamine and endorphin but in an enhanced manner
- Dopamine produces “excited euphoria”, endorphin produces “calm euphoria”

Factors Contributing to Abuse

- Biological predisposition
- Childhood experiences – modeling, neglect and abuse, depression, trauma
- Culture, norms
- Lack of socioeconomic barriers
- Underlying mood, affective disorders, PTSD

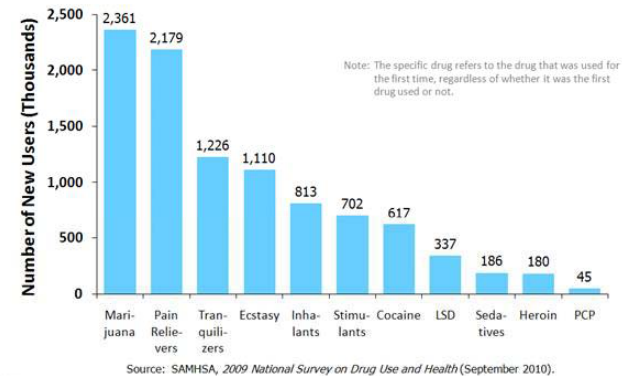
Addiction

- Addiction is a “disease of the brain”, most descriptively defined by a progressive loss of control over use
- Addiction entails four criteria:
 - compulsion -- involuntary, irrational usage behaviors
 - continued use despite adverse consequences
 - craving -- intense, irrational psychological preoccupation
 - denial -- a distortion of perception caused by craving
- Addiction includes Abstinence Syndrome at cessation of use - withdrawal is comprised of symptoms that are described as a “rebound effect” from the particular drug to which the user has become dependent

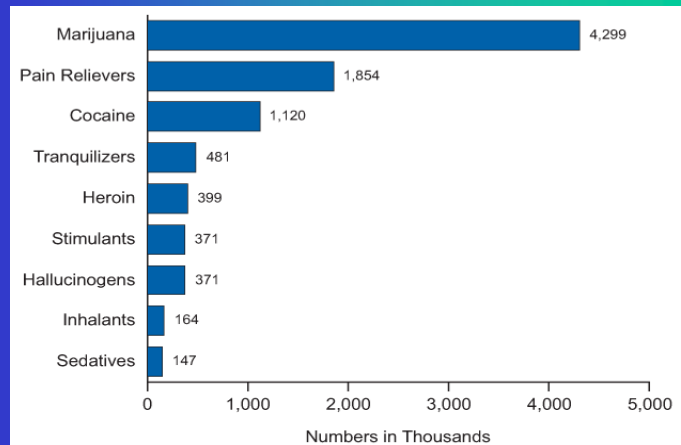
Types of Commonly Abused Prescription Drugs

- **Stimulants --**
 - Prescribed to treat narcolepsy and attention deficit/hyperactivity disorder (Ritalin, Adderal)
- **Sedatives --**
 - Prescribed to treat anxiety and sleep disorders (Phenobarbital, Valium, Xanax)
- **Opiates --**
 - Prescribed to treat acute and chronic pain (Hydrocodone, Oxycontin, Methadone)

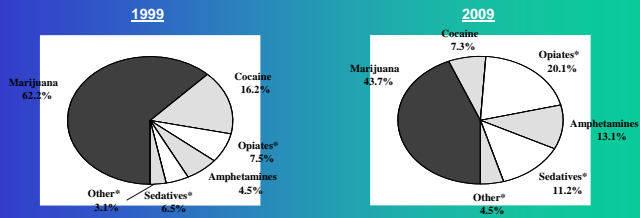
New Users in the Past Year of Specific Illicit Drugs among Persons Aged 12 or Older, 2009



Abuse/Dependence on Illicit Drugs in the Past Year (aged 12 or older)



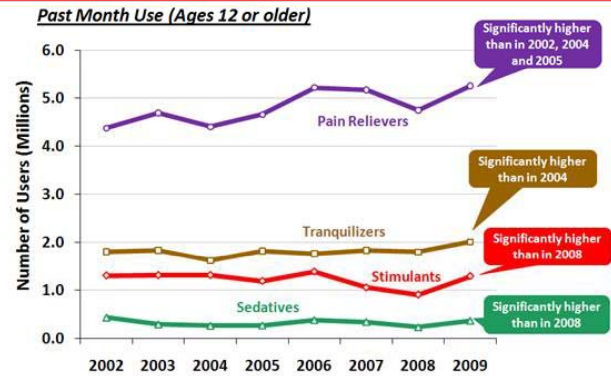
Positive Employee Drug Tests Among U.S. Workers, 1999 and 2009



*The category "opiates" comprises methadone, propoxyphene, oxycodone, and other opiates. The category "sedatives" comprises barbiturates and benzodiazepines. The category "other" comprises PCP, acid/base, oxidizing adulterants, substituted urines, and invalid specimens.

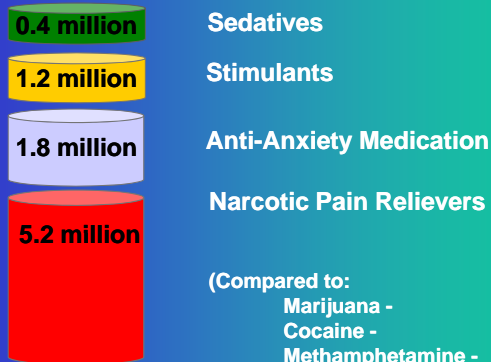
Source: CESAR FAX, CESAR@cesar.umd.edu or www.cesar.umd.edu

Current Nonmedical Use of Specific Prescription-Type Drugs, 2002 - 2009



Source: SAMHSA, 2009 National Survey on Drug Use and Health (September 2010).

Past Month Use Among Persons Age 12 and Older (2009)



(Compared to:
 Marijuana - 16.7 million
 Cocaine - 1.6 million
 Methamphetamine - 500,000
 Heroin - 200,000)

Rx Medications Headlines

- Past-year initiation of non-medical prescription medication use has surpassed the rate for marijuana – 2,500 youth use Rx drugs to get high for the first time every day.
- Seven out of the top ten drugs used by teens are prescription medications.
- E-R visits involving the non-medical use of prescription opiates increased 111% from 2004 to 2008 – 71,000 people were admitted to hospitals for overdoses in 2006.
- Treatment admissions for addiction to prescription opiates increased 400% from 1997 to 2007.
- 39% of heroin users responding to a 2009 needle exchange survey in King County reported addiction to Rx opiates prior to using heroin.

Opiates



- **Natural** - Opium, morphine, codeine
- **Semi-synthetic** - Heroin, Dilaudid (hydromorphone)
- **Synthetics** - Oxycontin®, Percodan®, Percoset® (oxycodone, derived from morphine)
Vicodin®, Lortab® (hydrocodone)
Methadose®, Dolophine® (methadone)
Darvon® (propoxyphene)
Demerol® (meperidine)
Duagesic® (fentanyl)

Opiates

- Opium, heroin, morphine, codeine, Dilaudid, Percodan, Demerol, Methadone, Fentanyl
 - Potent analgesics
 - Relatively short half-life, tolerance develops very rapidly with frequent use
 - Overwhelming sense of well-being, altering the subjective experience of physical **and** emotional pain
 - Gastrointestinal symptoms most common among chronic users
 - Relatively mild withdrawal syndrome (especially when compared to alcohol/sedatives)
 - Severe health risks due to intravenous administration, including HIV/AIDS, Hepatitis, aggressive infections

Prescription Opiates

- Obtained legally by prescription; obtained illegally from friends/family (free or purchased), through multiple providers, via theft, illegitimate prescriptions, illegal Internet pharmacies
- Now also trafficked by numerous DTOs as “part of the inventory”
- Prescription opiates ranked 5th in prevalence within the region
- Prescription opiates ranked 5th as a regional threat
- Prices for illicit purchase vary: unreformulated oxycodone sells for \$1 per milligram

Vicodin (hydrocodone)

- Includes Acetaminophen (Tylenol)
- Narcotic/Opioid pain reliever
- Used to relieve moderate to severe pain
- Antitussive (cough suppressant)
- Structurally similar to codeine but with effects more similar to morphine
- Habit-forming: use/abuse of hydrocodone is associated with tolerance, dependence, and addiction
- Risk of liver toxicity when high, acute doses are consumed
- Schedule III
- 119 million prescriptions written in U.S. in 2007



Oxycontin (oxycodone)

- Opioid pain reliever
- Used to treat moderate to high pain
- Oxycodone, the medication's active ingredient, is produced in a timed-release tablet
- Has been abused illicitly for the past 30+ years
- Drug addicts crush and then snort, inject, smoke the pills to bypass the time-release outer layer
- Schedule II
- 38 million prescriptions written in U.S. in 2007



40 mg Oxycodone (oxycodone) tablet
Photo by StudyPharmacist, © 2007 Erowid.org

Methadone

- Developed to treat heroin dependence.
- Now also widely prescribed for pain due changes in pain management practices (prescribing has increased by 700% since 1996).
- In 2005, 41,216 Emergency Room visits involved non-medical use of methadone
- From 1999 to 2004, methadone deaths jumped from 786 to 3,849
- Much longer half-life than other opiates, remains in the blood after analgesia effects have worn off, increasing the danger of taking too much
- In 2004, 10 people died from methadone toxicity every day
- Schedule II



Classic Sign of Opiate Use



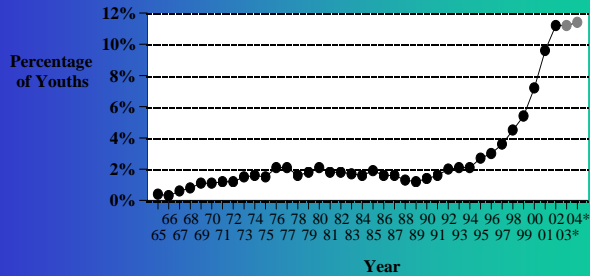
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www.harrybliss.com
"What's the difference between being addicted to painkillers and just really, really liking them a lot?"

Adolescent Pharmaceutical Pain Medication Misuse

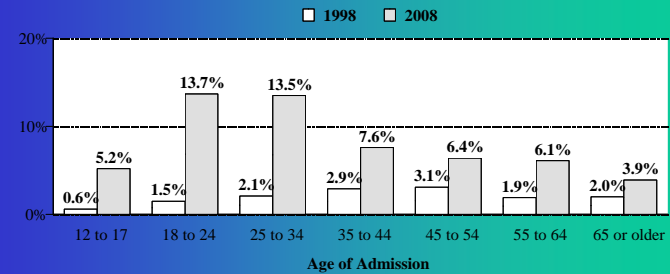
Percentage of Youths Ages 12 to 17 Reporting Lifetime Misuse† of Prescription Pain Relievers, 1968 to 2004*



SOURCES: Adapted by CESAR from Sung H.-E., Richter L., Vaughan R., Johnson P.B., Thom B. "Nonmedical Use of Prescription Opioids Among Teenagers in the United States: Trends and Correlates," *Journal of Adolescent Health* 37(1):44-51, 2005; and Substance Abuse and Mental Health Services Administration, *Overview of Findings from the 2004 National Household Survey on Drug Use and Health*, 2005. For more information, contact Dr. Hung-En Sung at hsung@casacolumbia.org.

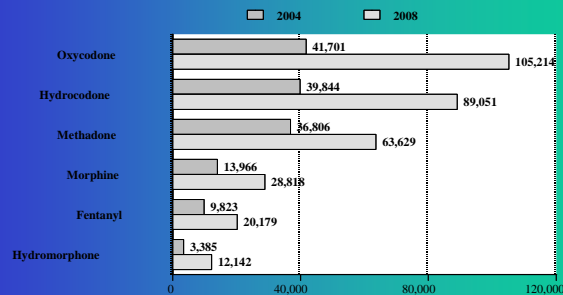
Percentage of U.S. Treatment Admissions Involving Pain Reliever Abuse Increased More Than Fourfold from 1998 to 2008

Percentage of U.S. Substance Abuse Treatment Admissions That Reported Any Pain Reliever Abuse, by Age Group, 1998 and 2008

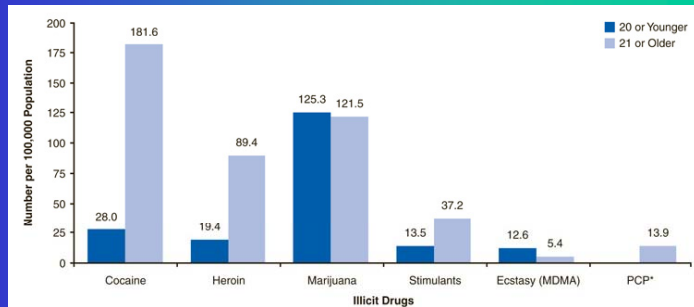


Number of U.S. ED Visits Involving Nonmedical Use of Narcotic Pain Relievers More Than Doubled from 2004 to 2008

Estimated Number of Emergency Department (ED) Visits Involving the Nonmedical Use of Narcotic Pain Relievers, 2004 and 2008

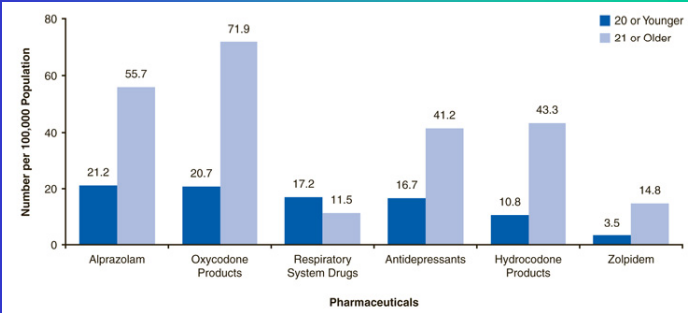


E-R Visits Involving Illicit Drugs By Age and Drug, 2009 (DAWN)



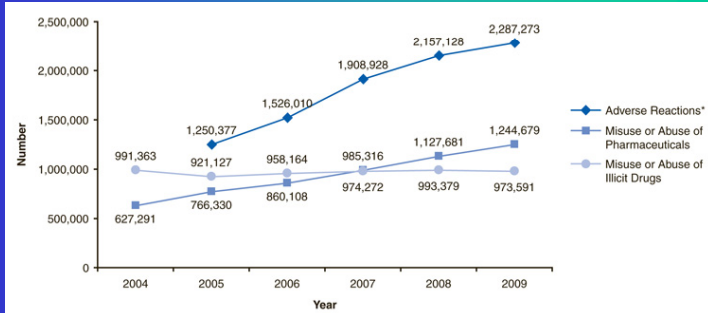
* Rate is suppressed due to low statistical precision.
Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

E-R Visits Involving Rx Drugs By Age and Drug, 2009 (DAWN)



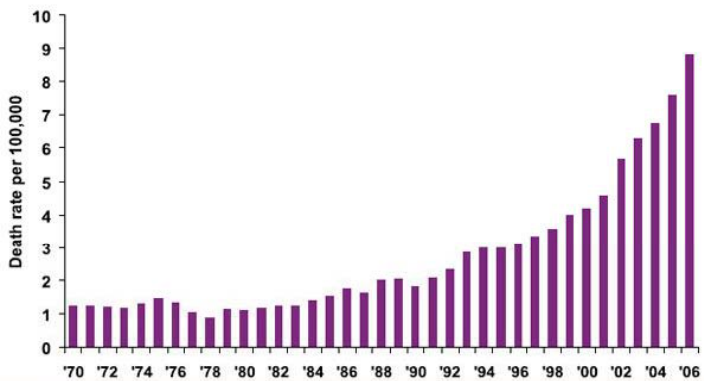
Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Drug-Related E-R Visits by Type 2004-09 (DAWN)



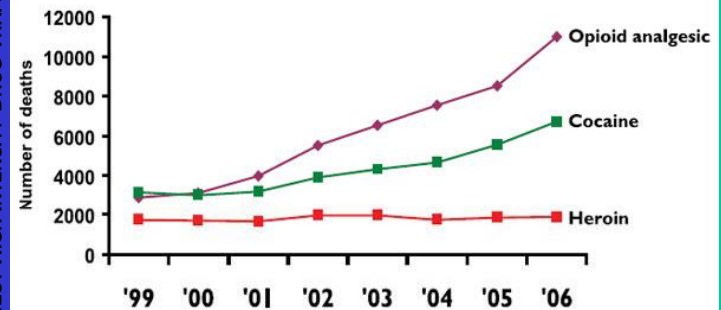
* Data for ED visits involving adverse reactions to pharmaceuticals are not available for 2004.
Source: 2004 to 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Unintentional Overdose Deaths, U.S. 1970-2006



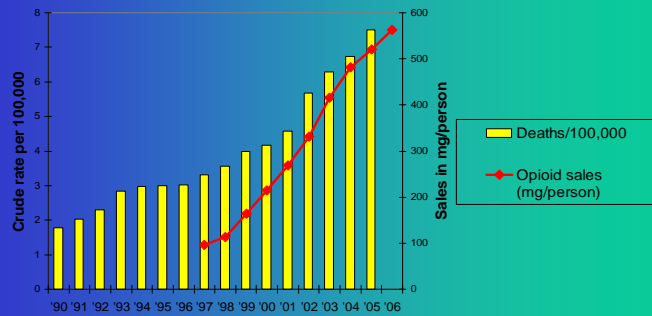
Medscape

Drug Overdose Deaths by Drug U.S., 1999-2006

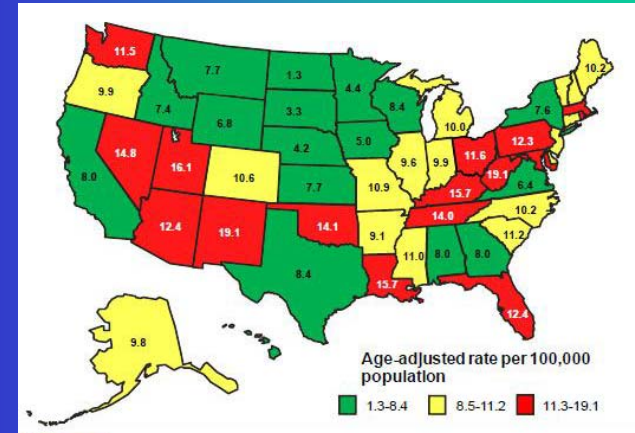


Medscape

Unintentional drug overdose death rates and total sales of prescription opioid painkillers by year in the United States



Drug Overdose Death Rates by State 2006

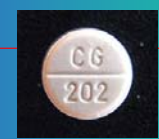


Stimulants

- Caffeine, Cocaine, Methamphetamine, Ecstasy, Ritalin, Adderal, Ephedra (Ma Huang)
 - Vary in half-life -- initial dose intensity is similar, with differences in duration -- rapid development of tolerance and high risk for dependence, bingeing
 - Euphoria, pleasurable energy enhancement prompting physical activity, magnified sensory awareness, wakefulness, initial sense of improved cognition
 - Subsequent distractibility, altered perception and paranoia
 - Increased respiration and blood pressure, hyperthermia, cardiac and multiple organ stress
 - Sleep disruption/insomnia, tremors, seizures
 - Protracted withdrawal, severe craving and anhedonia
 - Reported long-term cognitive, emotional, memory deficits

Ritalin

- Generic Name: methylphenidate
 - Brand Names: Concerta, Metadate
- Used to treat attention:
 - Attention deficit disorder (ADD)
 - Attention deficit/hyperactivity disorder (ADHD)
 - narcolepsy (an uncontrollable desire to sleep)
- Affects chemicals in brain and nerves that contribute to hyperactivity and impulse control.
- Effects similar to those of cocaine and amphetamines.
- Schedule II



Adderal

- Generic Name: amphetamine and dextroamphetamine
 - Brand Names: *Adderal*, *Adderal XR*
- Central nervous system stimulant
- Affects chemicals in the brain and nerves that contribute to hyperactivity and impulse control
- Schedule II



Misuse of Prescription Stimulants

- A recent study reveals a **76%** increase in calls to Poison Control Centers regarding adolescent misuse of ADHD medications.
- Calls reporting misuse rose from **330** in 1998 to **581** in 2005. During the same span, prescriptions for the medications rose **86%** among children ages 10 to 19.
- Four fatalities were among the calls, and **42%** of the teens involved in the calls had moderate to severe side-effects.

Classic Sign of Stimulant Use



Sedatives

- Alcohol, barbiturates, benzodiazepines, "Z-drugs", antihistamines, Chloral Hydrate, rohypnol, GHB
 - Known variously as hypnotics, anxiolytics, tranquilizers, soporifics
 - Central Nervous System depressants
 - Short to very long half-life, defining the timeframes for the development of tolerance and dependence
 - Severe withdrawal syndromes
 - Chronic addictive use can be VERY debilitating, with cognitive, organic and resiliency-related effects
 - Serves to weaken, accelerates aging, creates morbidity in the most vulnerable organ system/genetic history (liver, brain, pancreas, cardio-vascular, G.I., etc.)

Xanax (alprazolam)

- A Benzodiazepine for:
 - Anxiety disorders
 - Panic disorders
 - Anxiety caused by depression



Valium (diazepam)

- A Benzodiazepine for:
 - Anxiety disorders
 - Agitation
 - Shakiness
 - Hallucinations during alcohol withdrawal
 - Muscle pain



Phenazepam

- A Benzodiazepine for:
 - Epilepsy
 - Insomnia
 - Alcohol Withdrawal Syndrome
 - Anxiety
 - Insomnia
- Developed in Russia, available on the Internet
- Not a Scheduled Drug in the U.S. or Europe
- Notably associated with overdose deaths



Treatment Considerations

- Effectiveness increases when the program draws on a variety of components
- Length of treatment/program retention is important
- Basic treatment models:
 - Medical (Disease Concept)
 - Psychosocial (family, social network)
 - Biopsychosocial (biological)
- In-patient, intensive out-patient, out-patient
- Cognitive-behavioral therapies for decision-making and behavior change
- Medications, psychiatric, health and dental care
- Pregnant/parenting women, sexual orientation, homelessness
- Relapse prevention should include several strategies:
 - Drug education
 - Family and group therapies
 - Self-help groups

Treatment Approaches

- Matrix Model
- Individualized Counseling
- Contingency Management
- Supportive-Expressive Psychotherapy
- Motivational Enhancement Therapy
- CBT: MRT, Seeking Safety
- Behavioral Therapy for Adolescents
- Multidimensional Family Therapy (MDFT) for Adolescents
- Relapse Prevention
- Medication-enhanced Interventions

Medication Assisted Treatment

Medications address several different elements of addiction

- Treat withdrawal symptoms
- Reduce craving during abstinence
- Prevent neurochemical action (antagonist)
- Replace neurochemical action (agonist)

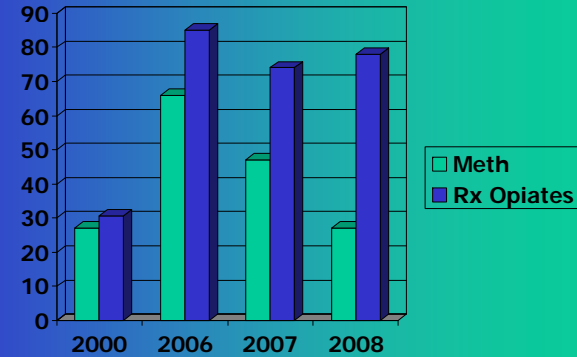
Medications Available

- **Alcohol**
 - Disulfiram (Antabuse)
 - Naltrexone (Revia, Vivitrol)
 - Acamprosate (Campral)
- **Nicotine**
 - Gum, patches, nasal sprays
 - Bupropion (Zyban, Wellbutrin)
 - Vaccine under trials
- **Cocaine**
 - Disulfiram (Antabuse)
 - Topiramate
 - Modanafil
 - 2 vaccines under trials
- **Amphetamine, Marijuana**
 - Nothing yet

Opiate Medications

- **Methadone** – agonist
- **Buprenorphine** - partial agonist
- **Naltrexone** - antagonist (**ReVia, Vivitrol**)
 - Opiate “blocker” – helps maintain abstinence from opiates
 - Detoxification from physical dependence on opiates
 - Vivitrol is an injectable, long lasting form of Naltrexone and is also approved for the treatment of alcohol dependence
- **Naloxone** - antagonist (**Narcan**)
 - Treatment for acute opiate overdose
- **Clonidine** (**Catapres**)
 - Not an agonist or antagonist but suppresses withdrawal symptoms

Prenatal Prescription Drug Use in WA State, 2000-08



Pediatric Interim Care Center (PICC) 2010 Statistics

• Methadone + 1-8 illegal drugs/Rx meds	26
• Opiates + 1-5 illegal drugs/Rx meds	25
• Methamphetamine	11
• Heroin + 1-3 illegal drugs/Rx meds	8
• Meth + 1-2 illegal drugs/Rx meds	8
• Cocaine	7
• Methadone	6
• Opiate	6
• Cocaine + 1 illegal drug	3
• Heroin	1
• Alcohol	1
• Benzodiazepine	1

Opiates: 72
Stimulants: 29

Prenatal Exposure to Opiates

- Tremors
- Poor self consolability
- Poor feeding
- Growth challenges
- Sleep deprivation
- GI cramps
- Frantic movement
- Fast respirations



Prenatal Exposure to Stimulants

- Lethargic-Excessive Sleep
- Poor Suck and Swallow Coordination
- Sleep Apnea
- Poor Habituation



Drugs in Combination

- **Additive Effect:** When two or more drugs are taken at the same time, and the action of one plus the action of the other results in an action as if just one drug had been given. An example would be a barbiturate and a benzodiazepine given together before surgery to relax a patient.
- **Potentiation:** Occurs when two drugs are taken and one of them intensifies the action of the other. An example would be an antihistamine given with an opiate to intensify its effect, lessening the amount of the opiate needed.
- **Synergism:** When two drugs with similar actions are taken together resulting in an exaggerated action, out of proportion to that of each drug taken separately. An example would be alcohol taken together with an opiate.

Availability and Accessibility

- 20.8% of survey respondents reported using at least one prescribed opioid medication during the preceding 12 months
- 72% reported having leftover medication
- 71% reported keeping the medication
- Therefore, at least **10%** of households are accumulating medications each year

Preventing Rx Drug Abuse Among Teens

- Safeguard all drugs at home – monitor quantities and control access
- Set clear rule for teens about all drug use, including not sharing medicine and always following medical advice and dosages
- Be a good role model by following these same rules with your own medicines
- Properly conceal and dispose of old or unused medicines
- Ask friends and family to safeguard their prescription drugs as well



Prevention Strategies

- **Education for Medical Care Professionals**
 - Educational Pilot: Guidelines for Opioid dosing for chronic, non-cancer pain
<http://www.agencymeddirectors.wa.gov/guidelines.asp>
 - Rule making in process to create a single set of pain (opioid) management guidelines HB 2876
- **Clinical Interventions**
 - Medicaid
 - Narcotic Review Program
 - Patient Review and Coordination Program



Greater Spokane Substance Abuse Council
(GSSAC)
Working Together Toward Safe Communities
Free From Substance Abuse
NW High Intensity Drug Trafficking Area
(HIDTA)

A Companion Program

- **WA Meth Watch**
 - Education and prevention on dangers of methamphetamine
 - Helped to reduce meth labs
- **WA Rx Watch**
 - Increase awareness about prescription drug abuse, addiction and prevention



Rx Watch Program Goals

- **Designed to help stop Prescription Drug Abuse**
 - With strong collaboration with Law Enforcement, Treatment, and the Medical Community
 - Community Presentations that build awareness and educate the public on the dangers of Rx drug abuse
 - Designed for Washington State

Saturday, October 29, 2011

To find a participating location:

- Visit TakeBackYourMeds.org/dea-events
- Call 1.888.869.4233

Municipalities and counties in 19 states have implemented programs.

DEA must approve, but local support/funding is typically unsustainable.

Many citizens think the drug manufacturers should provide take-back of leftover medicines as part of doing business, *as they do in other countries.*



QUESTIONS?

Contact Information/Resources

Tel: 206.352.3603

sfrenq@nw.hidta.org

“M-Files”: www.mfiles.org

ONDCP: whitehousedrugpolicy.gov