

*Prescription Medications and  
Abuse...the Updated Story*

David Scratchley, Ph.D.

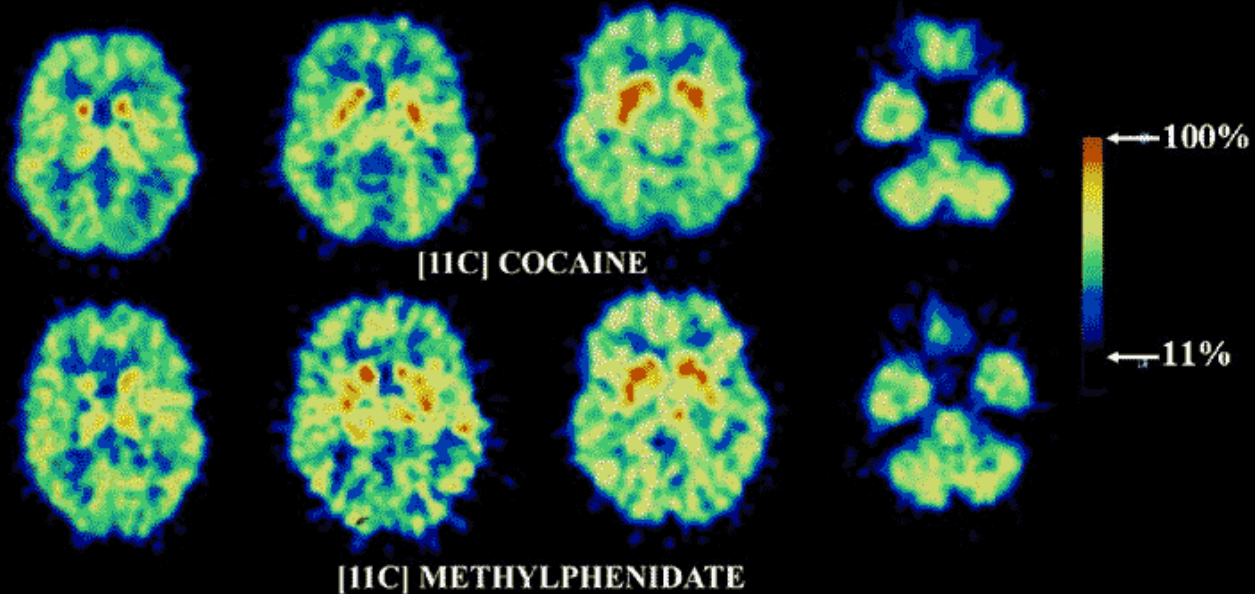
*Washington State Prevention Summit*

October 17<sup>th</sup> 2008

*Medications, Like “Street” Drugs,  
Act in the Brain...But Differences Exist in Dose,  
Schedule and Route Used*

**Stimulants (Ritalin, Adderall) Act like Cocaine  
Directly in the Dopamine Cells**

**Distribution in the Human Brain of Cocaine and Ritalin**



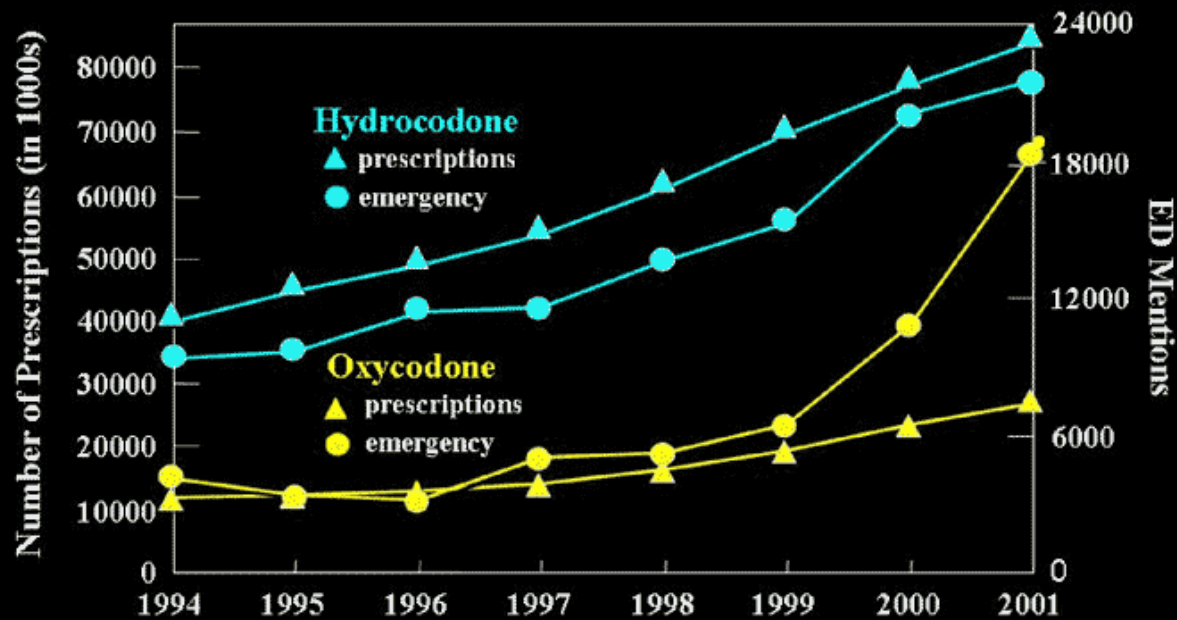
*Cocaine and Ritalin Act on the Same Sites in Brain*

*Volkow, et al. (BNL)*

2

# Incorrectly Used, Prescription Medications are as Dangerous as “Street” Drugs - *or More So*

## As Prescriptions Have Increased Emergency Room Visits For Non-Medical Abuse Have Also Increased



Source: SAMHSA, DAWN, 2002

# Two Faces of Prescription Drug Abuse



- "Mr. Heath Ledger died as the result of acute intoxication by the combined effects of oxycodone, *hydrocodone*, *diazepam*, *temazepam*, *alprazolam*, and *doxylamine*," the office said in a short statement.
- "We have concluded that the manner of death is accident, resulting from the abuse of prescription medications."
- - CNN February 6<sup>th</sup> 2008
- Susie Hall's 18-year-old son, Jordan, was found dead of an apparent overdose July 4 after months of prowling emergency rooms begging for prescriptions for *Xanax*, *Valium* or *OxyContin* - *The Dallas Morning News* July 20<sup>th</sup> 2007

# Prescription Medications:

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- Present a significant overdose risk, including harmful physical and psychological effects, including the possible lethal overdose
- Present a significant risk of addiction
- Are often similar to “Street” drugs in actions of their active ingredients
- Differ from “Street” drugs, when used as prescribed, in terms of *Dose, Schedule, and Route of Use.*
- Classes of Abused Prescription Medications Include Painkillers, Stimulants, and Depressants

# Prescription Painkillers, Opiates and Heroin

Designed to Provide Relief From Pain

# Analgesics

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- Opiate painkillers may contain a wide range of drugs
- Drugs found in these medications include morphine, methadone, meperidine, opium, propoxyphene, oxycodone, and buprenorphine
- Non-steroidal anti-inflammatory agents (ibuprofen etc.) may provide an alternative

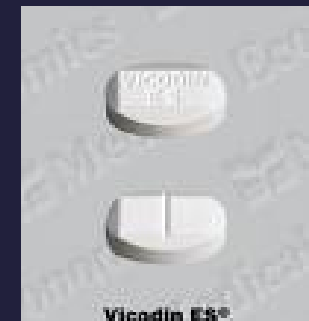
# OxyContin (Oxycodone)



- Powerful opiate agonist
- Intended route of administration: Oral
- Misused by chewing or inhaling
- When chewed or inhaled, drug is much more rapidly absorbed
- Result: Significant increase in number of overdose deaths and ER visits

# Vicodin (Hydrocodone)

- From 1990 the average consumption nationwide has increased by 300%. In the same period there has been a 500% increase in the number of Emergency Department visits attributed to Vicodin abuse with 19,221 visits estimated in 2000.
- Vicodin is structurally related to codeine and is approximately equal in strength to morphine in producing opiate-like effects.



# Stimulant Drugs and Medications

Designed to Increase Level of Behavioral Activation

# Stimulants Medications

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- Often given for ADD or ADHD, for narcoleptic conditions, or for head injury.
- Drugs in this class have been, and, infrequently are, still given for obesity.
- Many of the drugs in this class share similarities to amphetamine or cocaine
- Drugs in this class are frequently diverted for illicit use.

# Effects of Stimulant Abuse

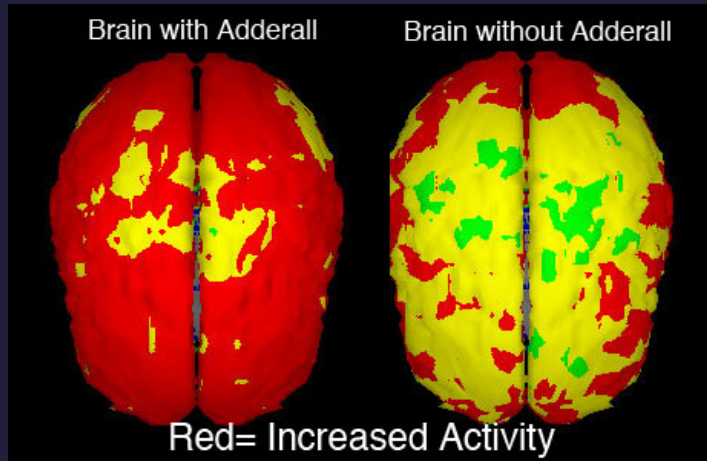
## ■ Physical Effects

- Death
- Brain Damage
- High Blood Pressure
- Seizures
- Chronic Fatigue
- Extreme Anorexia
- Cardiac Arrest

## ■ Toxicity

- Movement disorder
- Hyperfocused attentional state
- Stereotypic behavior
- Paranoid thought
- Hallucinations

# Stimulants Medications: Use and Abuse



- Stimulants, including Ritalin (methylphenidate), and Adderall (Biphedamine and other analogs) have widespread utility in the treatment of several types of disorders
- Frequently, stimulant drugs may be sold or used by those without a prescription in an attempt to increase energy or work while tired.

# CNS Depressants

Designed to Reduce Anxiety and Activity

# CNS Depressants

- CNS Depressants are Drugs with a Sedating Effect Used to Treat Anxiety, Sleeplessness, or Seizures
- Commonly Prescribed Drugs in this Group include Benzodiazepine Compounds like Valium, Xanax, and some barbiturates
- These drugs present a significant overdose risk when taken in excess or when combined with alcohol or opiates.
- Depressant Overdose
  - Difficulty remaining conscious or passing out
  - Decrease in judgment
  - Lack of motor coordination
  - Behavioral disinhibition
- Depressant Withdrawal
  - rapid heartbeat
  - shaky hands
  - insomnia or disturbed sleep
  - sweating
  - irritability
  - anxiety and agitation

# Xanax: A Commonly Abused CNS Depressant



- Nearly 5 million people have at one point taken Xanax or a similar anti-anxiety medication for nonmedicinal reasons, according to a 2000 survey conducted by the federal Substance Abuse and Mental
- More than 22,000 Xanax-related emergency-room visits were reported in the United States in 2000, up from 16,000 seven years before, according to the Substance Abuse and Mental Health Services Administration.