

FDA DSRM Advisory Council Meeting: Health Benefits/Risks of Drugs Containing Hydrocodone January 24, 2013

- ◆ Issues of Abuse and Addiction
- ◆ A presentation by the American Society of Addiction Medicine

P. Bradley Hall, M.D., FASAM, Diplomat ABAM, MRO
President, WV Society of Addiction Medicine
Exec. Medical Director, WV Medical Professionals Health Program



The Brain on Opioids

- ◆ How opioids function in the brain
- ◆ Managing opioid addiction
- ◆ Paradigm – Prescription Drugs & Addiction
(WV Medical Journal, July/August 2010/Vol.106)
- ◆ What happens when a person becomes addicted
 - Real-life stories



Real Patients

- ◆ Migraine / Physician
- ◆ CVA / Migraine / Physician
- ◆ Unemployed Physician / Pharmacy employee
- ◆ 18 year old S/P tooth extraction
- ◆ 23 year old heroin addict
- ◆ Pneumonia / Physician
- ◆ 18 year old S/P tooth extraction #2



Addiction: Defined

- “A primary, chronic disease of brain reward, motivation, memory and related circuitry.”

ASAM, April 11, 2011

- Chronic relapsing disorder characterized by drug-seeking and drug-taking behaviors despite negative consequences.



Addiction Facts

- ◆ Lifetime prevalence: 12%
- ◆ Causes 20% of all deaths per year
- ◆ Costs in excess of \$600 Billion per year
- ◆ 1/3 of all hospital in-patient costs are addiction related

(SAMHSA, 2011 NSDUH; Ries, et al., 2009)



Addiction Facts, contd.

- ◆ 25% of primary care patient visits
(Jones et al., Am. Fam. Physician, 2003)
- ◆ 2 million of the 2.3 million incarcerated Americans have histories of alcohol or substance abuse
(U.S.Department of Justice, 2006)
- ◆ \$28 Billion to treat 40 million Americans with substance use disorders
(CASA at Columbia University, 2011)



Addiction Facts, contd.

- ◆ There are over 28 million people suffering from addiction and less than 12% receive treatment.
(SAMHSA, 2010 NSDUH)
- ◆ 40-60% of people relapse after drug and alcohol treatment. (NIDA)
- ◆ 80% relapse rate with opioid dependence. (NIDA)



Four “C’s” of Addiction

- ◆ State in which an organism engages in a compulsive behavior which is reinforcing (rewarding or pleasurable)
- ◆ Involves loss of Control
- ◆ Compulsion
- ◆ Continued use despite adverse consequences
- ◆ Cravings

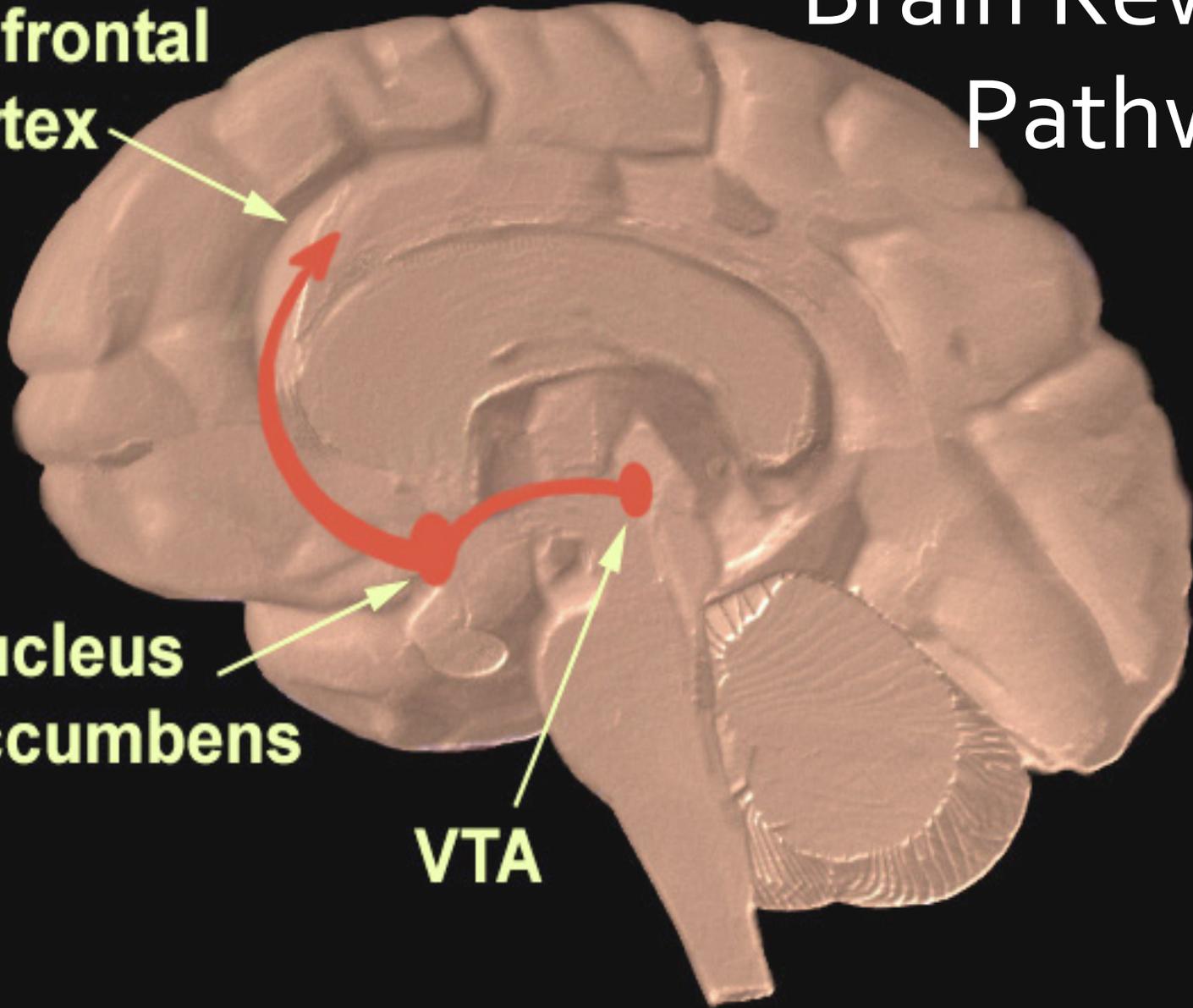


Brain Reward Pathway*

prefrontal cortex

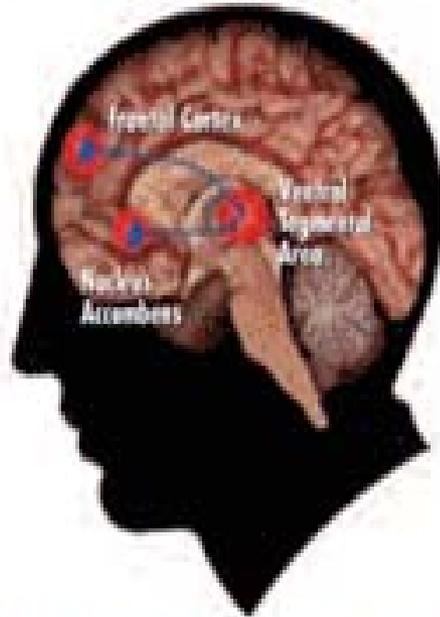
nucleus accumbens

VTA



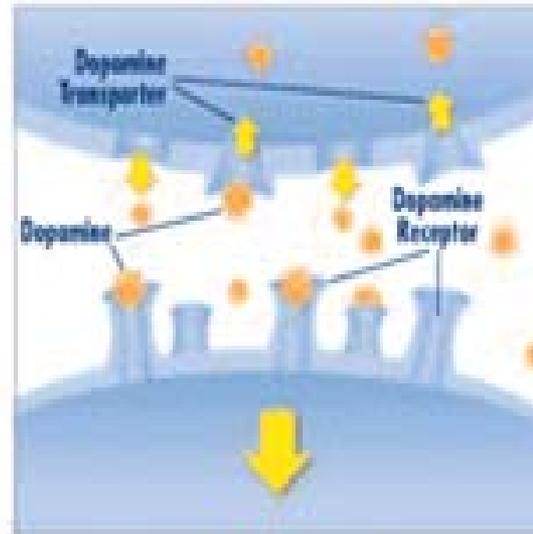
ALL DRUGS OF ABUSE TARGET THE BRAIN'S PLEASURE CENTER

Brain reward (dopamine) pathways



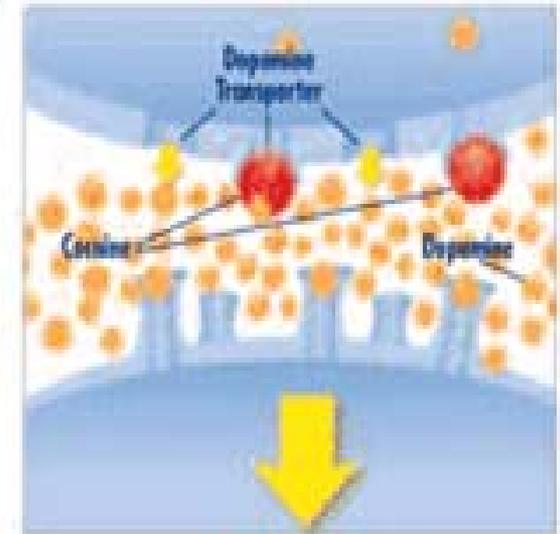
These brain circuits are important for natural rewards such as food, music, and art.

All drugs of abuse increase dopamine *



FOOD

Typically, dopamine increases in response to natural rewards such as food. When cocaine is taken, dopamine increases are exaggerated, and communication is altered.



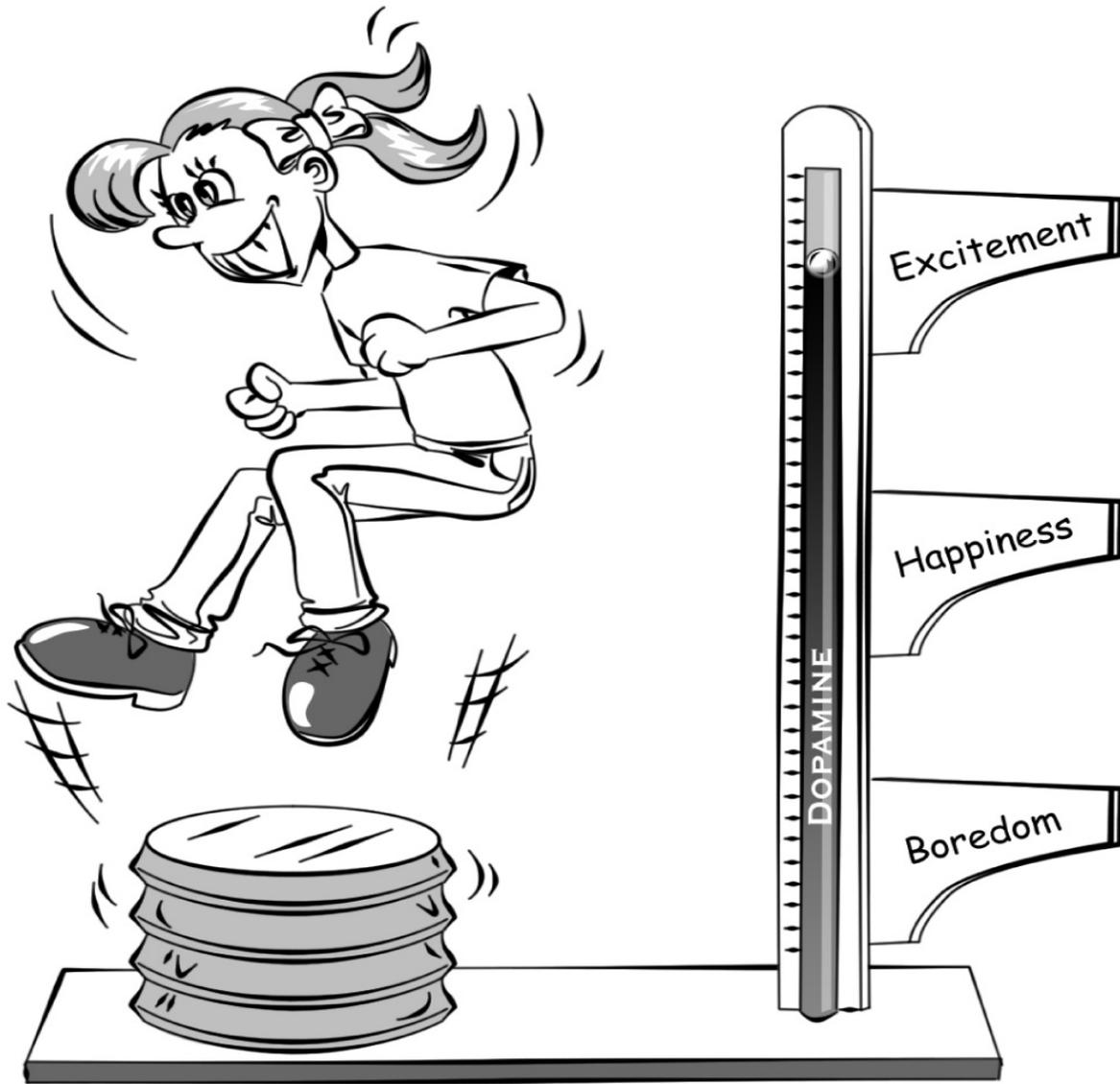
COCAINE

Brain Reward Pathway: Dopamine Release

What Happens when Intoxicants are used?

- All intoxicant chemicals interact with the brain's reward system
- These drugs impact on brain levels of the neurotransmitter (chemical messenger)
dopamine
- Depending on the class of drug, they also interact with other brain neurotransmitters





Dopamine Pump

The Disease of Addiction

Normal Thinking Brain



The Disease of Addiction (con't)

Thinking Brain

Vs..

Primitive Brain



The Disease of Addiction (con't)

Primitive Brain in Control – Addicted Brain



Do You Understand Cravings Now?



The Medical Utility of Opioids

1. Treatment for Pain
2. Treatment for Opioid Dependence



ENABLING

Changing your own behavior to adapt, ignore, struggle or otherwise cope with another person's substance abuse problem. Some of the behaviors that families, friends and co-workers adopt are called "enabling".

Enabling is *action that you take to protect the person with the problem from the consequences of their actions*. Unfortunately, enabling actually helps him or her to not deal with the problem.



Top 5 Prescriptions Causing the Most Overdoses in WV

1. Methadone
2. Oxycodone
3. Fentanyl
4. Hydrocodone
5. Morphine



POPULAR PAINKILLERS IN W.Va.

The percentages below represent increases in W.Va.'s per capita consumption (measured in milligrams per person) of opiate painkillers between 1999 and 2009.



Fentanyl
aka Duragesic,
Actiq



348%

About 80 times stronger than morphine and often used in adhesive skin patches for chronic pain management.



Hydrocodone
aka Vicodin,
Lortab, Lorcet



296%

Hydrocodone abuse has increased nationally among all ethnic and economic groups.



Hydromorphone
aka Dilaudid



319%

Two to eight times stronger than morphine. It is also shorter acting and produces more sedation.



Methadone
aka Dolophine,
Methadose



462%

First synthesized during World War II due to a morphine shortage, this pain-reliever is often used in the treatment of opiate addiction.



Morphine
aka MS Contin,
Oramorph SR, Roxanol



199%

One of the most effective pain-relievers, it is the standard against which new painkillers are measured.



Oxycodone
aka Oxycontin,
Tylox, Percocet



294%

Alone or in combination with non-narcotic pain relievers, it is prescribed for the relief of moderate to moderately severe pain.

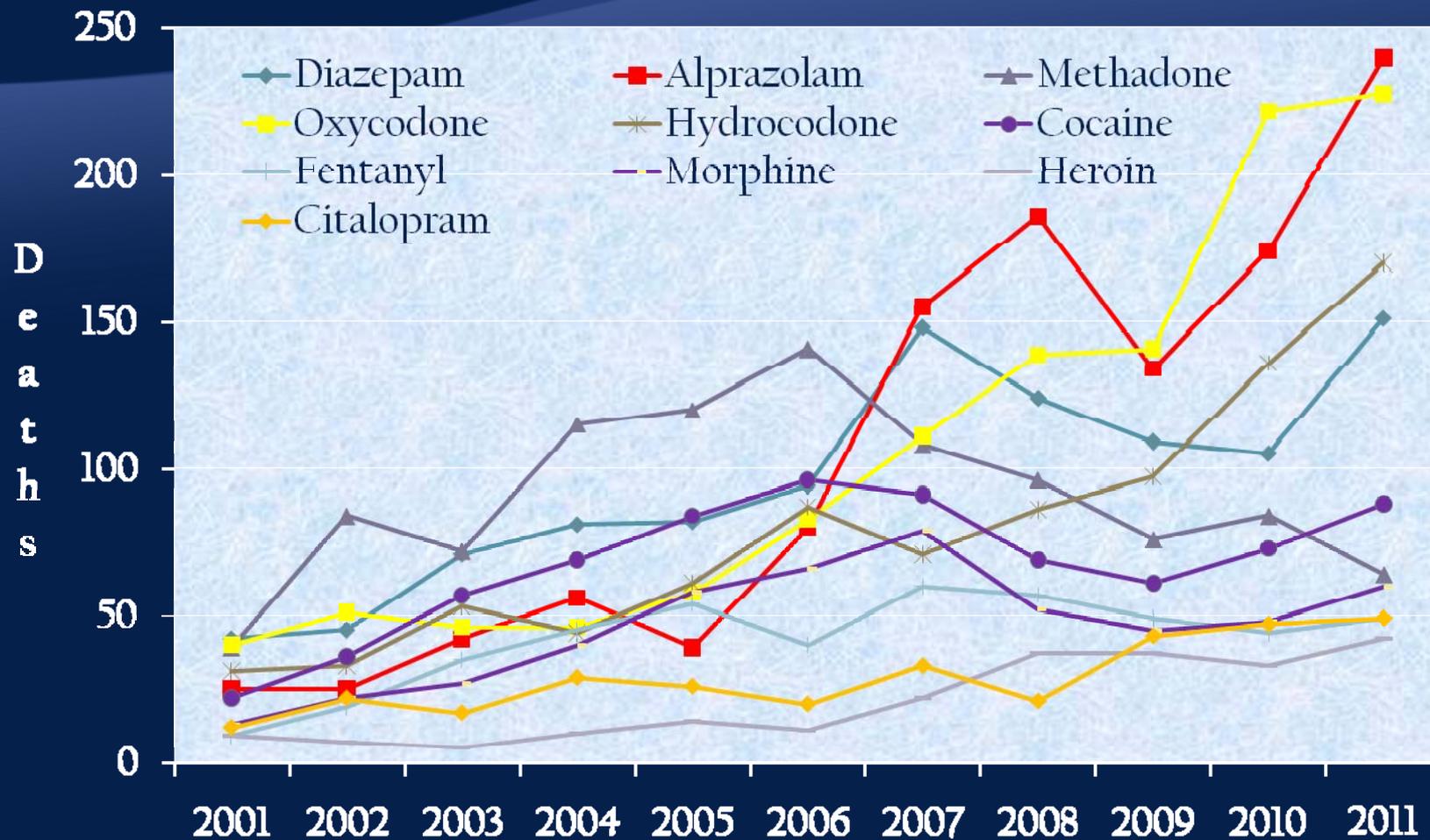
SOURCES: Drug Enforcement Administration, National Institutes of Health, U.S. Census

KYLE SLAGLE | Gazette graphic



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WV Drug Overdose Deaths by Selected Drug Involved 2001-2011 Occurrences by Year

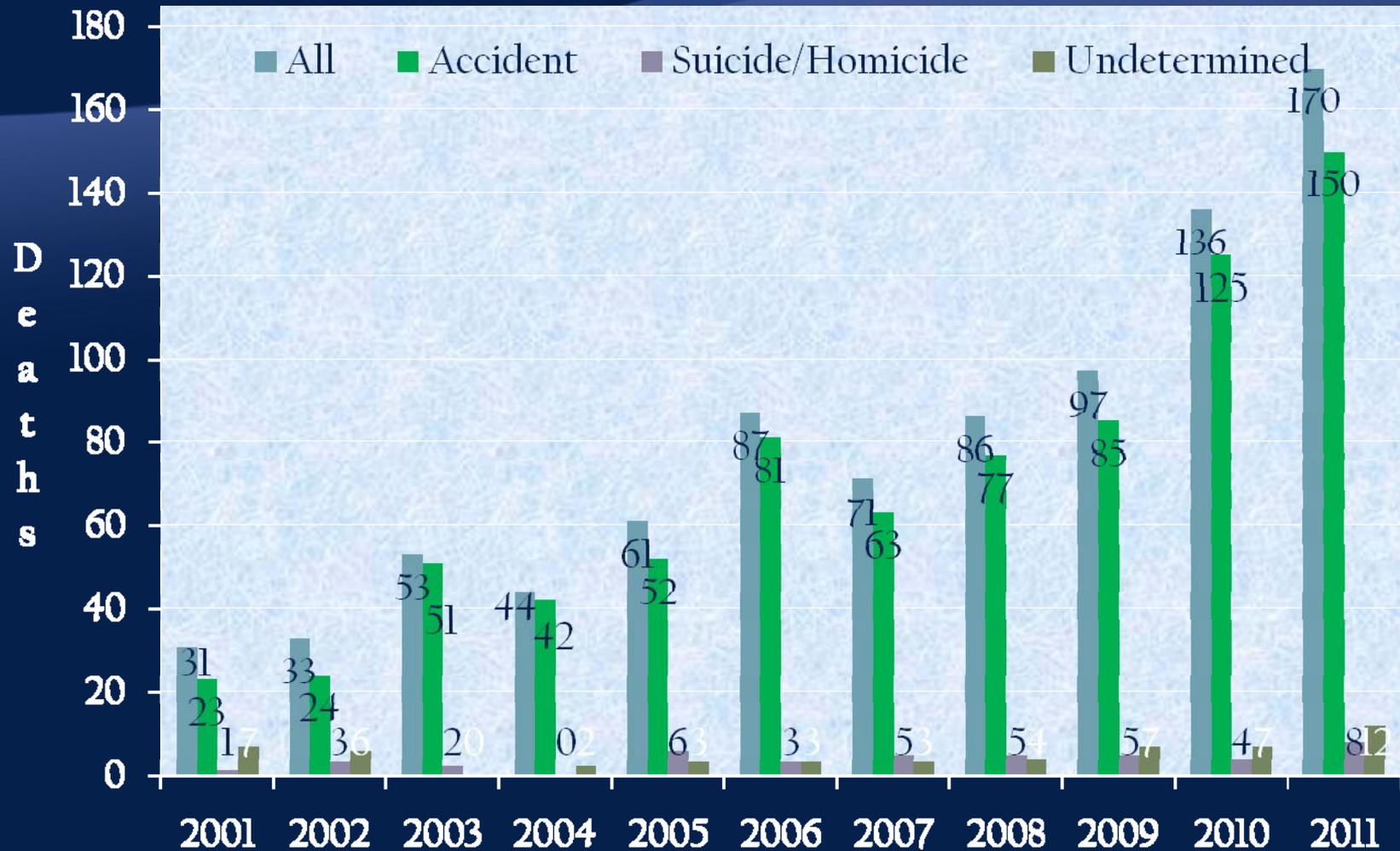


WV Bureau for Public Health – Health Statistics Center
 Note: Deaths are not mutually exclusive.



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WV Overdose Deaths Involving Hydrocodone By Manner, 2001-2011 Occurrences



WV Hydrocodone Fatalities by Year 2001-2011 Occurrences



Note: 2011 is partial data

WV Bureau for Public Health – Health Statistics Center



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Schedule II vs. Schedule III: Access and Addiction

- ◆ Has it worked in the past?
- ◆ Will it have any impact?
- ◆ Will other drugs take its place?
- ◆ Rethinking carisoprodol, tramadol, and nalbuphine (other Schedule III's)



Counteracting Diversion and Misuse

- ◆ Prescriber education
- ◆ Patient education (addiction risks, storage, disposal)
- ◆ Medical school and residency education
- ◆ Broad use of PDMPs



ASAM Resources

- ◆ Public Policy Statement on Measures to Counteract Prescription Drug Diversion, Misuse and Addiction.

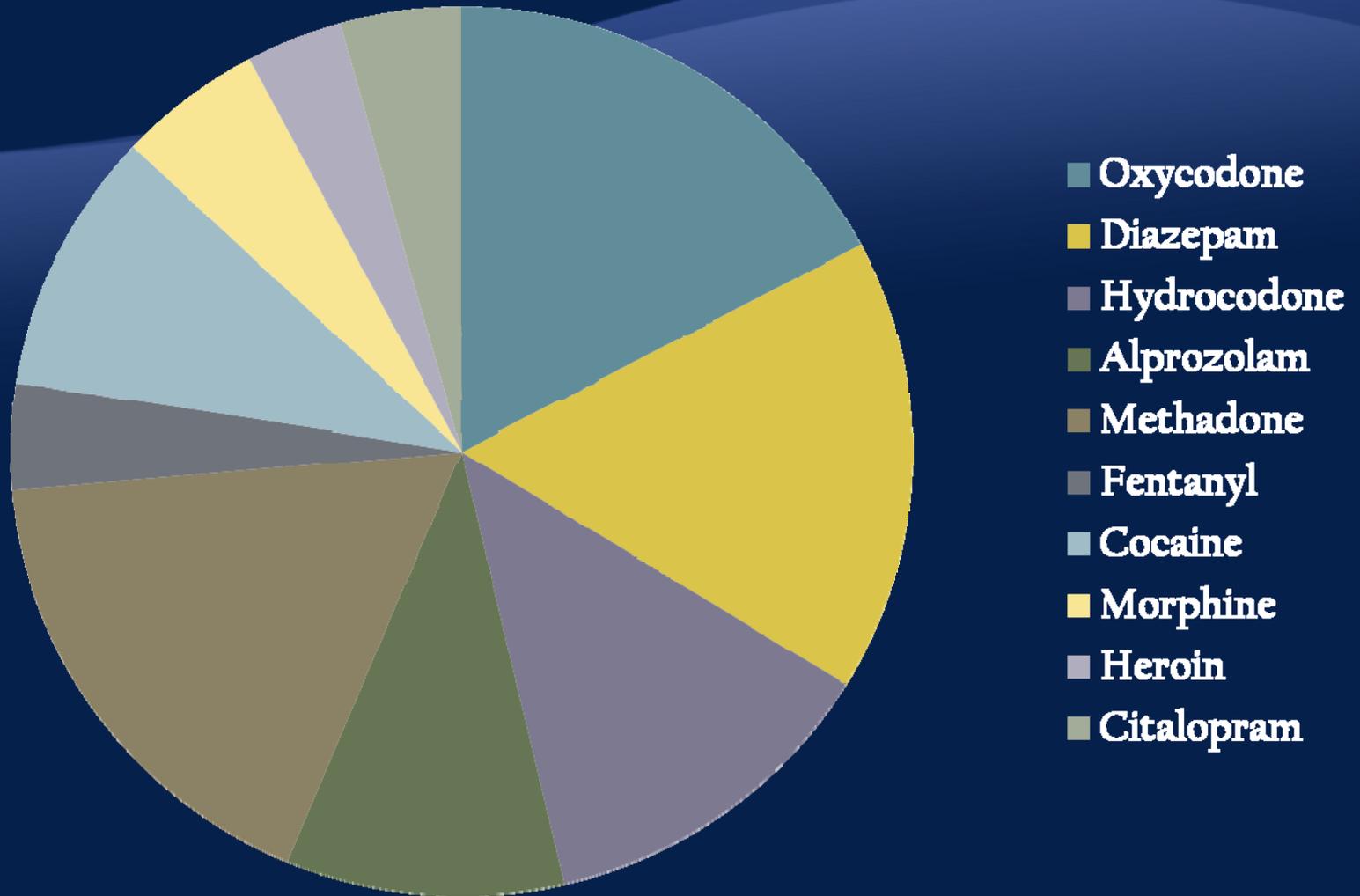
www.asam.org/advocacy

- ◆ ASAM Pain and Addiction: Common Threads Course, April 25, 2013.

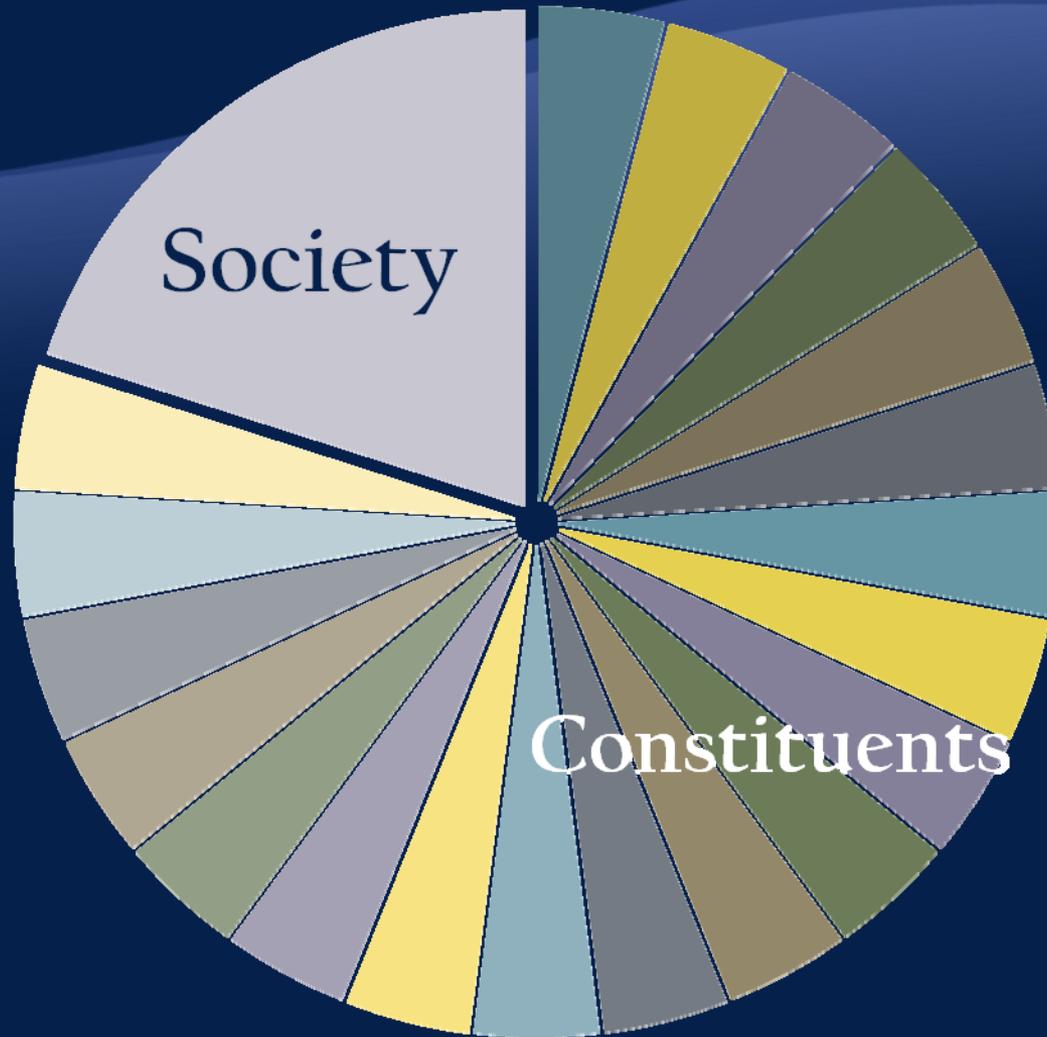
www.asam.org/education



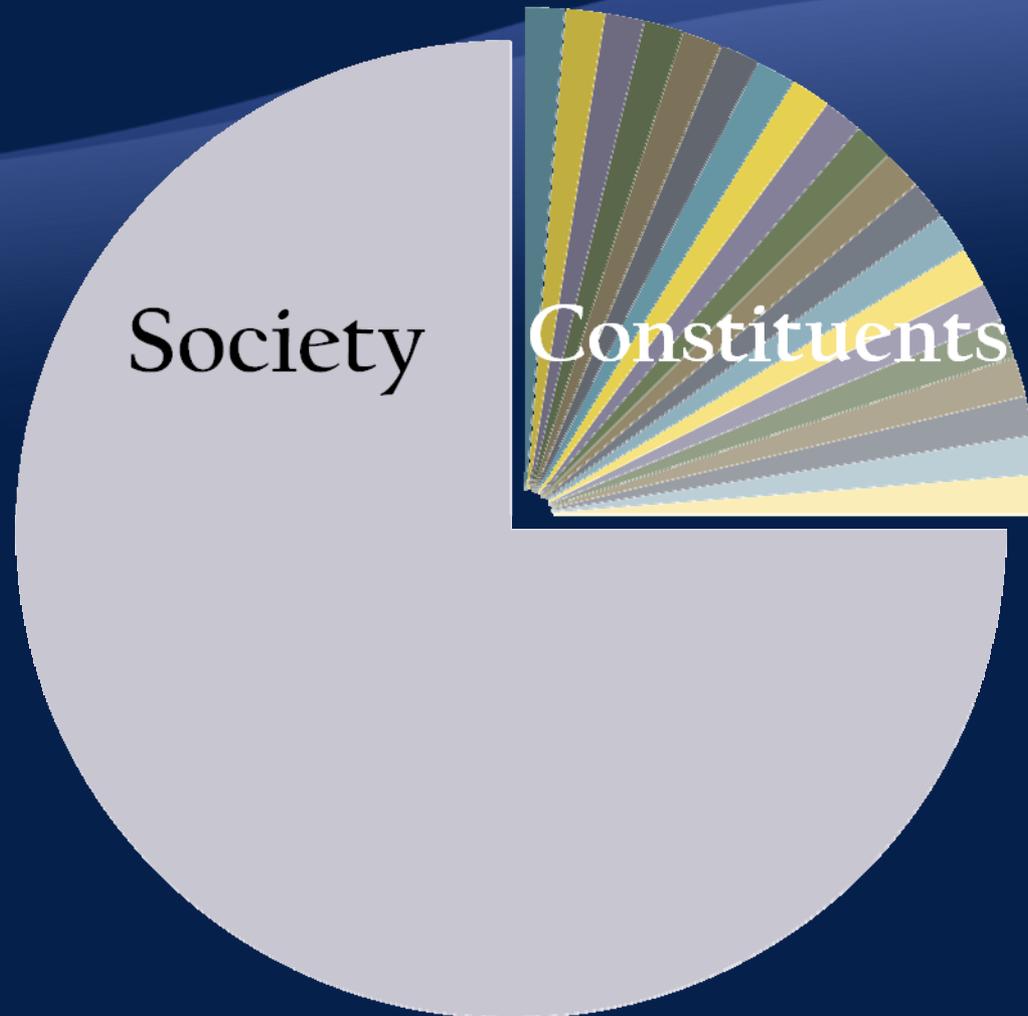
2001 WV Drug-Related Deaths with Type Involved



REALITY



IDEALLY



Supply & Demand Economics

- ◆ Education



On behalf of the American Society
of Addiction Medicine and the
Public at large, I

THANK YOU !

It has been a great day with a great audience and
I thank you for your time and attention to this
most important issue.

