

Overview of Stimulants

Ohio Judicial Conference
November 21, 2019

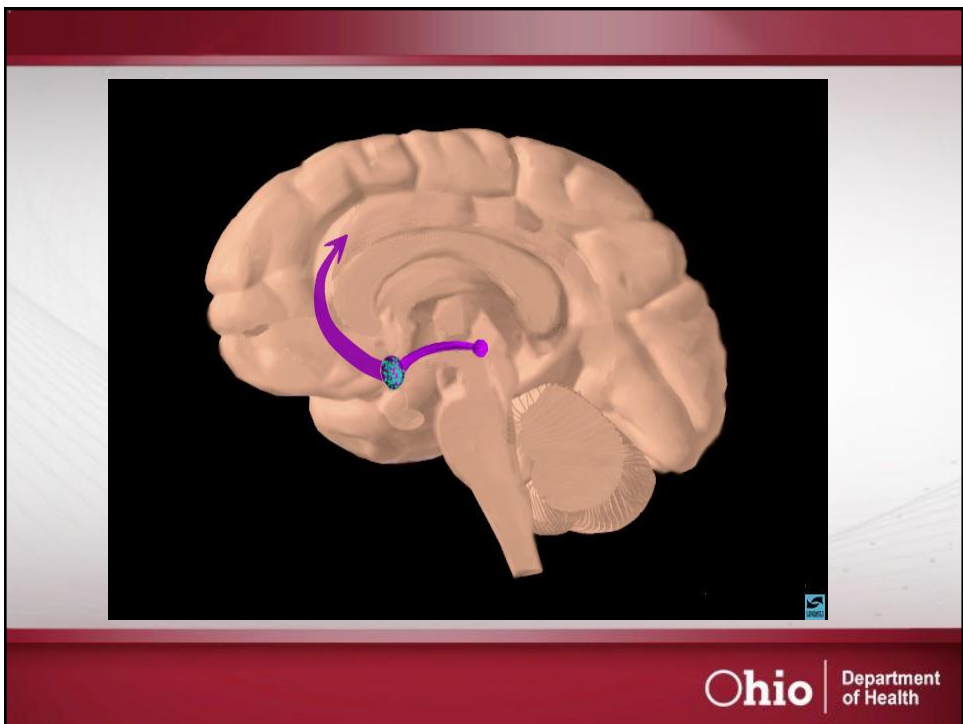
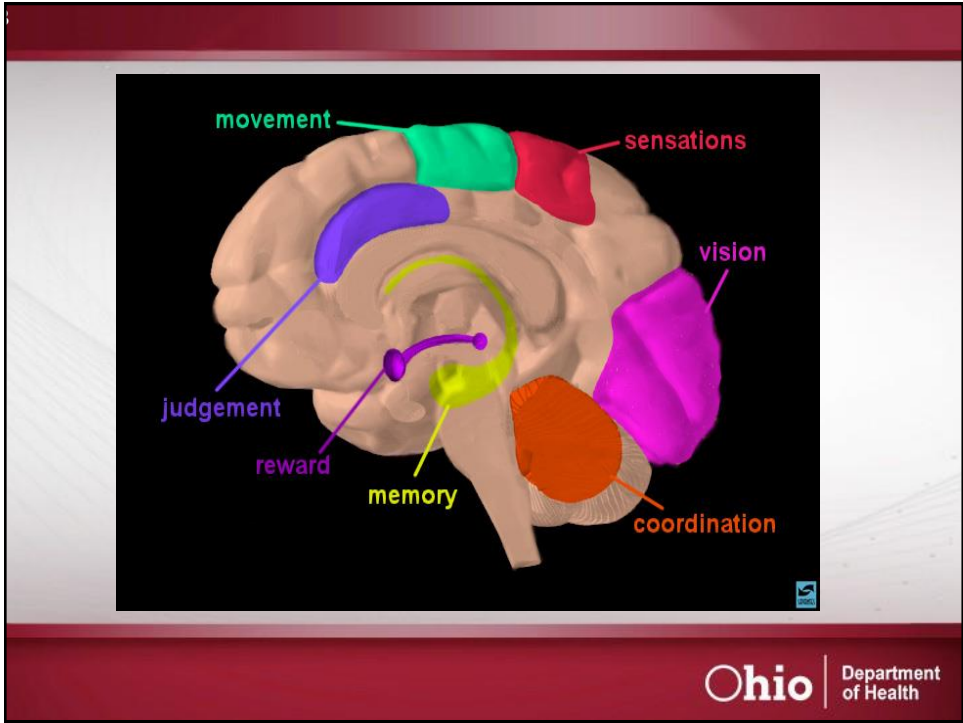


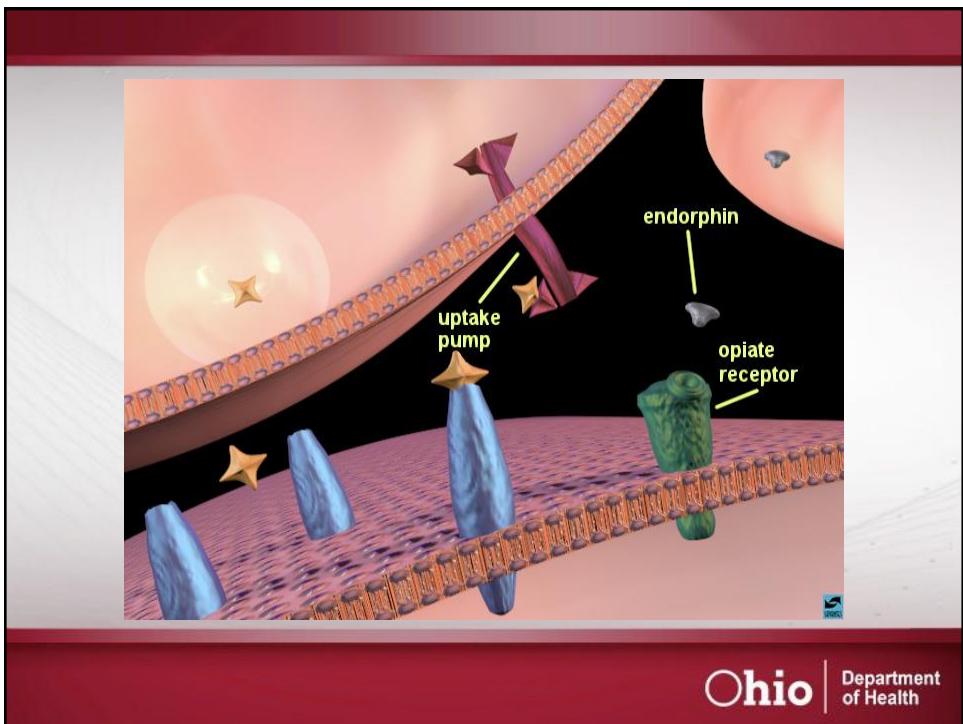
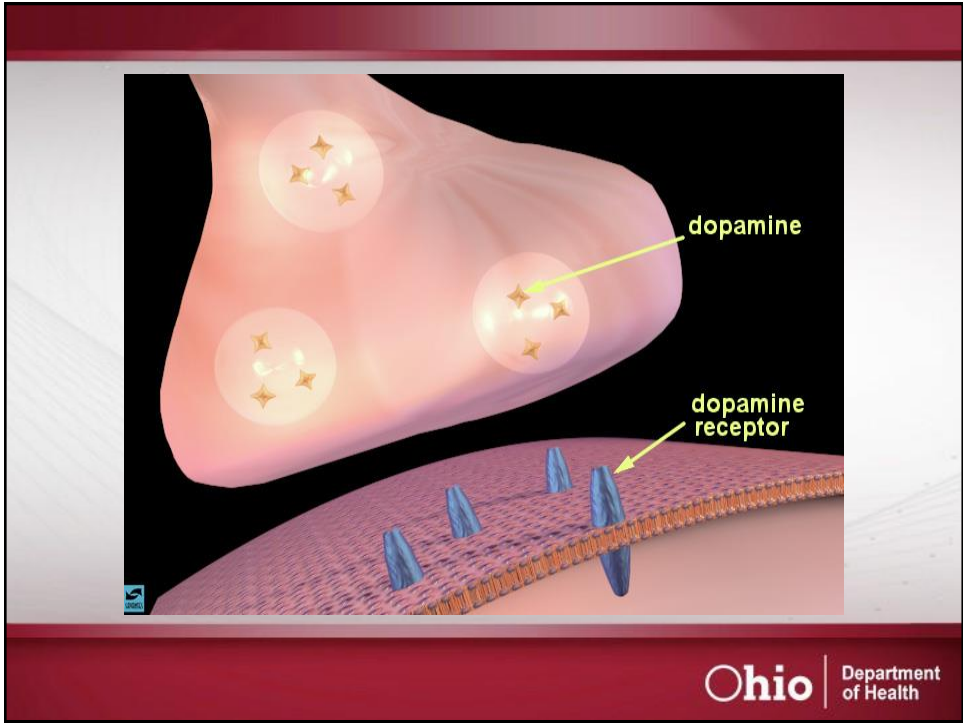
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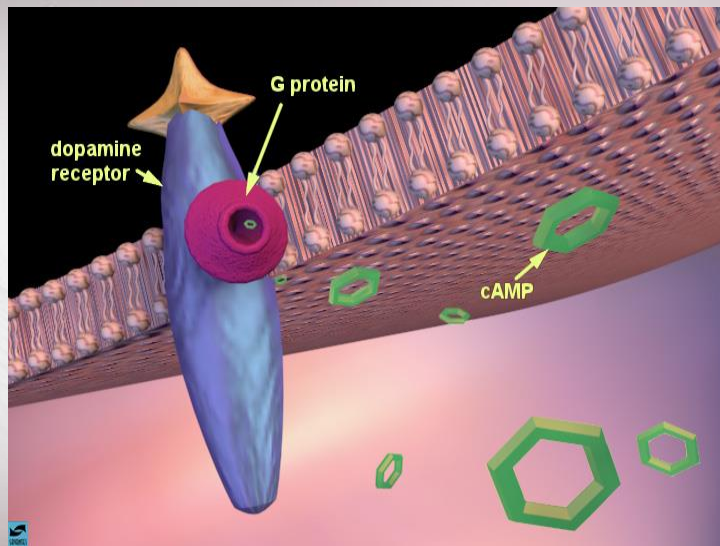
SUBSTANCE USE PROBLEMS

What are they and how do we treat them?







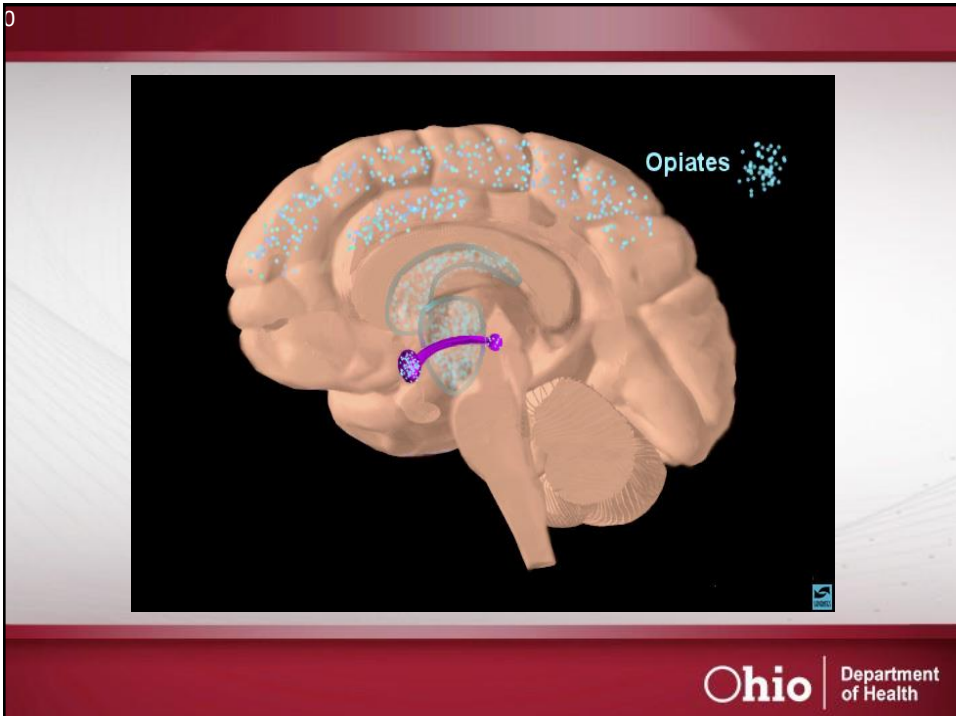


Addictive Drugs: Fundamentals

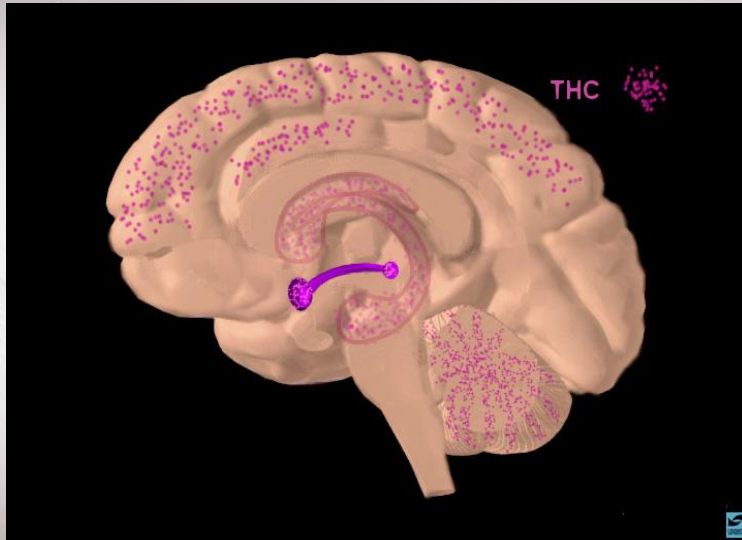
- All addictive drugs work on our endogenous neurotransmitter systems and mimic their activities in some manner
- All addictive drugs have effects on our biological reward centers, which gives them their reinforcing effects
- These reward centers are the same areas that are activated when we perform activities that are required for our survival or survival of species
- Drugs of abuse “trick” us in to believing their use is necessary for survival (and nothing is farther from the truth)

Classes of Drugs of Abuse

- Stimulants
- Opioids
- Cannabis
- Sedative-hypnotics (including alcohol)
- Hallucinogens
- Dissociative drugs
- Anabolic steroids
- Inhalants
- Nicotine

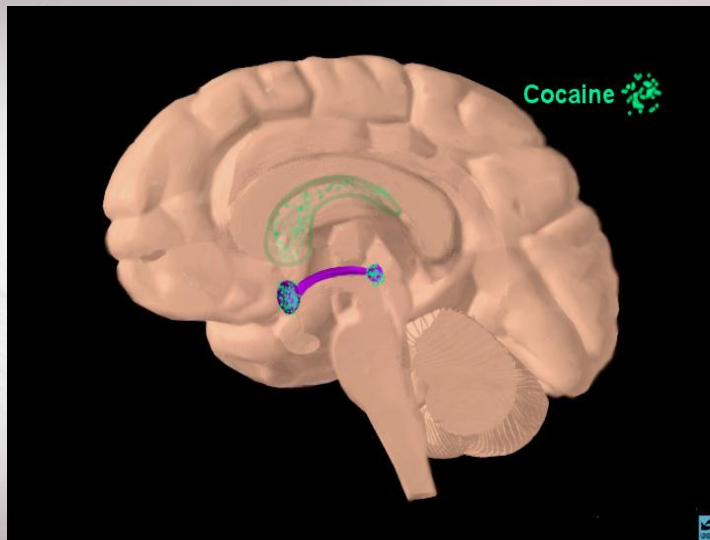


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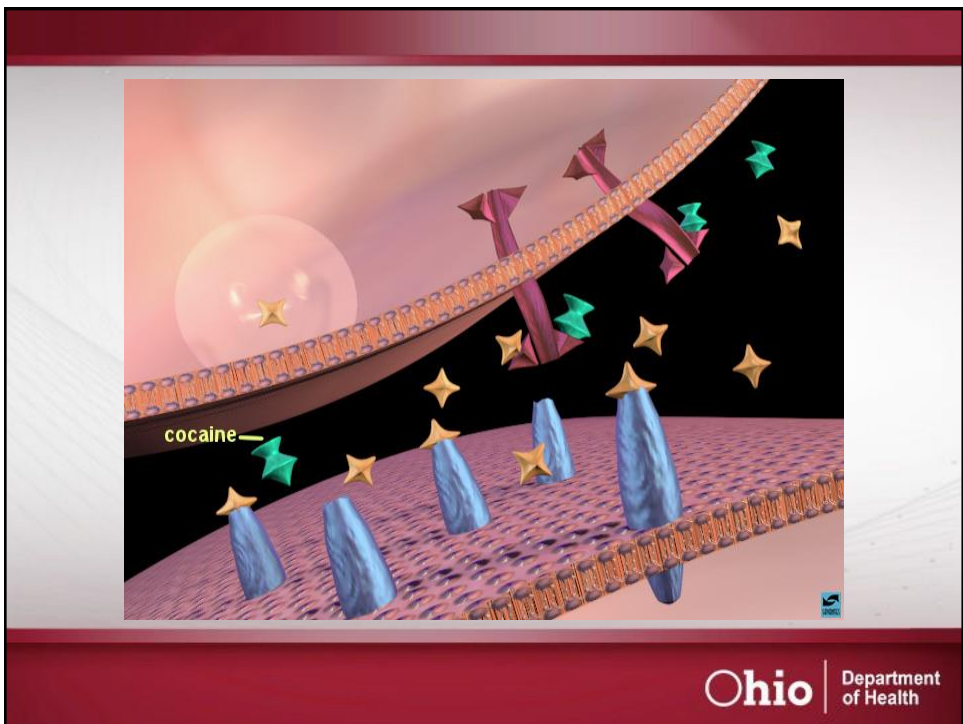
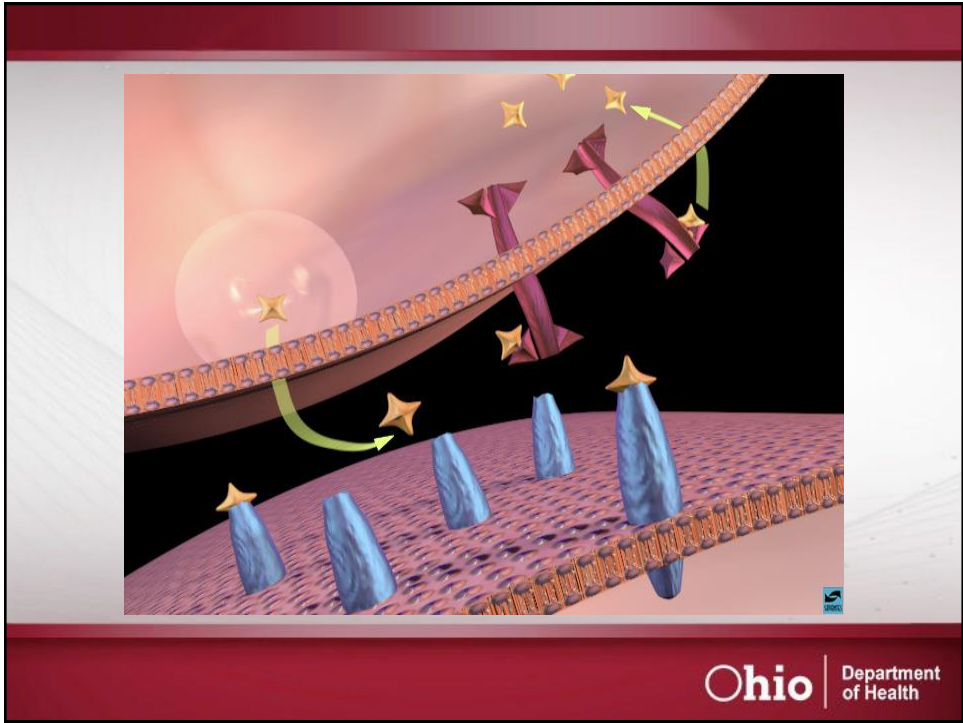


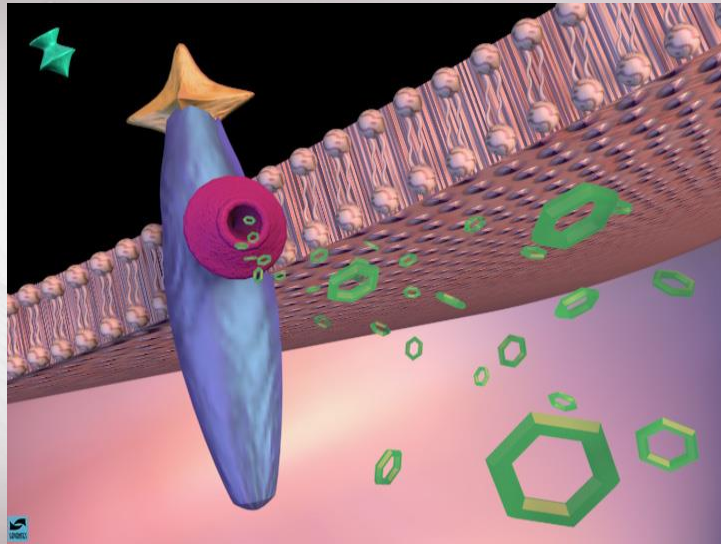
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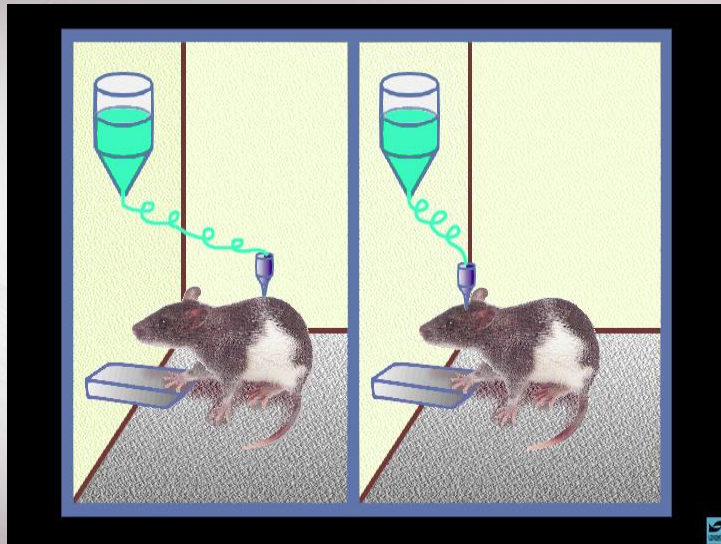


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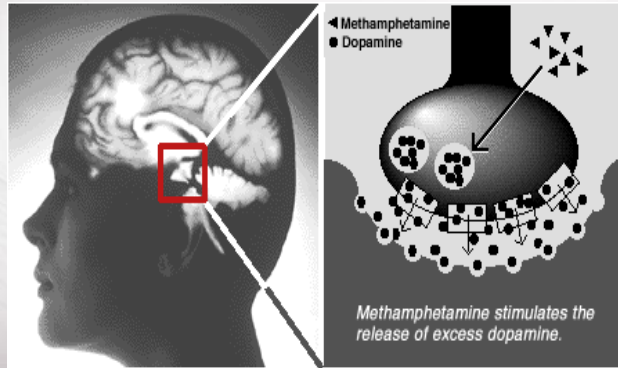


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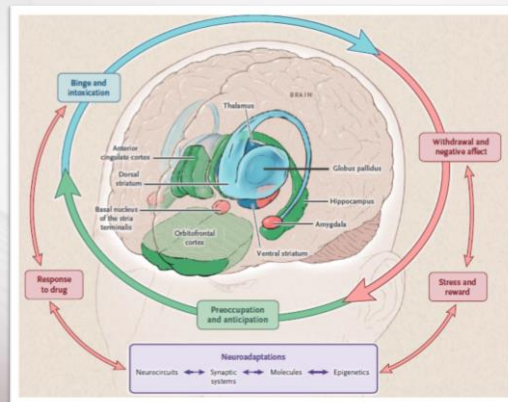
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Methamphetamine: Mechanism of Action



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Substance Use Disorders are Brain Disorders



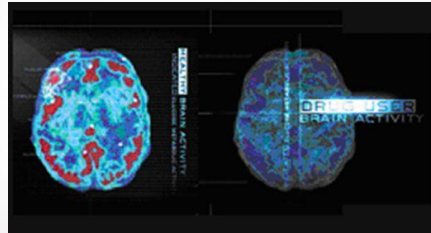
NEJM,
2016

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Substance Use Disorders are Chronic Brain Diseases

They are NOT:

- Moral issues
- Willpower issues
- Character weakness



Not everyone who uses becomes addicted.....

Addiction is not merely about the USE of a substance, it is about the *brain's response* to that use leading to certain behaviors:

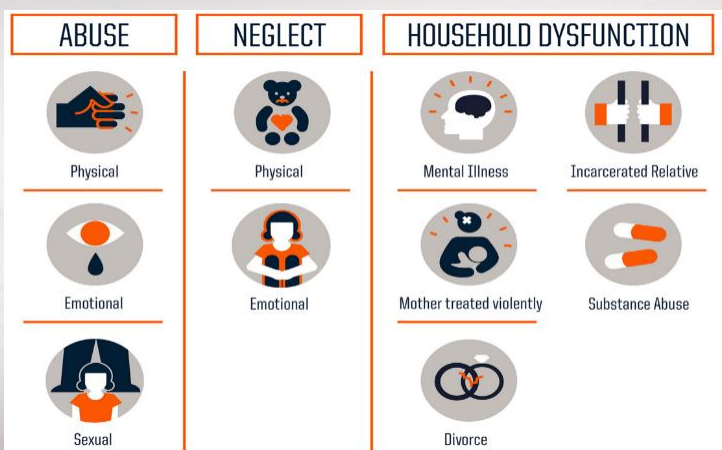
- Craving
- Inability to control use
- Urge to re-administer
- Spending large amounts of time procuring the drug, using or recovering from effects of the drug
- Continuing to use despite problems related to use
- Tolerance
- Withdrawal

Factors that Contribute to Addiction

- Genetics/Inheritance
- Environment and life experiences
 - Exposure to potentially addictive substances (especially early in life)
 - Early life trauma
 - Life stress
- Other predisposing conditions
 - Mental Illness
- Potency of the addictive drug

All influence the brain's response to substances and the vulnerability to substance use disorder

ACEs



Stimulant Intoxication and Withdrawal

Intoxication:

- Euphoria
- Agitation and violence
- Insomnia
- Anorexia
- Decreased dreaming
- Tachycardia, arrhythmia
- Hypertension
- Dilated pupils
- Paranoia, hallucinations
- Hyperthermia
- Seizure, stroke

Withdrawal:

- Dysphoria
- Lethargy
- Hypersomnia
- Hyperphagia
- Increased dreaming
- Bradycardia
- Intense craving

Cocaine

- Different forms and routes of administration
 - Cocaine HCL: snorted or injected
 - “Crack” or freebase: smoked
 - Coca leaf: chewed
- Smoking produces high within seconds that lasts 20-30 minutes
- Intense “crash” as effects of the drug wear off

Methamphetamine

- Four percent of the US population has tried methamphetamine
- There was substantial use (and manufacture) of methamphetamine in Ohio in the early 2000s, and it is now surging again
- Easily synthesized using over-the-counter pills and other readily available agents
- Meth seen in Ohio now is commonly pharmaceutical grade and frequently contaminated with fentanyl

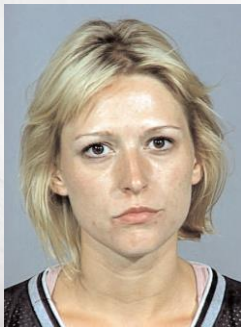
Methamphetamine

- Used in “binge/crash” pattern
- Rapid onset of action when smoked
- High lasts 12-14 hours
- Can cause long-lasting psychosis
- Can cause substantial damage to dopaminergic neurons with prolonged use, even in relatively low doses
- Recent studies find increased rates of schizophrenia in meth users
- Severe “crash” after use

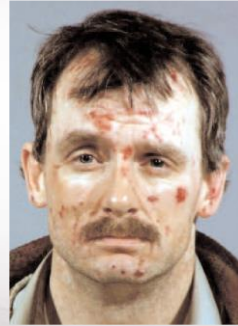
“Faces of Meth”: Published as a Public Service of The Oregonian and the Multnomah County Sheriff’s Office



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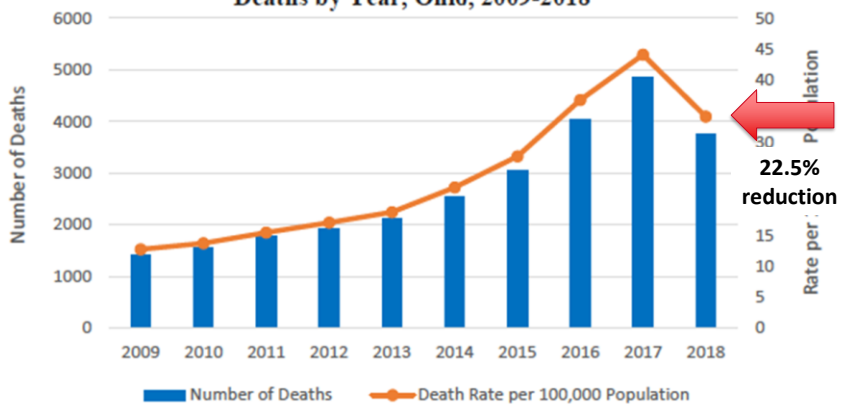


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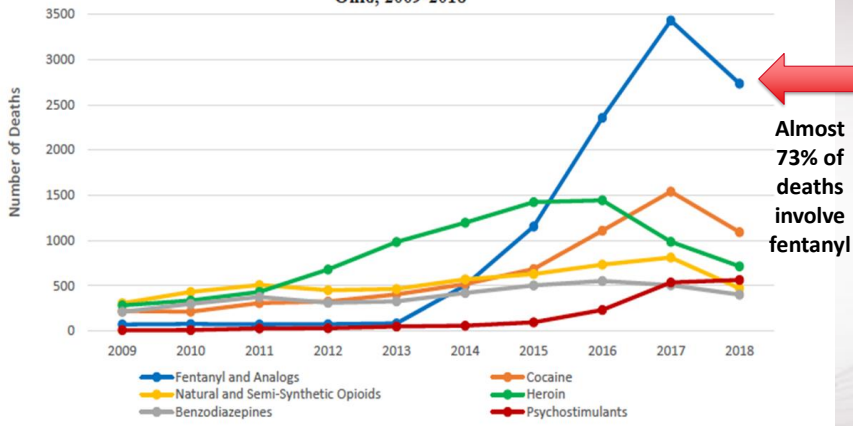
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Figure 1. Number and Age-Adjusted Rate of Unintentional Drug Overdose Deaths by Year, Ohio, 2009-2018



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Figure 10. Number of Unintentional Overdose Deaths Involving Select Drugs by Year, Ohio, 2009-2018



Almost 73% of deaths involve fentanyl

Figure 3: Age-Adjusted Rate of Unintentional Drug Overdose Deaths by Sex and Race/Ethnicity, Ohio, 2013-2018

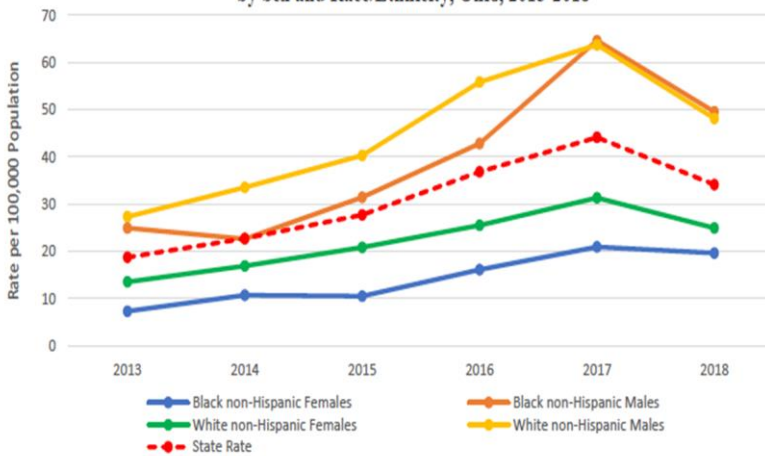
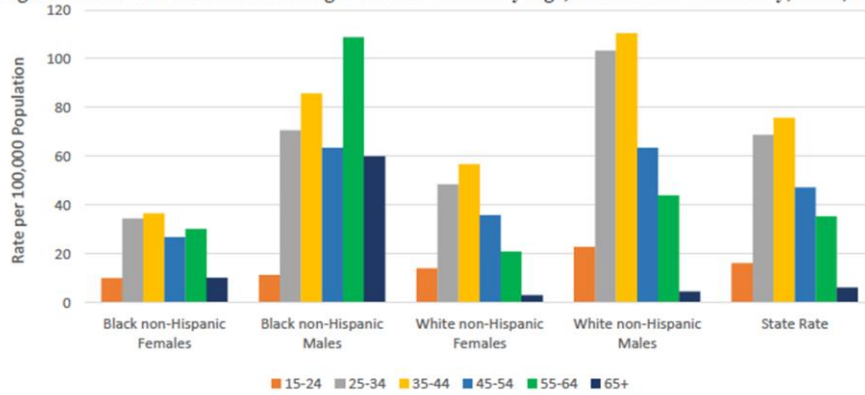
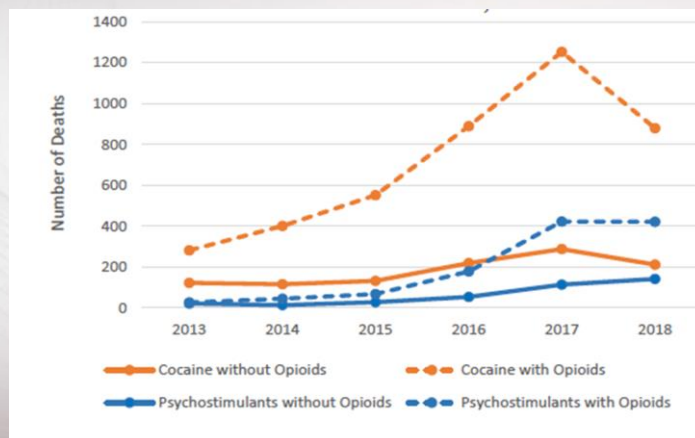
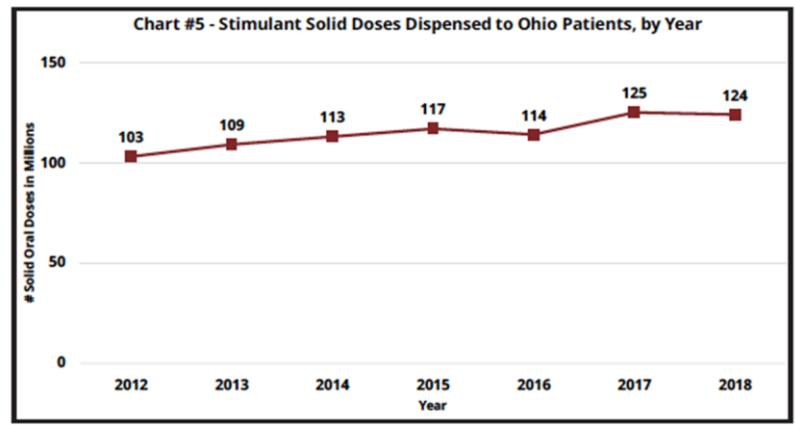


Figure 6. Rate of Unintentional Drug Overdose Deaths by Age, Sex and Race/Ethnicity, Ohio, 2018



Overdose Deaths Involving Cocaine or Stimulants with and without Opioids





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Whatever happened to alcoholism???

Condition	2001-2002 rate	2012-2013 rate	% change
Alcohol Use	65.4%	72.7%	↑ 11.1%
High-Risk Drinking	9.7%	12.6%	↑ 30.0%
Alcohol Use Disorder	8.5%	12.7%	↑ 49.4%

Increases in Alcohol Use, AUDs, and High-Risk Drinking 2001-2002 and 2012-13 (Grant, 2017)





RecoveryOhio Goals

Offer direction for the state's prevention and education efforts

Make treatment available to Ohioans in need

Provide support services for those in recovery and their families



RecoveryOhio Advisory Council Membership



RecoveryOhio Recommendations

1. Stigma and Education
2. Parity
3. Workforce Development
4. Prevention
5. Harm Reduction
6. Treatment and Recovery Supports
7. Specialty Populations
8. Data Measurement and System Linkage



RecoveryOhio Minority Health Working Group



Photo Source: <https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/040419b>

Addressing the Substance Use Crisis

- Prevention
- Early intervention
- Treatment
- Life-saving measures
- Interdiction

USE EVIDENCE BASED APPROACHES!!!

Treating Substance Use Disorders

Perspective: A chronic disease requires monitoring and treatment that corresponds to the evolution of that disease over time

- Acute Stabilization
- Effective psychosocial treatment
- Pharmacological treatments when appropriate (Medication Assisted Treatment)
- Recovery supports (safe housing, employment, etc.)
- Harm reduction

Treating Opioid Use Disorders

Psychosocial Treatments:

- Cognitive Behavioral Treatment
- Multidimensional Family Therapy
- Motivational Interviewing
- Contingency Management
- 12-step facilitation

Medication Assisted Treatment for OUD

- Without MAT, relapse rates for opioid use disorders is extremely high (up to 90%)
- Three options: methadone, buprenorphine, naltrexone
- Outcomes with treatment:
 - Much lower relapse rates
 - Fewer fatalities
 - Less arrests
 - More employment
 - More family stability
- Increased availability and use of MAT can lower mortality, improve recovery rates, and decrease individual and societal costs of opioid use disorders

All MATs Improve Abstinence Rates

Medication	With MAT (% Opioid Free)	Without MAT (% Opioid Free)	NNT
Naltrexone ER	36 %	23 %	7.7
Buprenorphine	20-50 %	6%	7.1-2.3
Methadone	60 %	30 %	3.3

NOTES:

- **COMPARATIVE CONCLUSIONS CANNOT BE DRAWN FROM THIS**
- **ALL MAT WAS PROVIDED ALONG WITH RELAPSE PREVENTION COUNSELING**

References: Krupitsky 2011, Mattick 2009, Fudala 2003, Weiss, 2011

Naloxone

- Blocks the effects of opioid medications and reverses the effects of opioid overdose
- Those who receive the naloxone kit receive instructions on recognizing signs of OD and administering the medication intranasally
- Naloxone has saved the lives of thousands in Ohio

Treatment of Cocaine and Stimulant Use Disorder

Psychosocial Treatments:

- Cognitive Behavioral Treatment
- Multidimensional Family Therapy
- Motivational Interviewing
- Contingency Management
- 12-step facilitation

Treatment of Cocaine and Stimulant Use Disorder

Medication treatment:

- There is no medication shown to be effective in the treatment of cocaine use disorder or other stimulant use disorders
- If the person has an opioid use disorder or an alcohol use disorder, the MATs effective for them should be considered

Treatment of Cocaine and Stimulant Use Disorder

Role of Naloxone:

- Naloxone will not reverse the effects of an overdose of cocaine or other stimulants
- Much of the cocaine and methamphetamine in Ohio is tainted with fentanyl or other opioids
- Persons using any drug should receive naloxone and it should be administered in the event of an overdose due to the likely presence of opioids in other drugs.

What can we do?

- Talk to kids about drugs
- Be trauma-informed
- Family time and positive activities
- Clean out your medicine cabinet **(PLEASE!)**
- Delay/eliminate exposure to any drug of abuse
- Be part of a community response

What can we do?

- Understand that addiction is a chronic relapsing disease
 - Relapse is part of the illness and not a failure
- Learn to use naloxone
- If you see something, say something
- Show compassion.....promote hope

FIGHT STIGMA!!!

Contact Information

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