

What We Can Do

We Are All In This Together

R. Jeffrey Goldsmith MD, DLFAPA, DFASAM

Past President ASAM

Diplomate of the American Board of Preventive Medicine

May 21, 2019



Opioid
Response
Network
STR-TA

Disclosures

- ✧ No financial disclosures
- ✧ On the Board of Windhorse Zen Community
- ✧ On the Board of Biddeford Pool Improvement Association
- ✧ Just completed my term (4/17-4/19) on the BOD as Immediate Past President of the American Society of Addiction Medicine



Objectives

- ✧ Stigma undermines Evidence-Based Practice
 - List two signs of stigma in self and others
- ✧ There are brain changes from heavy substance use
 - Inherited Genetics make people at risk
 - Epigenetic changes can become inheritable and increase risk
- ✧ The Chronic Care Model helps clinicians manage chronic illness
 - Primary care groups can use CCM to enhance success
 - CCM involves a multidisciplinary team who share the same individualized treatment plan
- ✧ Systemic Changes are important to implement EBP



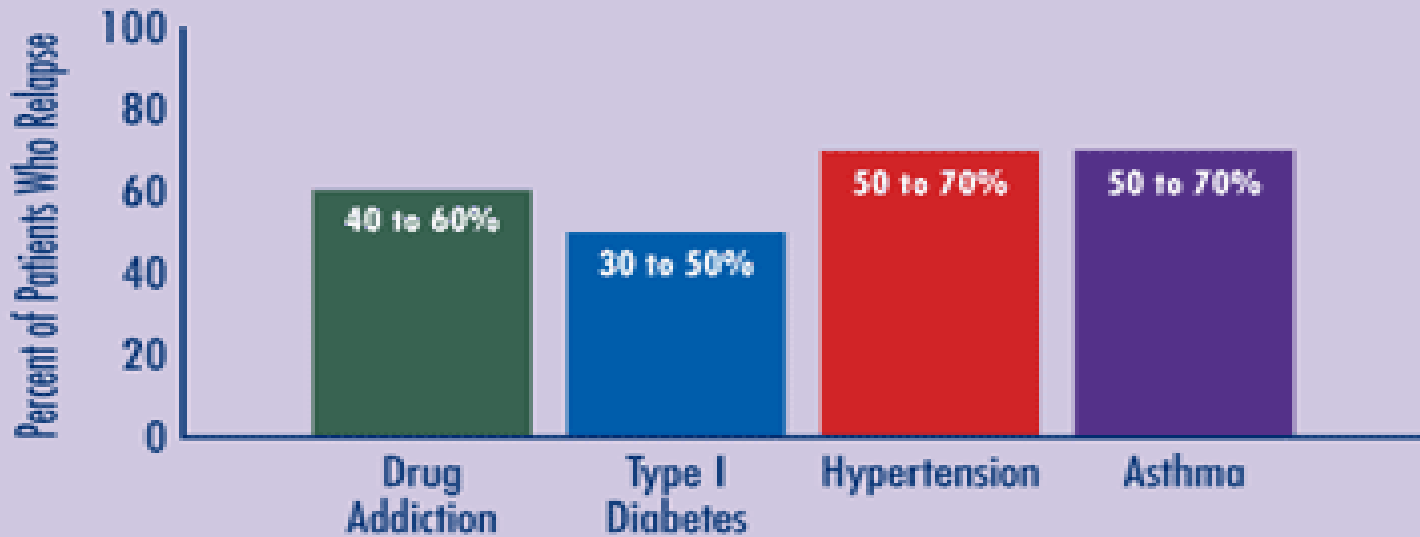
Stigma

- ✧ 2014 study of 700 in Psychiatric Services
 - 22% willing to work closely with someone with addictions
 - 62% willing to work with someone with mental illness
 - 64% said employers should refuse to employ people with drug addiction v. 25% with mental illness
 - 43% said don't give same health insurance benefits if addiction v. 21% with mental illness
 - 30% believed Recovery impossible for each (both) illness



Relapse Rate for Addiction Similar to Other Chronic Conditions

COMPARISON OF RELAPSE RATES BETWEEN
DRUG ADDICTION AND OTHER CHRONIC ILLNESSES



What can be Transmitted from One to Another?

- ✧ DNA
- ✧ Epigenetic Changes to mRNA or base pairs in DNA
- ✧ Amount of substance use
- ✧ Multiple substances used
- ✧ Marijuana
 - Myth of medical marijuana
 - False labeling of quantities (THC and CBD)
 - High concentration packages and vaping
 - Driving vehicles under the influence +/- EtOH



What Makes This An Epidemic?

- ✧ Stigma blocks access to Evidence Based Tx
- ✧ Over 70,000 accidental overdose deaths/year
- ✧ Overdose deaths increasing every year
- ✧ Traditional Medicine wasn't doing much from a Public Health point of view
- ✧ Since Chronic Illness, reducing pain Rx doesn't stop the illness, just more pain and less newcomers



Why Can't Someone Just Try Harder?

- ✧ Intention is different from Behavior
- ✧ Hijacking the Motivation Center
- ✧ Guilt and Shame keep it hidden
- ✧ Doctors, Authorities, Families, Neighbors, Self have Stigma to keep it hidden
- ✧ Other Chronic Illnesses complicate matters
 - Chronic pain, PTSD, Mental Illnesses, HCV, HIV
- ✧ Chronic Social “Illnesses” like courts, housing, jobs, custody, felony stigmas, poverty, violence



Defining Addiction

- ✧ “A chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences
- ✧ Considered brain disease because drugs change the brain... structure and how it works... that can be long lasting and lead to many harmful, self-destructive behaviors”*

*NIH National Institute on Drug Abuse



Neurobiology of Addiction

- ✧ Stages of addiction:
 - Use/ binge → intoxication, dopamine release (“reward system”)
 - Withdrawal → negative effect
 - Preoccupation / anticipation → pursuit
- ✧ Addiction changes brain, resets brain’s reward system
 - Over time, drug consumption triggers less dopamine, more reactivity to stress, negative emotions



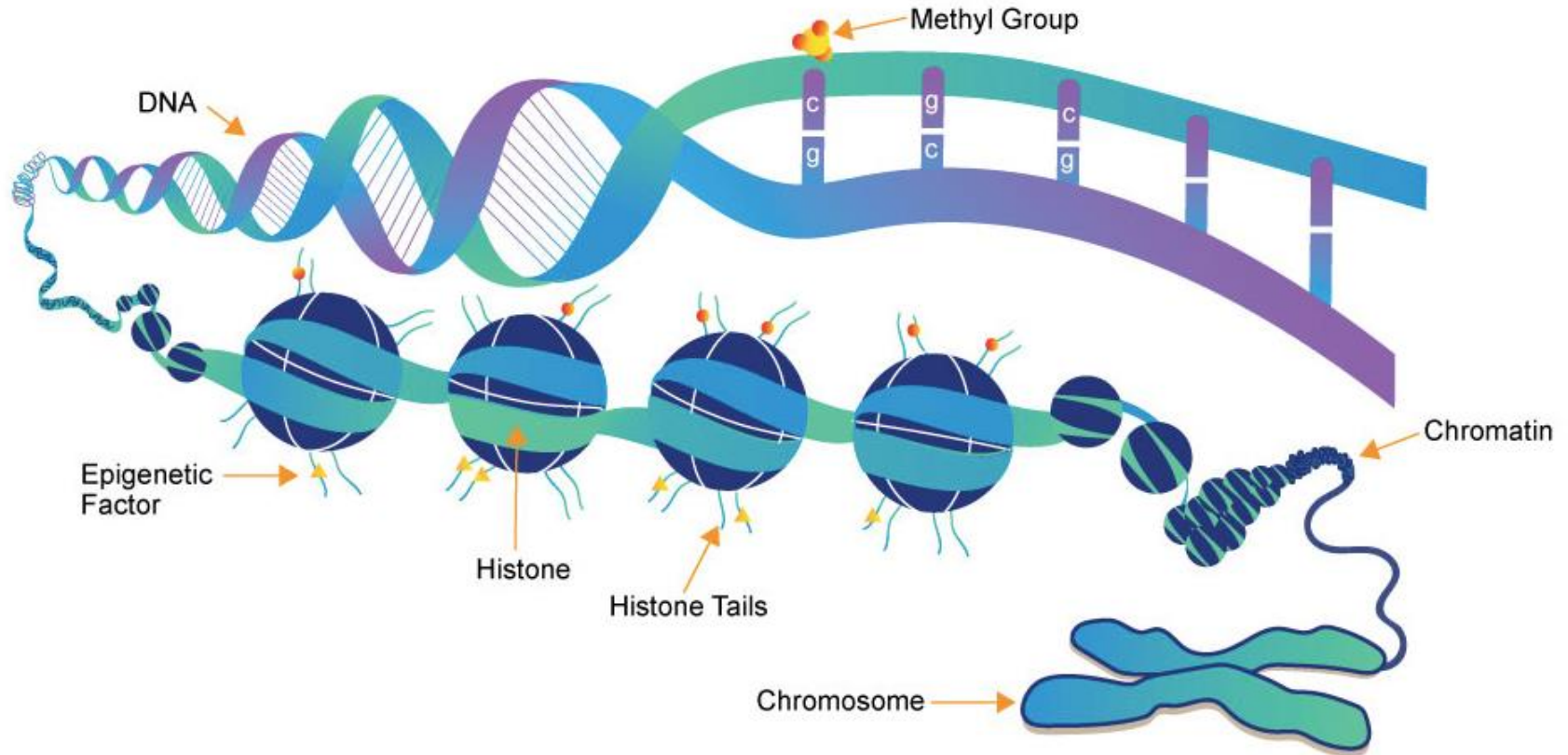
Epigenetics and Addictions

- ✧ Currently, [DNA methylation](#) is one of the most broadly studied and well-characterized epigenetic modifications dating back to studies done by Griffith and Mahler in 1969.... Other major modifications include [chromatin remodeling](#), [histone modifications](#), and [non-coding RNA mechanisms](#). The renewed interest in epigenetics has led to new findings about the relationship between epigenetic changes and a host of disorders including various cancers, mental retardation associated disorders, immune disorders, neuropsychiatric disorders and pediatric disorders.
- ✧ when a person uses cocaine, it can mark the DNA, increasing the production of proteins common in addiction. Increased levels of these altered proteins correspond with drug-seeking behaviors in animals.
- ✧ *Histones*, as another example, are like protein spools that provide an organizational structure for genes. Genes coil around histones, tightening or loosening to control gene expression. Drug exposure can affect specific histones, modifying gene expression in localized brain regions.
- ✧ NIH Genetics and Epigenetics of Addiction
- ✧ Revised February 2016

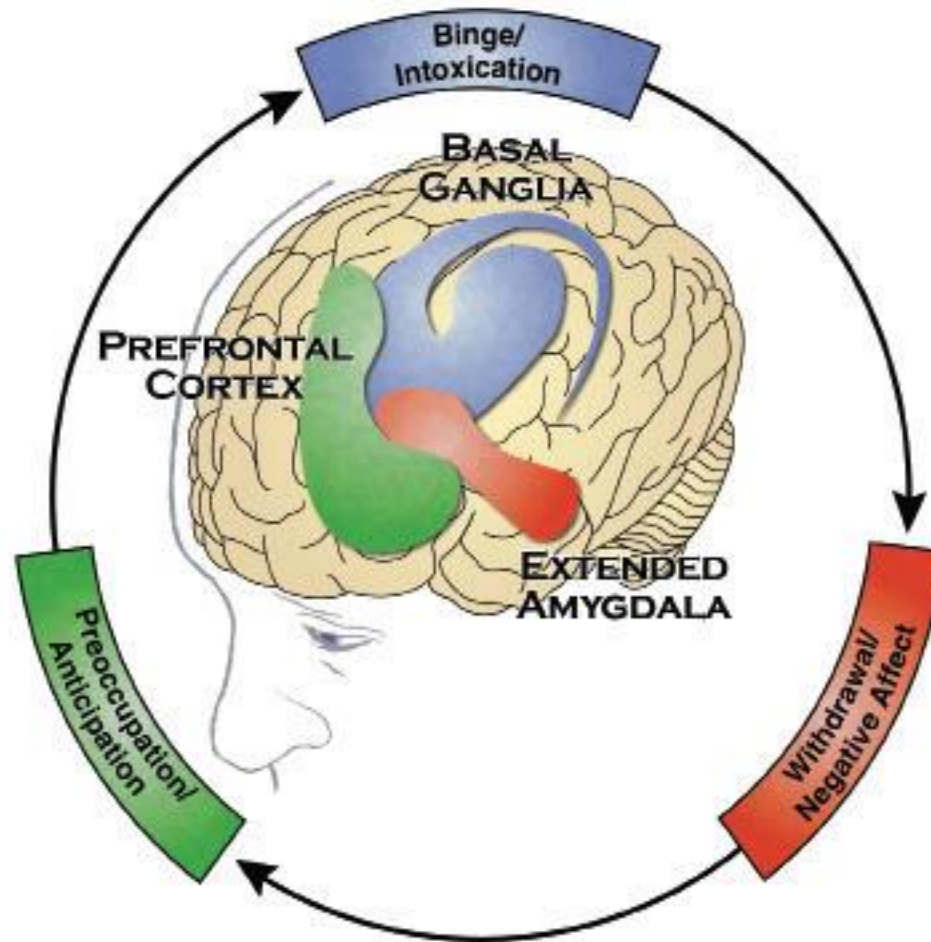


Epigenetic Mechanism

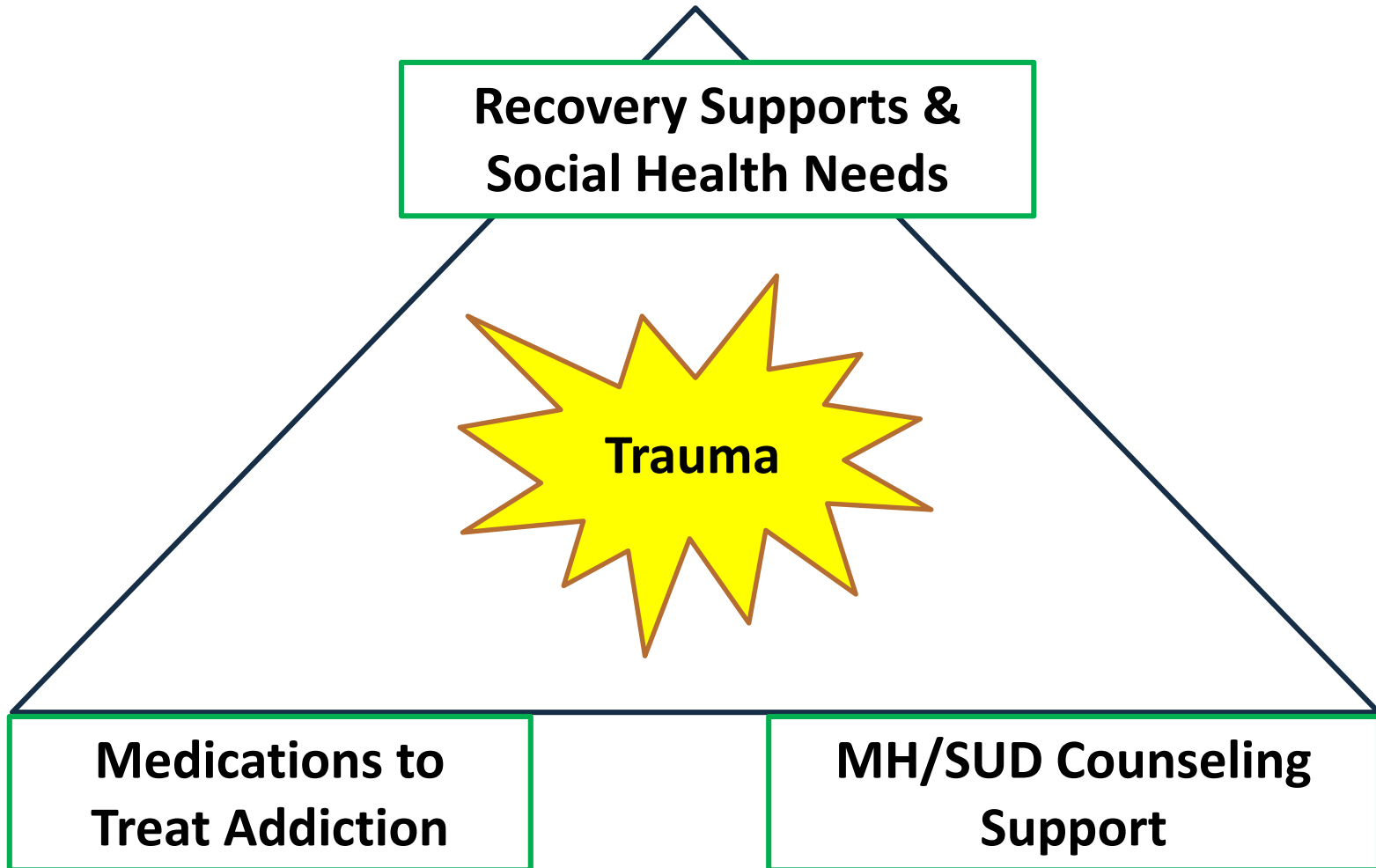
from <https://www.whatisepigenetics.com/fundamentals/>



Brain Anatomy



Systems for SUD Care & Recovery



FDA-Approved Medications for OUD

✧ Methadone

- Opioid agonist, FDA-approved since 1971
- Can only be administered by federally-recognized “Opioid Treatment Program” (OTP/methadone clinic)

✧ Buprenorphine

- Partial opioid agonist, FDA-approved in 2002
- Can be administered in office-based treatment programs by prescribers with DEA X-waiver or OTP
- Can be prescribed X3 doses by any DEA licensed physician

✧ Naltrexone

- Opioid antagonist/blocker, FDA-approved in 1984 (tabs), 2010 (IM)
- Can be administered by any prescribing clinician
- Available as IM, tablet (poor adherence, not widely used)



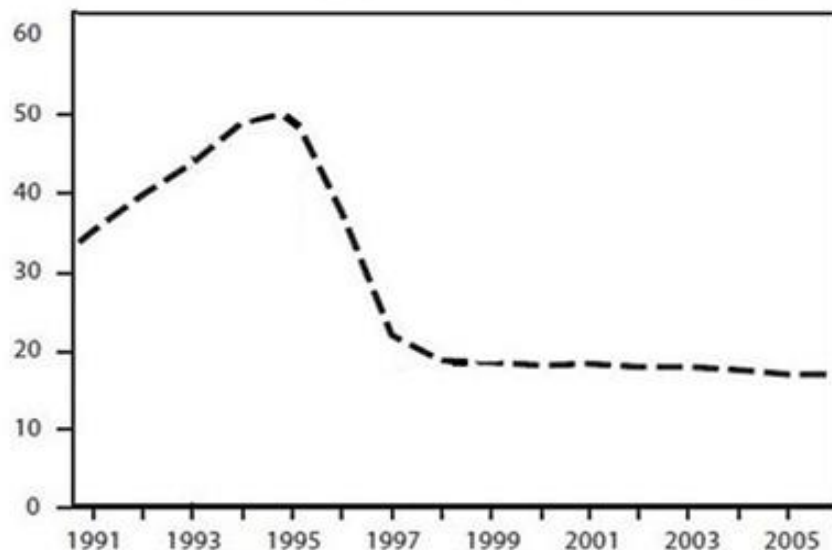
Medications for Addiction Treatment (MAT) Works, AND Still Greatly Underused

- Strong evidence for effectiveness of Medications for Addiction Treatment for SUD/ODU
 - i.e. methadone, buprenorphine, naltrexone
 - Saves lives, decreases OD deaths
 - Reduces harm from illicit drug use
 - Reduces craving, allowing more focus on recovery
 - Decreases risk of relapse, increases rates of recovery
- Strong evidence that MAT still widely under-utilized
 - in Maine & nationally

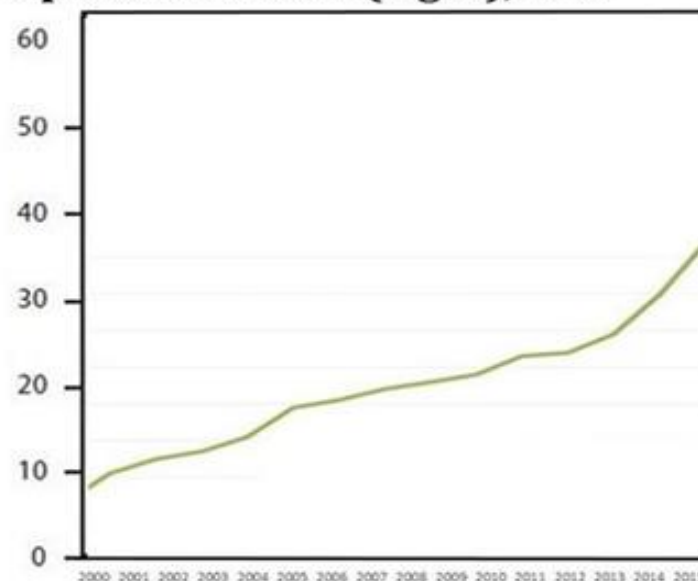


Access to OUD Medications Remains Key Barrier to Reducing OD Deaths

Annual deaths (1,000's) from AIDS (left) and opioid overdose (right), USA



HAART ↑



OBOT ↑

XR-NTX ↑

Arrows indicate year of FDA approval of specified medications

*HAART= Highly active antiretroviral therapy

*OBOT = Office based outpatient treatment of opioid use disorder (OUD)

* XR-NTX = Extended release naltrexone

Data reflect approximations adapted from the [Centers for Disease Control and Prevention](#)

Goals of Medication for OUD

- ✧ **Reduce mortality!**
 - All cause and drug-related
- ✧ Reduce OUD-associated diseases
 - Transmission of blood-borne viruses (HIV, Hep C)
 - Infectious complications from IV drug use
- ✧ Reduce and/or discontinue opioid use
- ✧ Increase retention in addiction treatment
- ✧ Improve general health and well-being
- ✧ Reduce drug-related crime



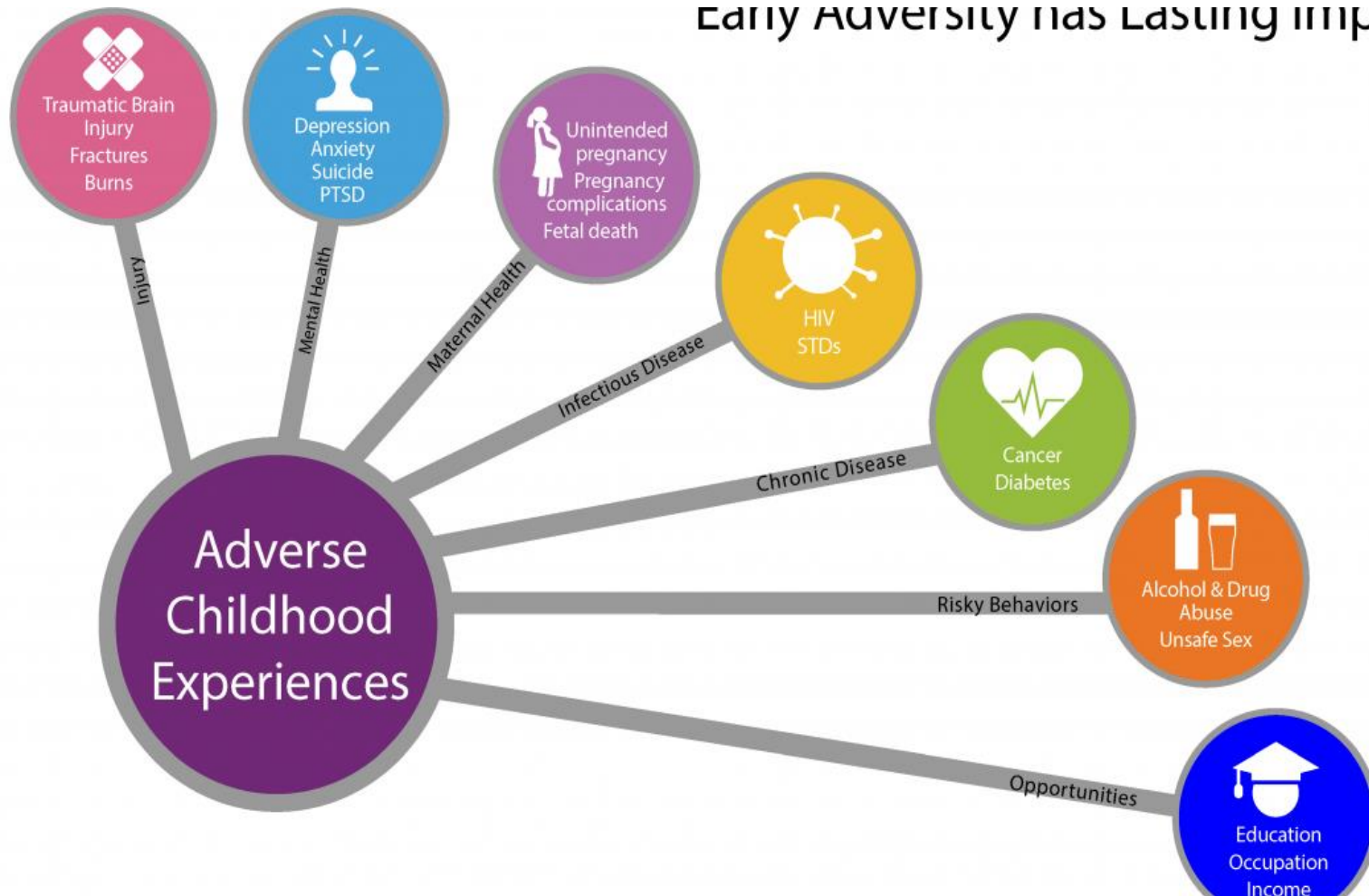
ACES

- ✧ First we are children
- ✧ Stays with us forever
- ✧ Nonverbal knowns
- ✧ Additive effects
- ✧ Predict onset of substance use
- ✧ Predict onset of severe emotional symptoms
- ✧ Interfere with Brain/Social Development



Early Adversity Has Lasting Impacts

Early Adversity Has Lasting Impacts



Modern Traumas? Barriers to EBP

✧ Sachler family and Purdue Pharma

- Just settled with Oklahoma to avoid public court, 3/19
- Richard Sachler MD and former CEO said 2008 company goals were “measure our performance by prescriptions by strength, giving higher measures to higher strengths”

✧ Kapoor, CEO of Insys Therapeutics

- A federal jury on Thursday (May 2, 2019) found the top executives of Insys Therapeutics, a company that sold a fentanyl-based painkiller, guilty of racketeering charges in a rare criminal prosecution that blamed corporate officials for contributing to the nation’s opioid epidemic.



Factors of overdose

Factors contributing to overdoses

Southern Ohio pill mills were shut down

More strict prescribing guidelines went out to providers

Increased availability of heroin in Ohio

Heroin became a cheaper

Resulted in a higher death rate among younger Ohioans

Risk Factor's for overdose

Overusing what is prescribed

Misusing what is prescribed

Mixing opioids with ETOH, Benzos, Sedatives, Sleeping pills, Cocaine

Using alone

Poor health (especially Lung, Liver problems)

Getting a new drug

New dealer

New dosage

Dosage's >50mg morphine equivalent = higher risk

Persons at highest risk for overdose

Young males aged 18-25

Men are 59% more likely than women to die of an overdose

Highest rate of overdose by age group: 45 - 49 years

Patients discharged from emergency medical care following opioid intoxication or poisoning

Persons with tolerance level reset either from admission to hospital, jail, rehab etc.

Risks increase as the dose increases for pt on >50mg Morphine equivalent



Public Health Model from Surgeon General's Report 2016

- ✧ Define the problem systematically
- ✧ Identify the risks and protective factors
- ✧ Work across the public and private sectors
- ✧ Support broad implementation of EBPs
- ✧ Monitor the impact of these EBPs
- ✧ Need a strong Public Health Educational System—everyone can play a role!!



Working with communities to address the opioid crisis.

- ✧ SAMHSA's State Targeted Response Technical Assistance (STR-TA) Consortium assists STR grantees and other organizations, by providing the resources and technical assistance needed to address the opioid crisis.
- ✧ Technical assistance is available to support the evidence-based prevention, treatment, and recovery of opioid use disorders.

Funding for this initiative was made possible (in part) by grant no. 6H79TI080816 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Working with communities to address the opioid crisis.

- ✧ The STR-TA Consortium provides local, experienced consultants to communities and organizations to help address the opioid public health crisis.
- ✧ The STR-TA Consortium accepts requests for education and training resources.
- ✧ Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS) who is an expert in implementing evidence-based practices.

Funding for this initiative was made possible (in part) by grant no. 6H79TI080816 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Contact the STR-TA Consortium

✧ To ask questions or submit a technical assistance request:

- Visit www.opioidresponsenetwork.org
- Email str-ta@aaap.org
- Call 401-270-5900

Funding for this initiative was made possible (in part) by grant no. 6H79TI080816 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Webinar References

- ✧ Volkow and Boyle, Neuroscience of Addiction: Relevance to Prevention and Treatment. *Am J Psychiatry* 175:8, August 2018
- ✧ [GEORGE F. KOOB](#) Neurobiology of Addiction: Toward the Development of New Therapies. *Annals of NY Academy of Sciences*, 2006
- ✧ Koob and Moal. Commentary: Plasticity of reward neurocircuitry and the 'dark side' of drug addiction. VOLUME 8 | NUMBER 11 | NOVEMBER 2005 *NATURE NEUROSCIENCE*
- ✧ Volkow et al. Adverse Health Effects of Mj Use. 2014, *NEJM*, 370(23), June 5.
- ✧ NIH Genetics and Epigenetics of Addiction. Revised February 2016
- ✧ <https://www.whatisepigenetics.com/fundamentals/>
- ✧ Huhn & Dunn, Why aren't physicians prescribing more buprenorphine? *J Sub Ab Tx*, [July 2017 Volume 78, Pages 1–7](#)
- ✧ Kaiser Permanente—CDC Study on ACEs
<https://www.cdc.gov/violenceprevention/childabuseandneglect/cestudy/about.html>
- ✧ The [full TIP63](#), an [executive summary](#), and its five individual parts are available to download and order from the SAMHSA Store at <https://store.samhsa.gov>.
- ✧ Surgeon General's Report: *Facing Addiction in American*, 2016, free download on computers.



