

Opioid Use Disorder Education and Treatment ECHO Series

Session 4 – Co-Occurring (MH and SUD) Disorders

January 4, 2022

Kurt DeVine, MD, and Heather Bell, MD
Family Medicine and Addiction Physicians



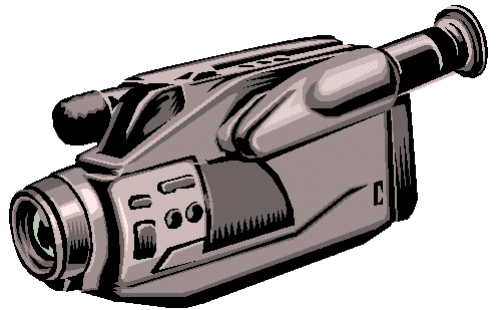
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STRONG MEDICINE FOR MINNESOTA

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Announcements



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SESSIONS ARE RECORDED



YES, THERE'S *FREE* CME

Attendance

- Please chat us the names of people on ECHO if there are multiple people in your room!
- “Re-name” your self so we know who’s here!
- Please turn your video on!
 - Human connection!
 - And we do NOT care if you are eating!



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Case Presentations!

The ECHO model is based on case-based learning! The case presentation form is on the MAFP website and also on the announcements email!

BUT feel free to present in any de-identified format!

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Upcoming Tuesday ECHO Sessions

- **Tuesday, January 18, 2022:** Overlap of Addiction and Chronic Pain
- **Tuesday, February 1, 2022:** Addiction Screening and Treatment Basics
- **Tuesday, February 15, 2022:** In-depth Look at MOUD Treatment Options
- **Tuesday, March 1, 2022:** Prescribing to Your First MAT/MOUD Patient (Induction/Micro-induction)

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Upcoming Wednesday ECHO Sessions

- **Wednesday, January 5, 2022:** The Poppy Seed Defense: Dr. Kurt DeVine
- **Wednesday, January 12, 2022:** Perinatal Substance Use Reporting and Minnesota Law: Dr. Cresta Jones
- **Wednesday, January 19, 2022:** ?
- **Wednesday, January 26, 2022:** Negative Consequences of anti-depressant Medications Part 1 Dr. Cole Pueringer
- **Wednesday, February 2, 2022:** Negative Consequences of anti-depressant Medications Part 1 Dr. Cole Pueringer

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COVID19 ECHO

- MAFP website to register
- **Thursday, January 6:**
Dr Mike Osterholm!
- **Thursday, January 13:**
Long COVID
- **Thursday, January 20:**
Testing Options and Limitations
- **Thursday, January 27:**
COVID and Kids



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“The Addiction Connection Podcast”

Weekly addiction
topics- Tuesday
release day!

www.buzzsprout.com/954034

(Or anywhere you get your podcasts!)

Email us questions:

theaddictionconnectionpodcast@gmail.com



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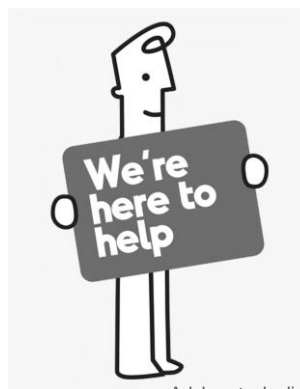
TECHNICAL ASSISTANCE

- **We are ALWAYS here for you!!!**

- Program implementation
- Inductions
- Difficult cases
- Trouble-shooting
- Anything!

- **Call us anytime:**

- Heather Bell: 320-630-5607
- Kurt DeVine: 320-630-2507



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Co-Occurring Disorders Objectives:

- Understand the frequency and complexity of co-occurring mental health/substance use disorders.
- Explain the interplay and common correlations in patients with co-occurring disorders.
- Describe techniques and ways to address co-occurring disorders utilizing a patient-centered approach.

Epidemiology of Co-Occurring

Epidemiology- Alcohol (AUD) & Substances (SUD)

- 95 million cases of AUD worldwide as of 2010
 - 9th leading global risk factor for morbidity and premature death
- 250 million people (15-64yo) used illicit drugs in 2014
 - 29 million with SUD
 - 12 million IVDU
 - 14% living with HIV
 - Drug-attributable disease burden 1.5% global overall

Epidemiology- National Institutes of Health (NIH)

- 7.7 million adults have co-occurring
- 20.3 million with **SUD**
 - 37.9% also had MH
- 42.3 million with **MH**
 - 18.2% also had SUD (as of 2010)
 - ~50% also had SUD (as of 2020)
 - (Serious MH dx with serious impairment) 1:4 also have SUD

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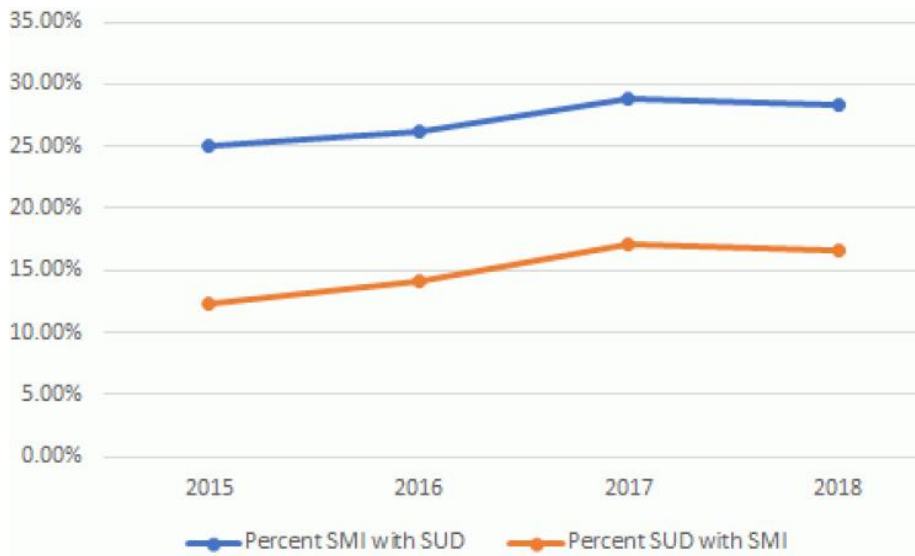
Epidemiology-

- SUD and co-morbid MH:
 - Anxiety, depression, personality disorders, PTSD (most)
 - **SUD PRO-FOUNDLY negative effect on overall MH**
 - 43% of people in SUD Tx for ‘non-medical use of prescription painkillers’ have MH diagnosis (depression/anxiety highest)
- Intimate partner violence, family violence, overdose and suicide, accidental injury deaths

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Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, Mental Health, Detailed Tables available at: <https://www.samhsa.gov/data/population-data-nsduh> From: Common Comorbidities with Substance Use Disorders Research Report

The Intersection of the Co-Occurring

Common Combinations

TABLE 93-4

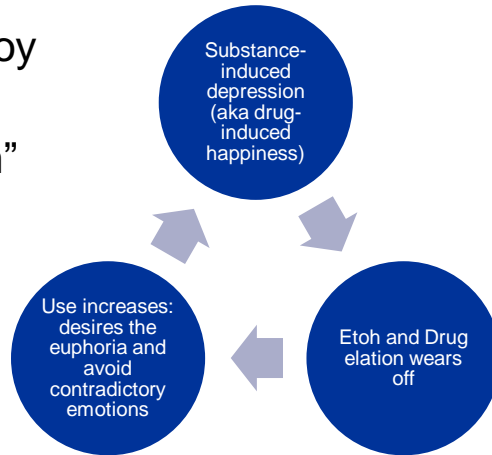
Odds Ratios* Reflecting the Strength of Association or Co-occurrence between Alcohol or Drug Dependence Disorders and Affective and Other Selected Disorders from Three Community Surveys

	NCS							
	ECA		Alcohol Dependence				Other Drug Dependence	
	Alcohol Dependence	Other Drug Dependence	Men	Women	Men	Women	Alcohol Dependence	Other Drug Dependence
Mood Disorders								
Major depressive disorder	1.6	3.7	3.0	4.1	2.0 ^a	2.0 ^a	3.7	9.0
Dysthymia	2.3	3.6	3.8	3.6	1.3 ^a	1.3 ^a	2.8	11.3
Bipolar disorder	4.6	8.3	12.0 ^a	5.3 ^a			5.7 ^a	13.9 ^a
Other Disorders								
Panic disorder	3.3	4.4	2.3	3.0			3.6 ^a	10.5 ^a
Social phobia	1.6	2.2	2.4	2.6	2.6 ^a	2.6 ^a	2.5	5.4
Posttraumatic stress disorder	—	—	3.2	3.6	3.0	4.5	—	—
Attention deficit hyperactivity disorder (ADHD)	—	—	2.8 ^a	2.8 ^a	7.9 ^a	7.9 ^a	—	—
Antisocial personality	14.7	15.6	8.3	17.0			7.1	18.5

Common Combinations:

Major depression + cocaine use disorder

- Use substances to feel joy or pleasure
- “Numb to emotional pain”



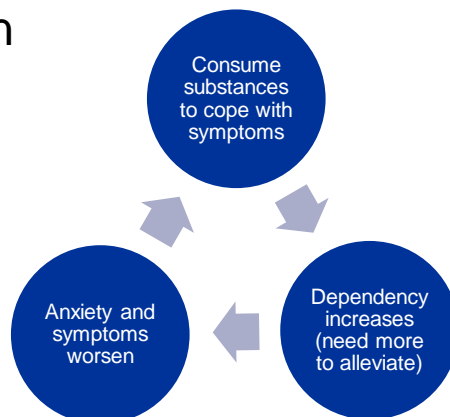
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Common Combinations:

Panic (Anxiety) disorder + alcohol use disorder

- Relieve and ease burden every day
- Etoh/benzos to reduce anxiety

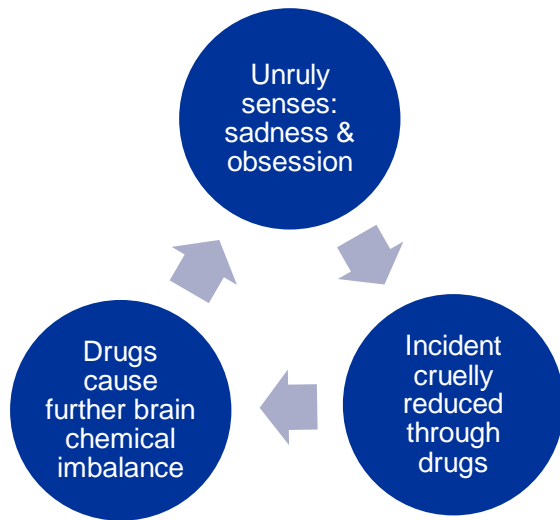


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Common Combinations: Bipolar + SUD

- Excessive and unruly senses of both sadness and obsession
- Imbalance in brain chemicals
- Highest risk of SUD

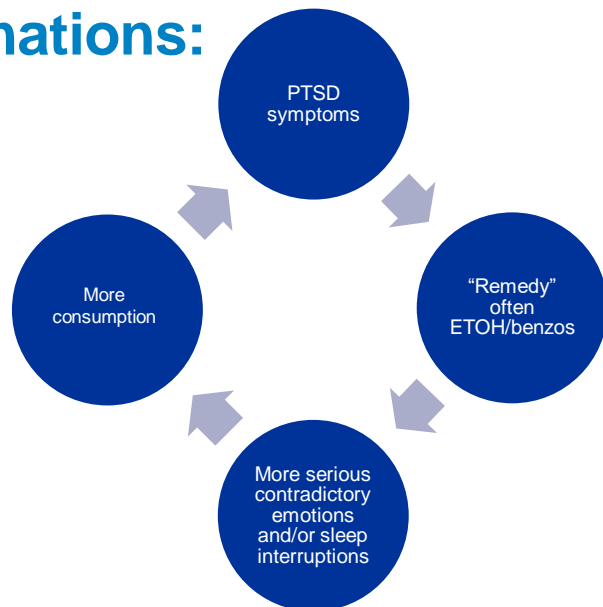


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Common Combinations: PTSD + Etoh/benzos

- PTSD = TBI
- Veterans
- Abuse:
 - Psychological
 - Physical
 - Sexual
- Symptoms:
 - Flashbacks
 - Intrusive thoughts
 - Horrors
 - Hyper-vigilance



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Common Combinations: Suicide + SUD

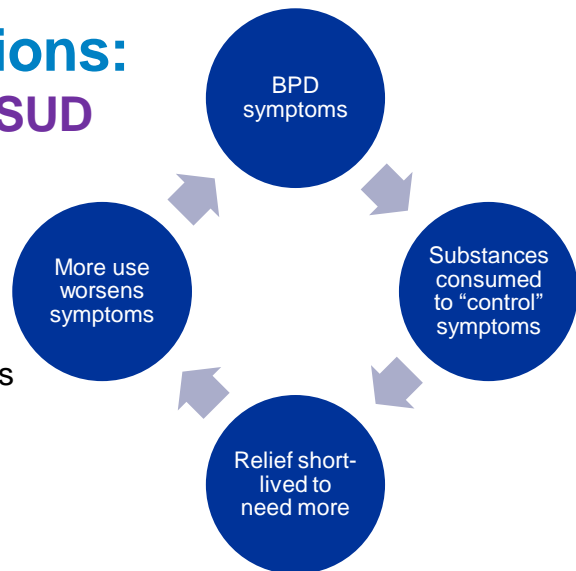


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Common Combinations: Personality disorders + SUD

- Borderline personality disorder (prototype)
 - 6% of adults in US
 - Sudden mood swings
 - Extreme temperamental restlessness
 - Unpredictable behavior
 - Scattered thoughts of self/others/environment
 - Trouble forming steady connections



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Common Combinations

- Schizophrenia with [common] drug obsession + alcohol use disorder
- Schizophrenia + Tobacco Use
 - Highest prevalence of smoking (70-80%)
 - Rates up to 5 X higher than the general population



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Common Combinations: Mental Health + Tobacco

- 2016:
 - 30.5% patients with a MH Dx smoked cigarettes in the last month
 - 66% higher than the rate if no MH Dx
- Strong association especially with depression and schizophrenia
- Reduce or help cope with symptoms:
 - Poor concentration
 - Low mood
 - Stress



Source: smokingcessationleadership.ucsf.edu

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Common Combinations: Schizophrenia + Tobacco

- Dorsal anterior cingulate cortex (dACC)
 - Involved in:
 - Decision-making
 - Planning
 - Focusing attention
 - Controlling impulses
 - Controlling emotions
 - Connections with other brain areas (memory, emotion, reward)
 - Weaker in pts with schizophrenia (if smoked or not)
 - Impaired in close relatives of those with schizophrenia (if smoked or not)
 - Impaired in individuals with severe nicotine use disorder



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Common Combinations: Schizophrenia + Tobacco

- Nicotinic acetylcholine receptors
 - Lower levels hallmark of schizophrenia
 - Involved in cognition and memory
 - Activated by natural acetylcholine AND nicotine
 - (Focus of research for schizophrenia treatment)



Image credit: www.treatyourschizophrenia.com

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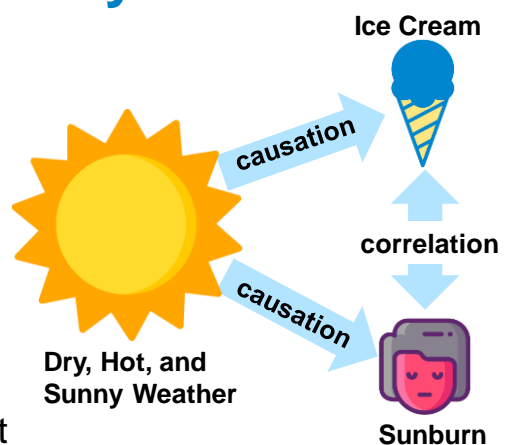
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“How” and “Why”

Why Is There Co-Morbidity

- Causality vs directionality difficulty:
 - Subclinical behavioral or emotional problems not diagnosed
 - But may still prompt drug use
 - Recollection of when use/addiction started imperfect
 - Unknown which actually came first



Why Is There Co-Morbidity

- Pathways:
 1. Common risk factors for MH and SUD
 2. MH may contribute to use and SUD
 3. SUD can contribute to MH



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1. Common Risk Factors

- A. Genetic vulnerabilities
- B. Epigenetic influences
- C. Brain region involvement
- D. Environmental influences
- E. Stress
- F. Trauma and Adverse Childhood Experiences

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1. Common Risk Factors:

A. Genetic Vulnerabilities

- 40-60% SUD attributable to genetics
- Multiple genes with environmental influences
- Genes interacting with drug:
 - How person responds to drug (pleasurable or not)
 - How long drug remains in body
- Genes act indirectly by altering how individual responds to stress, risk-taking, novelty-seeking behaviors

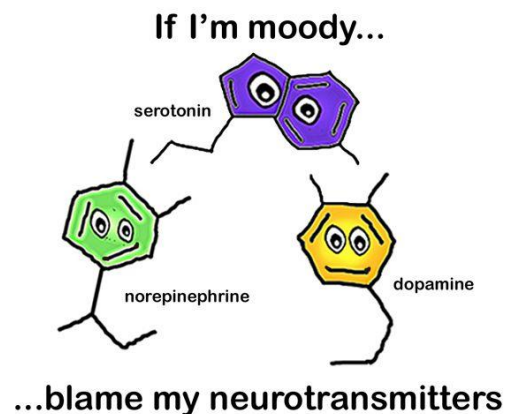
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1. Common Risk Factors:

A. Genetic Vulnerabilities

- Many genes contribute to risk for SUD and MH
- Dopamine and Serotonin
 - Affected by drugs
 - Commonly dysregulated in MH



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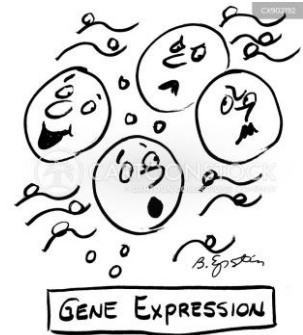
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1. Common Risk Factors:

B. Epigenetic Influences

- Genetic and environmental factors interact at molecular level
 - Alter neural circuits and impact behavior
- Not dependent on gene sequences
- Factors:
 - Stress
 - Trauma
 - Drug exposure



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1. Common Risk Factors:

B. Epigenetic Influences

- Epigenetic mechanisms:
 - Can be passed down to next generation
 - Can be reversed with interventions or environmental alteration
 - Impact dependent on developmental stage



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1. Common Risk Factors:

B. Epigenetic Influences

- Development:
 - Maternal diet high in fat in pregnancy can influence levels of proteins in brain's reward pathway
 - Poor maternal care diminishes ability of offspring to respond to stress



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1. Common Risk Factors:

C. Brain Region Involvement

- Common brain pathways affected by substances and disrupted in MH
 - Reward
 - Decision making
 - Impulse control
 - Emotions



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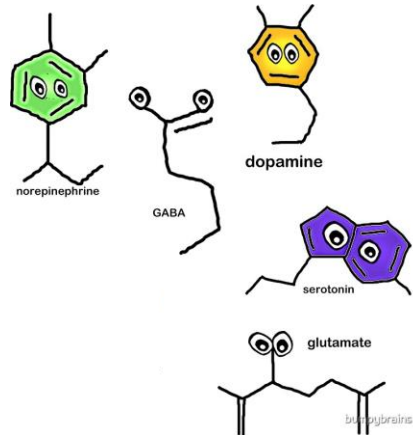
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1. Common Risk Factors:

C. Brain Region Involvement

- Neurotransmitter systems:
 - Dopamine
 - Serotonin
 - Glutamate
 - GABA
 - Norepinephrine



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1. Common Risk Factors:

D. Environmental Influences

- Many increase risk of SUD and mental illness
 - Chronic stress
 - Trauma
 - Adverse childhood experiences
- Many are modifiable
 - Prevention interventions can result in reductions in SUD and mental illness



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1. Common Risk Factors:

E. Stress

- Common neurobiological link between the disease progresses of SUD and mental disorders
- Also a major risk factor for lapse/relapse
- Mediated through:
 - Hypothalamic-pituitary-adrenal (HPA) axis
 - Influences brain circuits that control motivation

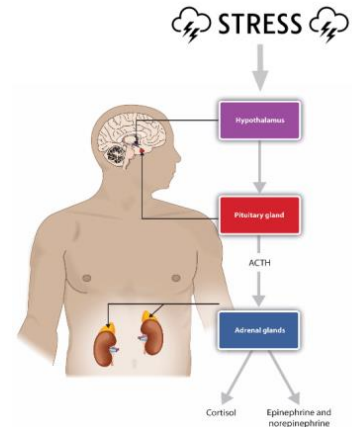


Image credit: Starkel Nutrition

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1. Common Risk Factors:

E. Stress

- Higher levels of stress:
 - Reduces activity in the prefrontal cortex
 - Increases responsivity in the striatum
 - Decreased behavioral control
 - Increased impulsivity



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1. Common Risk Factors:

E. Stress

- Early life stress:
 - Can cause long-term alterations in HPA axis -> affects limbic brain circuits involved in:
 - Motivation
 - Learning
 - Adaptation



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1. Common Risk Factors:

E. Stress

- Dopamine pathways:
 - Stress HPA axis hyperactivity alters dopamine signaling = Enhances reinforcing properties of drugs
 - Substance use changes to many neurotransmitter systems involved in responses to stress
- Stress = escalation = relapse
- Treatment: mindfulness-based

2. MH -> SUD: Example

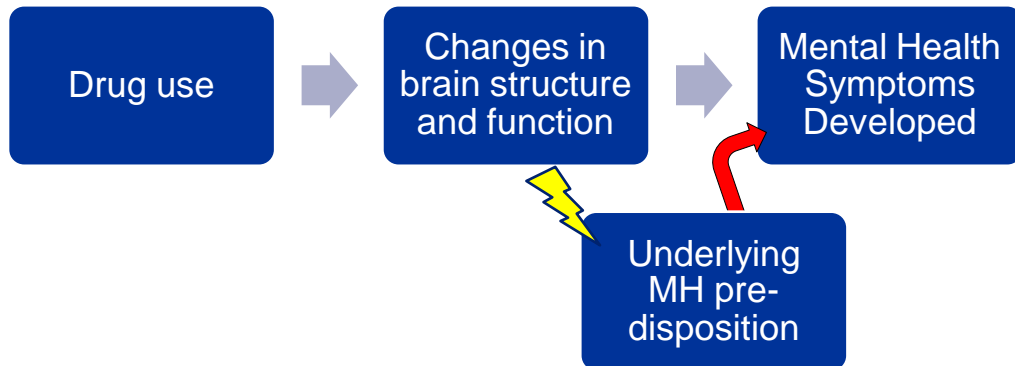
Neuroimaging suggests that ADHD is associated with neurobiological changes in brain circuits [which are associated with drug cravings]

= Patients with SUD report greater cravings when they have co-morbid ADHD

3. SUD Can Contribute to MH Development

- Substances lead to changes in brain areas that are also disrupted by MH diagnosis:
 - Schizophrenia
 - Anxiety
 - Mood
 - Impulse-control disorders
- Drug use that precedes MH symptoms= produces changes in brain structure and function = kindle underlying pre-disposition

3. SUD Can Contribute to MH Development Explained in a Graphic...



The Chicken or The Egg

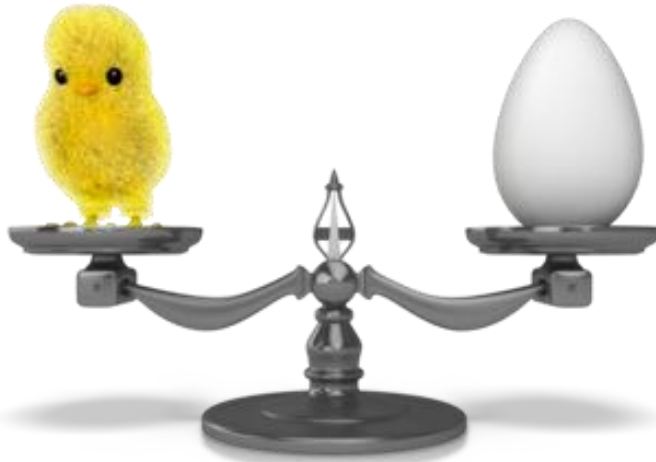


Photo credit: [Dr. Terrie Wurzbacher](#)

Treatment

Treatment Gaps Data

Who Gets Treatment?

- 52.5% receive **neither** MH or SUD treatment
- 34.5% receive **only** MH treatment
- 9.1% receive **BOTH** MH and SUD treatment
- 3.9% receive **only** SUD treatment

- 18% of SUD treatment programs have **capacity** for dual-diagnosis
- 9% of MH treatment programs have **capacity** for dual-diagnosis

Treatment Barriers of Co-Occurring:

No MH Care

- 52.2% ←————→ Could not afford
- 23.8% ←————→ Did not know where
- 23% ←————→ Handle “on own”
- 13.6% ←————→ Fear of commitment
- 12.4% ←————→ Fear other’s opinions
- 11.1% ←————→ It “won’t help”
- 10.6% ←————→ No time
- 10.1% ←————→ Confidentiality ?’s

Barriers

Treatment Barriers of Co-Occurring:

No SUD Care

- 38.4% ←————→ Not ready to stop using
- 35.1% ←————→ Could not afford/no insurance
- 13.1% ←————→ Fear other’s opinions
- 13% ←————→ Negative affect on job
- 11.5% ←————→ Did not know where
- 9.9% ←————→ Insurance wouldn’t cover
- 9% ←————→ No access to right treatment

Barriers

Treatment Gaps- Lack of...

- Universal access to health and MH care
- Accessibility of evidence-based treatments
- Clinical skills among health-care providers
- Political will or financial resources

** Magnified by historical stigma and discrimination
in all cultures worldwide**

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Treatment Gaps

- Siloed MH and SUD treatment from general health care system
- Bias in SUD treatment centers against using ANY medications (MOUD/MAT/MH medications) = abstinence-based focus



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Treatment Gaps

- Many SUD treatment programs do not have clinicians who can prescribe, dispense, monitor medications
- Criminal justice system
 - 45% of individuals in state and local prisons and jails have MH with co-morbid SUD



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Treatment Gaps

- Organisation for Economic Co-operation and Development (OECD) estimation:
 - SBIRT in primary care for 30% of patients for alcohol
 - Could decrease overall prevalence of harmful alcohol use by 10-15%
 - Could decrease overall prevalence of AUD by 1-4%



Treatment Gaps

- European Union study:
 - If 60% people with AUD treated with effective ETOH pharmacotherapy:
 - 13% male and 9% female alcohol-attributable deaths would be averted in a 12-month period following



Stigma Squirrel



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Stigma Squirrel

- Marginalization
- Self-stigma = Avoidance of health seeking
- Social isolation of people with SUD and families
- Lack of education among health care and governmental leaders about effective treatments
- Lack of systematic education of health and MH providers about evidence-based treatments

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Non-Medication Treatments

Evidence Based Non-Med Treatments

- Treatments leverage techniques for modifying:
 - Behavior
 - Cognition
 - Motivation to target key behavioral processes that monitor substance abuse and mental health triggers



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Evidence Based Non-Med Treatments

- Highest efficacy:
 - Cognitive-behavioral therapy (CBT)
 - Motivational interviewing
 - Contingency management
 - Gender specific treatment for women



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Evidence Based Non-Med Treatments

- Peer Support/Mutual Support
 - Support groups are widely available
 - AA
 - NA
 - SMART Recovery
 - Etc.
 - Complement other therapies



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Evidence Based Non-Med Treatments

- Recovery Coaching
 - Mutual support format
 - Individual mentorship model
 - Currently no empirical data



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Evidence Based Non-Med Treatments

- Behavioral therapies
 - Individual or group
 - Equally effective
 - Group
 - More efficient use of therapist time
 - Facilitates a “therapeutic community”
 - Training time for therapists continues to limit availability



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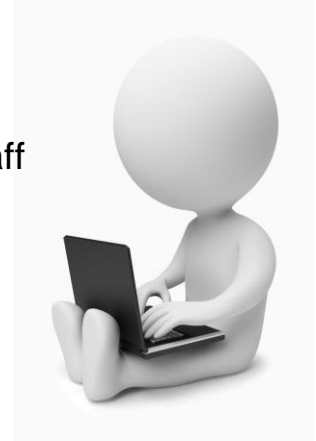
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Evidence Based Non-Med Treatments

- Technology Based
 - Involves computer-based administration of behavioral therapies
 - Advantage is less training time for clinical staff
 - Mobile phone applications & telehealth
 - Useful to reach wide areas with low access to resources
 - Limitations:
 - Internet/cellular/power services
 - Liability



Medication Involved Treatments

IT IS ALWAYS ABOUT SAFETY...

Medication Treatment

- Detoxification
- Prevention of life-threatening withdrawal symptoms
- Provide comfort
- Provide relapse/lapse prevention



FunFreeClipArt.com

Medication Treatment

- Priority for life-saving interventions for:
 - Alcohol withdrawal
 - Sedative withdrawal
 - Opioid overdose -> naloxone
 - Benzo overdose -> flumazenil

**WITHDRAWAL
SYMPTOMS**

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Medication Treatment

- Evidence-based medications for SUD's are available for:
 - OUD
 - Nicotine use disorder
 - AUD



Get to Know @oonzaaa5878

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Medication Treatment

- SUD maintenance therapies
 - Full agonist
 - Methadone
 - NRT products
 - Partial agonist
 - Buprenorphine
 - Varenicline
 - Antagonist
 - Naltrexone
 - Aversive medication
 - Disulfiram



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Co-Occurring Disorders Medication Considerations

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Medication Considerations

- Most studies for medications in co-occurring:
 - Done on anxiety disorders
 - Done on AUD
- Overall very few trials on safety and efficacy



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Medication Considerations

- Selective serotonin reuptake inhibitors (SSRIs)
 - Primary class studied
 - Modest benefit with alcohol outcomes



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Medication Considerations

- Paroxetine:
 - Study: N=15: Significant improvement in social anxiety and in some alcohol outcomes
 - Study: N=42: (Patients stated they were drinking etoh to mitigate anxiety symptoms)
 - Significantly greater reduction in social anxiety
 - No effects on drinking outcomes

ANXIETY DISORDER

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Medication Considerations

- Sertraline:
 - Study: N=94:
 - Patients with AUD and PTSD
 - Overall- no significant improvement in symptoms for either
 - Subgroups:
 - Higher severity of etoh dependence and late-onset PTSD:
 - = Better etoh outcomes
 - Lower severity of etoh dependence and early-onset PTSD:
 - = Better PTSD outcomes



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Medication Considerations

- Buspirone:

- Study: N=51: GAD and AUD:

- Significantly greater reduction in anxiety
- Greater odds of being a treatment responder (reduction in anxiety and no alcohol relapse)
- Greater self-reported improvements in anxiety and drinking

- Study: N=67: Recently detoxified alcohol dependent with GAD

- Some improvement in etoh and anxiety outcomes (not significant)

ALCOHOL DOESN'T SOLVE ANY PROBLEMS



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Medication Considerations

- Buspirone:

- Study: N=36: opioid dependence receiving methadone maintenance

- No significant improvement in anxiety
- No significant improvement in substance use outcomes (subtle trend toward longer time to first illicit drug use)



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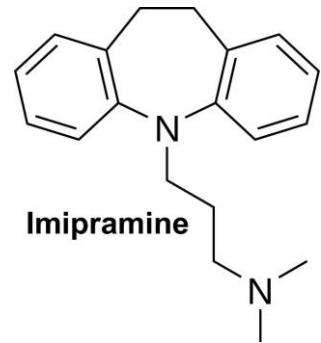
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Medication Considerations

- SNRIs/TCAs/MAOIs
 - Short term benefit for anxiety in SUD for those on imipramine (~<30 days)
 - Imipramine in cocaine or opioid dependence no benefits



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Medication Considerations

- Benzodiazepines
 - Rapid anxiolytic effect
 - Use controversial -> abuse liability
 - Greater risk of abuse in:
 - Those with personal/family history of SUDs
 - More severe SUDs
 - Multiple SUDs
 - Greater psychiatric severity



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Special Populations

Adolescents

Adolescents

- Time when drug use typically starts
- First signs of mental illness commonly appear
- Challenges:
 - Changes in education
 - Changes in work
 - Changes in relationships



**60% of adolescents in drug treatment
have a co-occurring mental illness...**

Stage of brain development

Adolescents

- Pre-frontal cortex:
 - Executive control functions
 - Decision making
 - Impulse control
 - Last circuits to develop
 - Enhances vulnerability to drug use = SUD



Adolescents cont.

- Earlier (adolescent) use a strong risk factor for later development of SUD
- Also a risk for other mental illnesses
- Not necessarily causative:
 - Genetic vulnerability
 - Psychosocial experiences
 - General environmental influences



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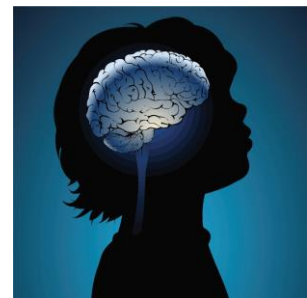
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Adolescents cont.

- Mental disorder in childhood/adolescence increases risk of later drug use and SUD
- Better diagnosis of MH in young- reduces comorbidity [with SUD]



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Adolescents cont.

- Adolescent onset bipolar greater risk of SUD than adult onset bipolar
- Some research: youth develop internalizing disorders (depression/anxiety) prior to SUD



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HOWEVER

Frequent marijuana use during adolescence can increase risk of psychosis in adulthood, specifically in individuals who carry a particular gene variant

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Adolescents cont.

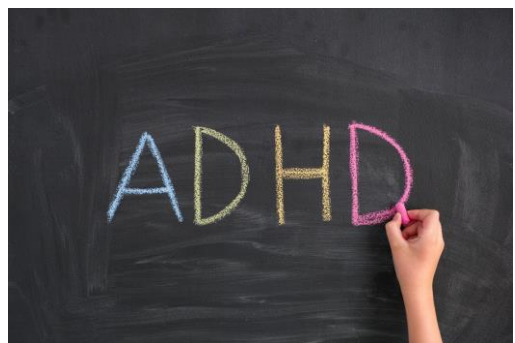
- ~15% of ED MH presentations nationally were principally diagnosed with substance use
- MH conditions:
 - 26.2% in those with illicit drug use
 - 16.3% in those without illicit drug use
- 60% youth in US with MH Dx also have dx of concomitant substance use disorder

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Adolescents

- Primary risk factors identified:
 - ADHD
 - Conduct disorder
 - Traits:
 - Aggression
 - Impulsivity
- Depression and anxiety also implicated



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Adolescents

- Untreated childhood ADHD increases later risk of drug problems
 - Higher risk in those with ADHD + conduct disorder
- Treatment with stimulant medications decreases risk of stimulant abuse later in life
- Behavioral/counseling/family counseling/education should be included with medications

Women

Almost half of women in US with a mental health diagnosis are battling substance abuse or are developing an addiction to substances.



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Podcast:
The Addiction
Connection



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STRONG MEDICINE FOR MINNESOTA

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