

Working with a Healing Brain: Managing Cognitive Impairments in SUDs

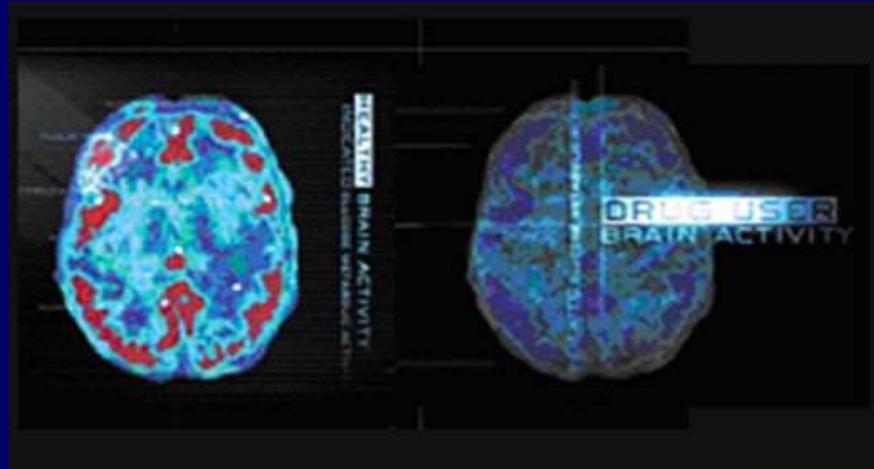
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ECHO Session January 15, 2019

UCLA

What is Addiction?

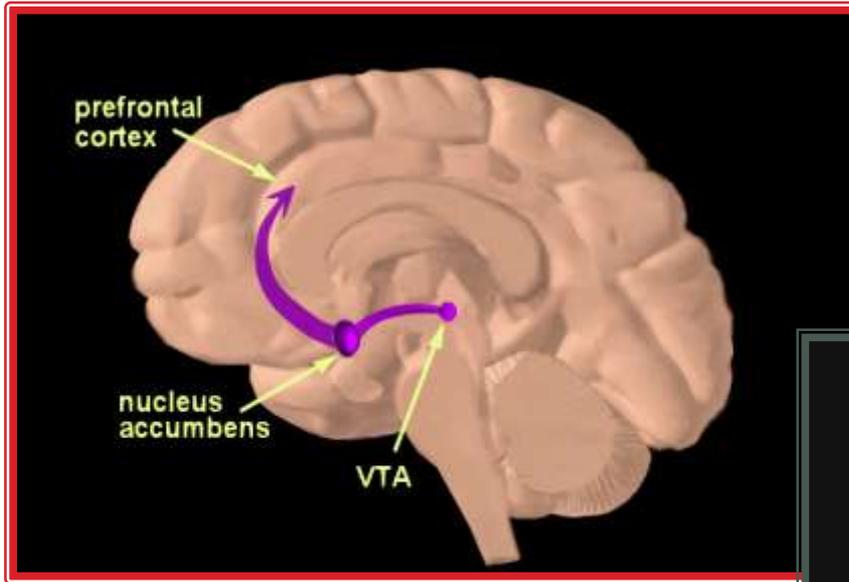
Addiction is A Brain Disease



Characterized by:

- Compulsive Behavior
- Continued abuse of drugs despite negative consequences
- **Persistent changes in the brain's structure and function**

Pathway for Understanding **Addictive Effects** of Drugs on the Brain & Behavior



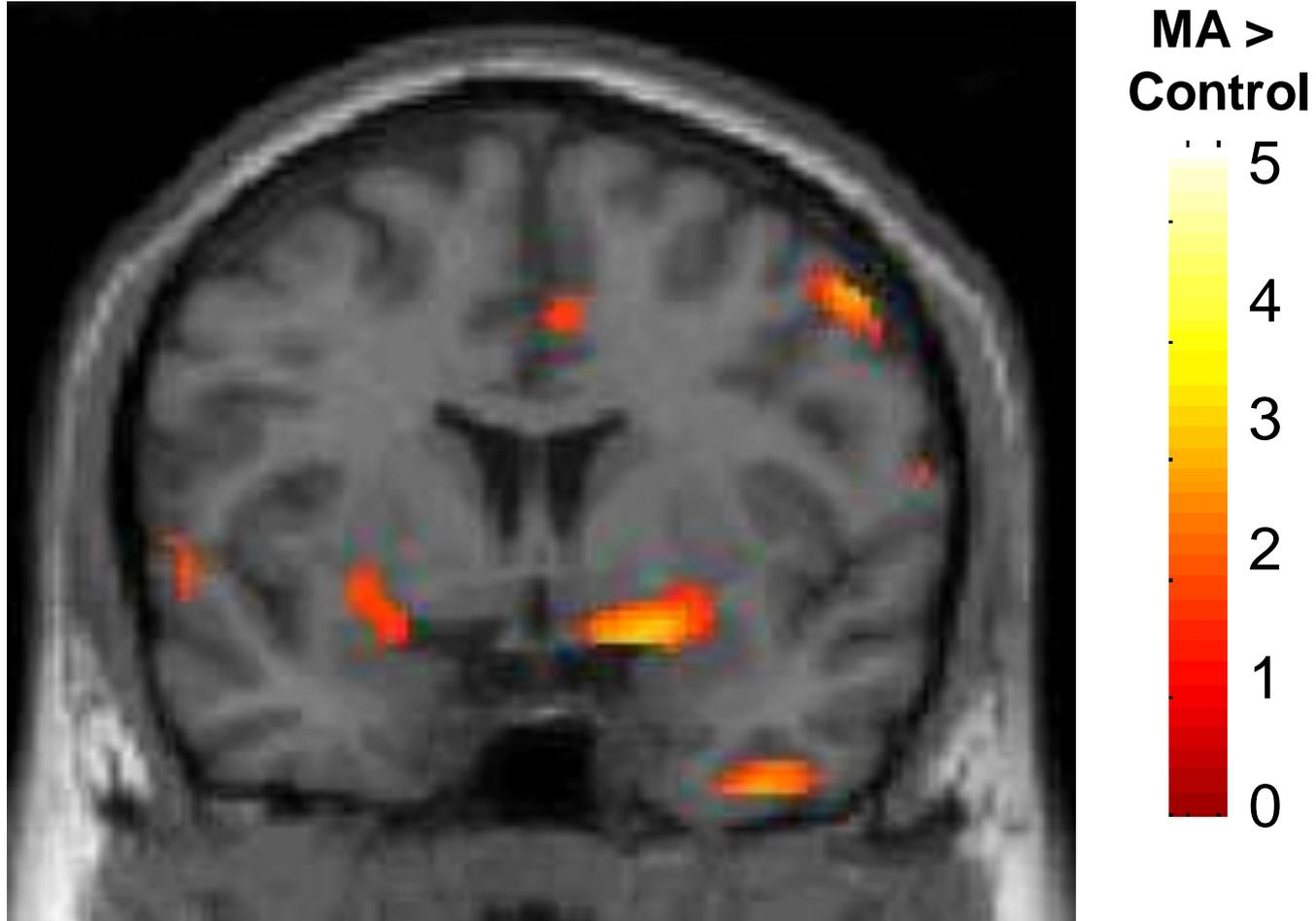
Reward Pathway



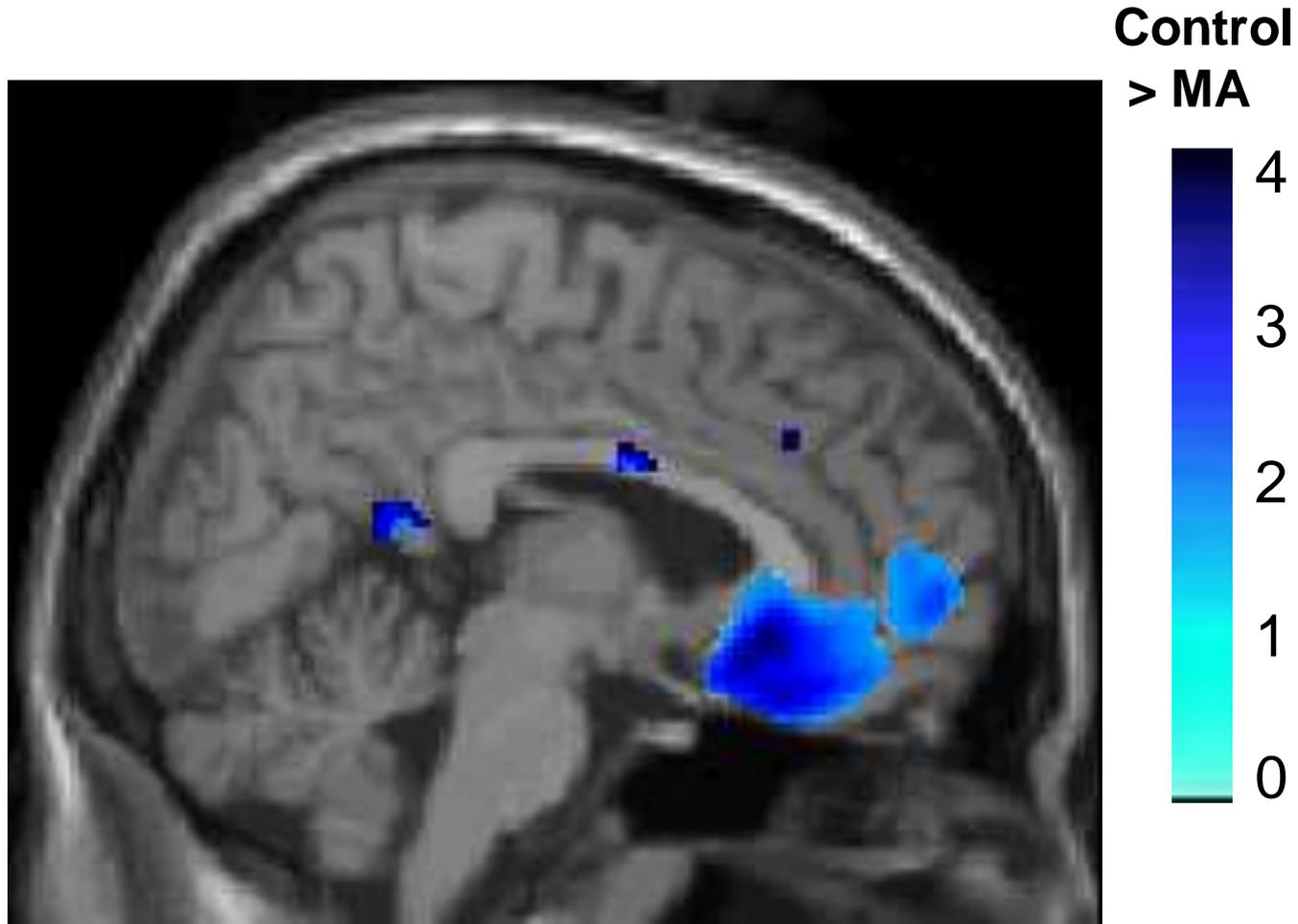
“Go” and “Stop” Circuits

- Reward/Control pathway = 2 parts”
 - GO pathway (old brain) – survival driven
 - STOP pathway (new brain) – shut down the “do it more” messages
- For substance users who have altered their brain chemistry, the “GO” circuit becomes overactive and the “STOP” circuit becomes dysfunctional.

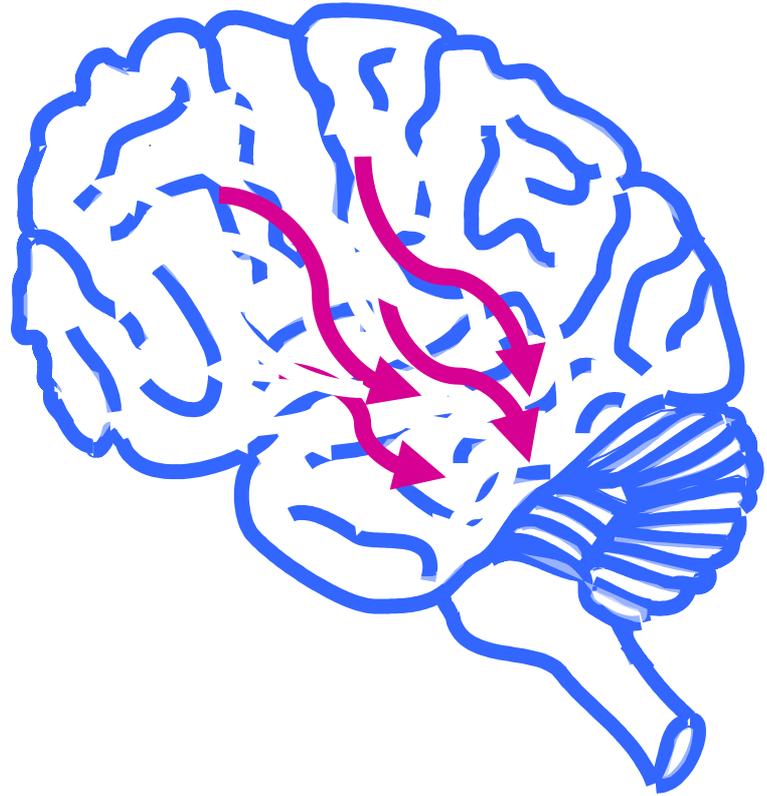
“Old Brain” is Overactive



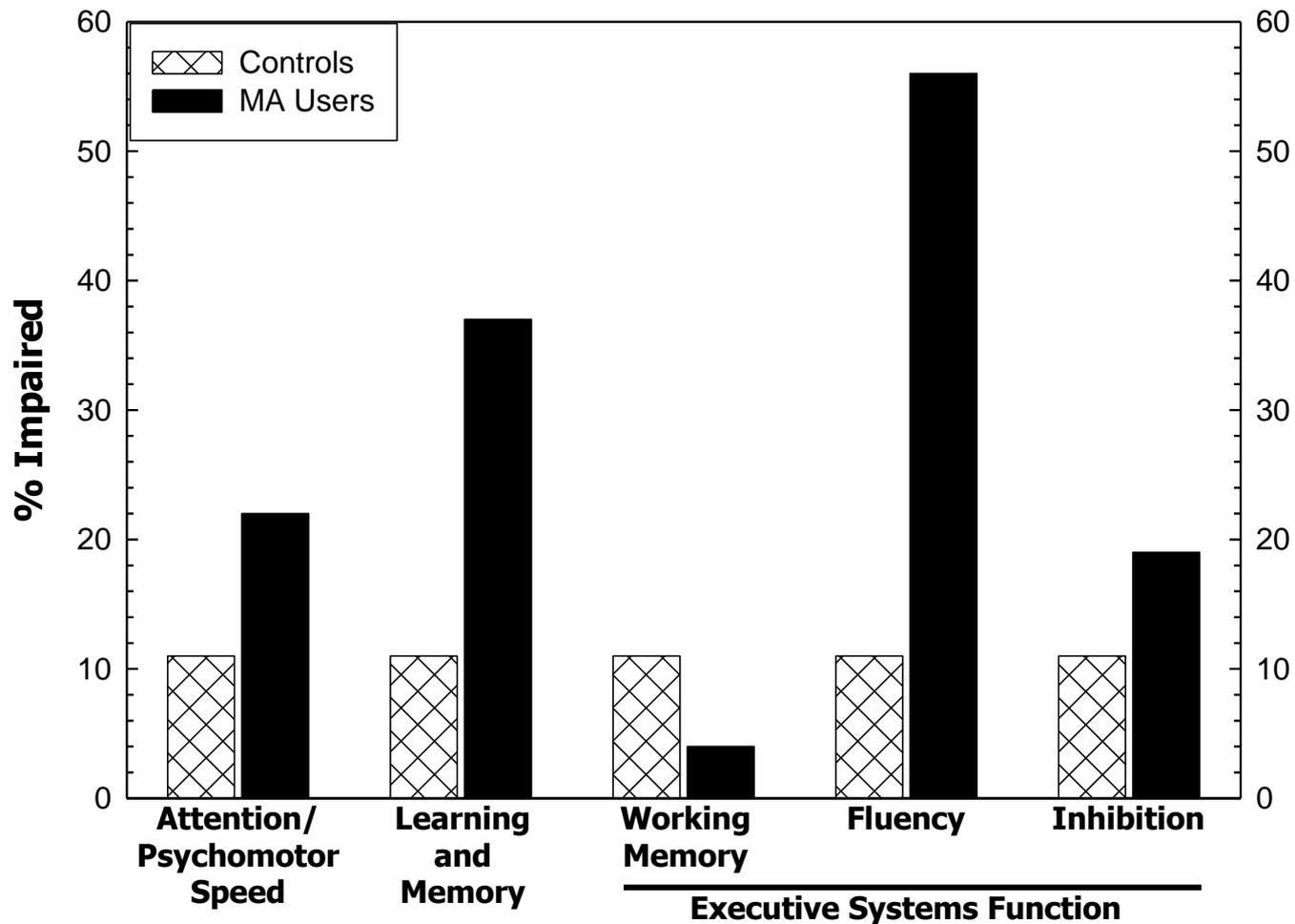
“New Brain” is Underactive



Cognitive and Memory Effects

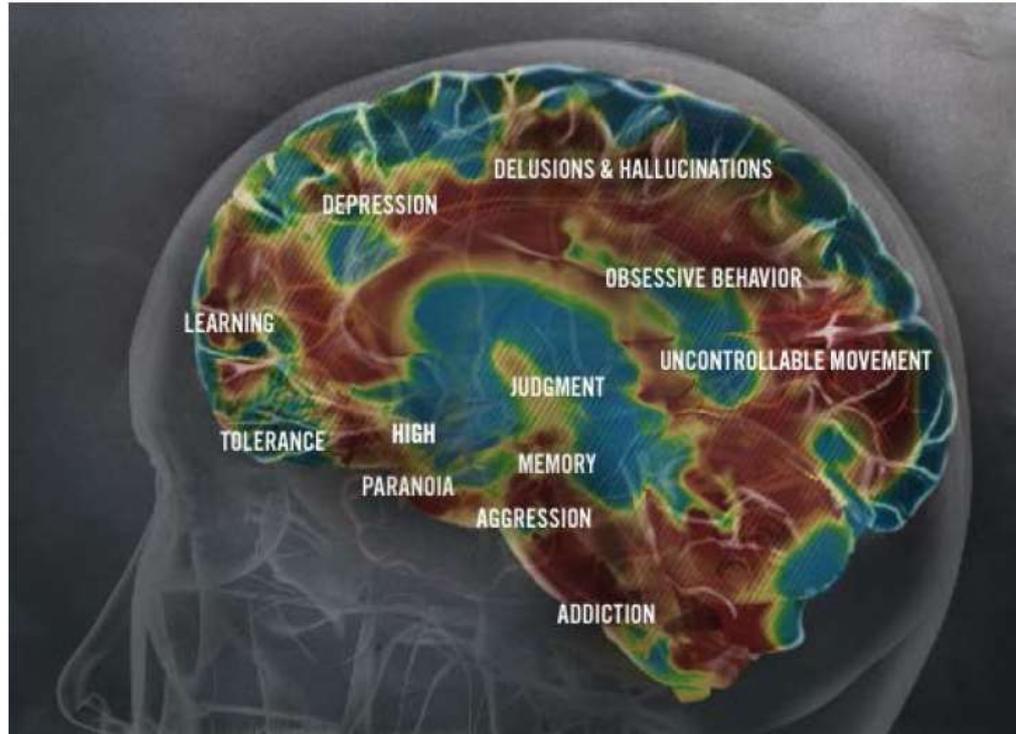


Frequency of Impairment by Neuropsychological Domain



Cognitive Effects of Chronic Substance Use and Dependence

- In general, meta-analyses conclude there are medium to large persistent effects for most substances of abuse.
- The risk for cognitive impairment increases with:
 - Earlier onset of abuse
 - Greater amount of use
 - Longer duration of use and abuse



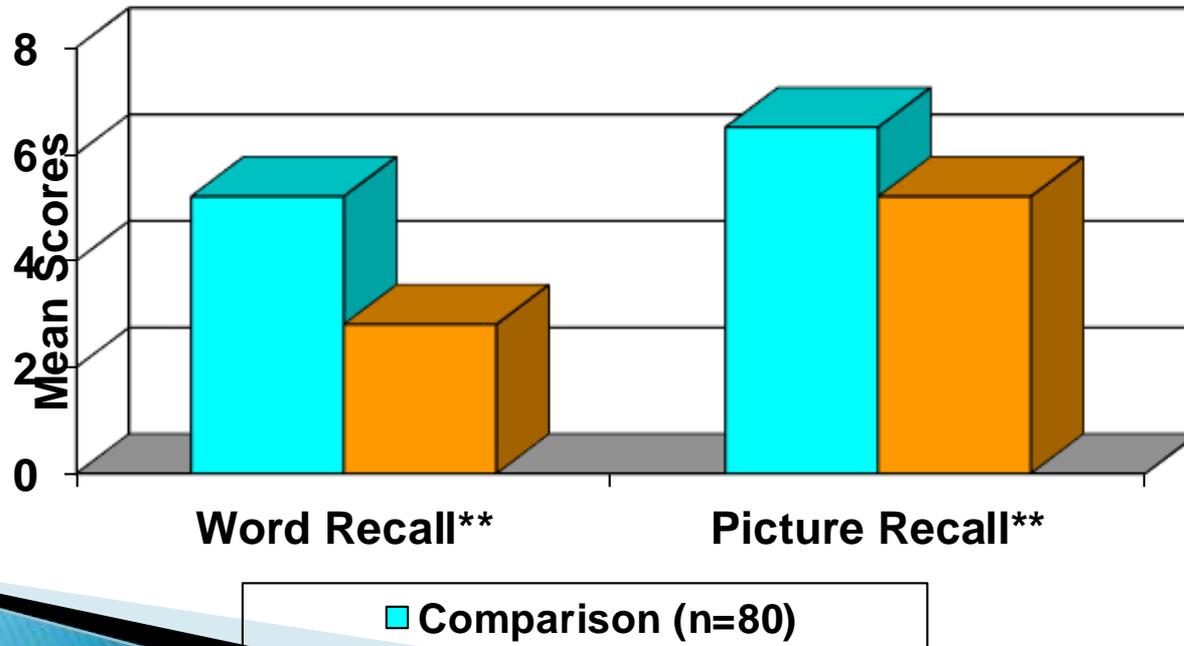
- Almost all data is based on cross-sectional data.
- Longitudinal studies are needed to rule out pre-existing cognitive impairments, and to characterize course of impairments across recovery.

Cognitive Effects of Chronic Substance Use

- ▶ General effects of most substances:
 - Episodic memory
 - Emotional processing
 - Executive functions (e.g., planning and decision making)

- ▶ Specific effects:
 - Alcohol and Psychostimulants: impulsive action and cognitive flexibility
 - Alcohol and MDMA: spatial processing, perceptual speed, and selective attention
 - Cannabis and Methamphetamine: prospective memory
 - Cannabis and MDMA: processing speed and complex planning.

Memory Difference between Stimulant and Comparison Groups



What does this mean
for the people that
you work with?



Strategies for Cognitive Impairment

- ▶ *Reducing* substance use may be more acceptable than total abstinence
 - Any reduction in use is progress
 - Affirm early successes to enhance self-efficacy
- ▶ When beginning tx & during early recovery, clients often feel worse before they feel better
 - Educate client to anticipate changes in mood, symptoms, lifestyle, and peer relations

Strategies for Cognitive Impairments

MODIFY TREATMENT PROTOCOLS

- ▶ **Decrease** length of sessions (attention, memory)
- ▶ Take **structured breaks** (attention, focus, memory)

- ▶ **Increase** session frequency (practice)
- ▶ **Repeat** presentations of therapeutic information (detox, 2 weeks, 4 weeks, 1 month, 3 months, etc.)
- ▶ **Multi-modal presentations**—audio, visual, experiential, verbal, hot/cold situations, etc.

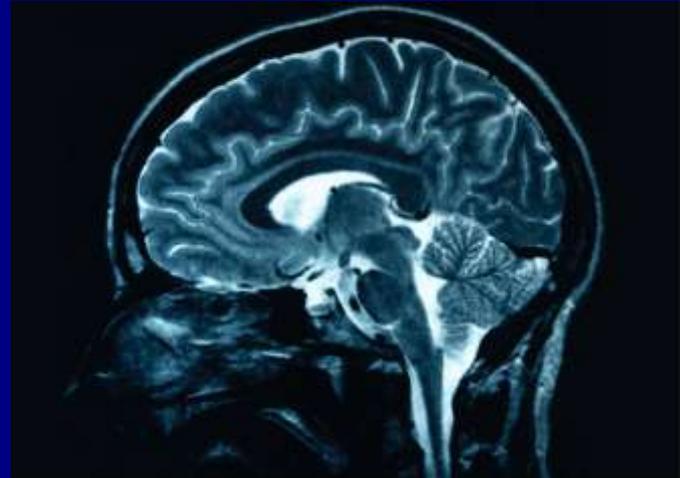
- ▶ **How could you do this at your clinic?**

Strategies for Cognitive Impairments

- ▶ Use **memory aids**— calendars, planners, phone apps, diagrams
 - ▶ Teach **stress management, breathing, relaxation, and mindfulness meditation** skills
 - ▶ Provide **immediate feedback** and corrective experiences
 - ▶ Repeat instructions, **put things in writing**, provide short/direct instructions
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Drug addiction is a chronic brain disorder

The brain shows distinct changes after drug use that can persist *long after the drug use has stopped*



SUDs are a chronic relapsing disorders similar to other chronic diseases such as **diabetes, asthma, arthritis and cardiovascular disease.**

Why Those Chronic Conditions?

- No Doubt They Are Illnesses
- All **Chronic** Conditions
- Influenced by **Genetic, Metabolic** and **Behavioral Factors**
- **No Cures** - But Effective Treatments Are Available

Lessons from Chronic Illness

1. Medications relieve symptoms but...**behavioral change is necessary** for sustained benefit.

Lessons from Chronic Illness

2. Treatment effects usually don't last very long **after treatment stops.**

Lessons from Chronic Illness

3. Some form of monitoring, support and ongoing treatment is needed.

This could include monitoring or self-help groups such as AA/NA

Lessons from Chronic Care

- Patient **retention** is critical
- Make treatment attractive
- Offer **options/alternatives**
- Increase monitoring/management

Treating a Biobehavioral Disorder Must Go Beyond Just Fixing the Chemistry

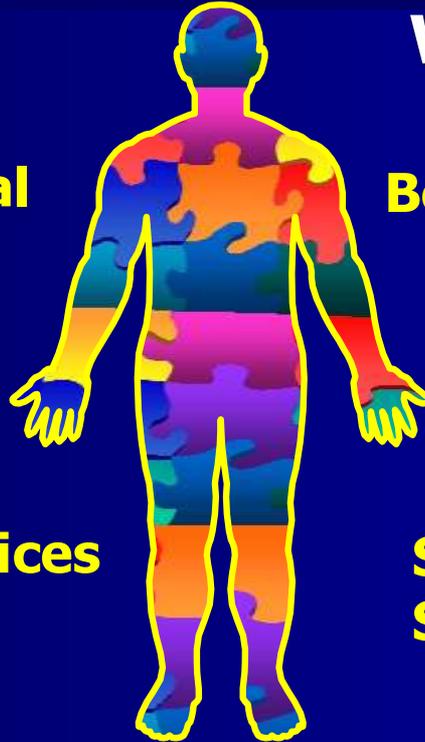
We Need to Treat the Whole Person!

Pharmacological Treatments (Medications)

Behavioral Therapies

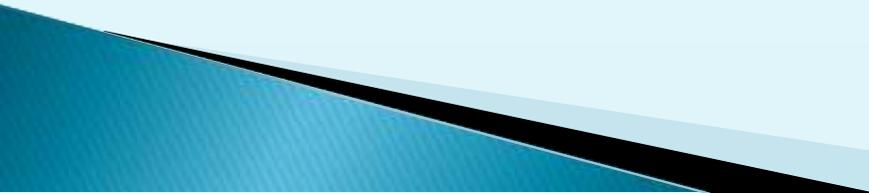
Medical Services

Social Services



In Social Context

Cognitive Behavioral Therapy (CBT)

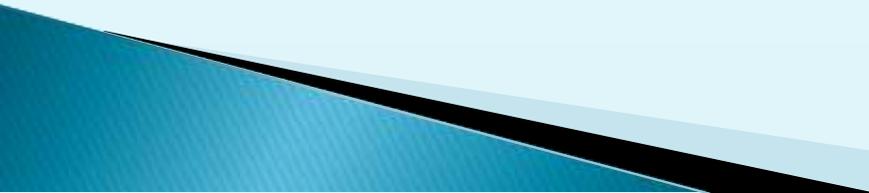
- ▶ CBT is an excellent platform for providing integrated treatment that addresses both substance use and psychiatric disorders
 - ▶ CBT has well-documented efficacy for depression & anxiety
 - ▶ The same concepts and techniques work very well for active SUD treatment
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Why is CBT useful?

- CBT is a counseling-teaching approach well-suited to the resource capabilities of most clinical programs
- CBT has by substance users been **extensively evaluated** in rigorous clinical trials and has solid empirical support
- CBT is **collaborative, structured, goal-oriented, and focused on the immediate problems** faced entering treatment who are struggling to control their use

Foundation of CBT

Cognitive behavioral therapy (CBT)

- ▶ Provides critical concepts of substance use disorders and how to not use drugs
 - ▶ Functional Analysis to assess the factors that lead to drug use
 - ▶ Emphasises the development of new skills
 - ▶ Involves the mastery of skills through practice
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Important concepts in CBT: strategies

In the early stages of CBT treatment, strategies emphasize behavioral change.

Strategies include:

- ▶ planning time to engage in non-drug related behavior
- ▶ avoiding or leaving a drug-use situation.

Important concepts in CBT

As CBT treatment continues into later phases of recovery, more emphasis is given to the “cognitive” part of CBT. This includes:

- ▶ Teaching patients knowledge about substance use
- ▶ Teaching patients about conditioning, triggers, and craving
- ▶ Teaching patients cognitive skills (“thought stopping” and “riding out the urge”)
- ▶ Focusing on relapse prevention

CBT for Co-Occurring SUD and MH Disorders

Cognitive Impairment

- ▶ Common cognitive impairments in COD clients:
 - Attention & concentration
 - Short-term memory
 - Cognitive flexibility
 - Ability to organize information
 - Abstract reasoning

- ▶ Compensatory strategies:
 - Repetition
 - Use concrete examples
 - Use handouts, other visual aids
 - Take breaks during sessions

CBT: Overcoming Barriers

- ▶ Modified to minimize cognitive impairments by using structured sessions, using behavioral rehearsal, and dividing complex topics into small, manageable units
- ▶ Handouts, flip charts, and other materials used frequently to minimize memory impairments
 - Example: providing handouts that summarize the session that client can take home
- ▶ Extensive repetition and re-learning a few specific skills help develop automatic decision making the client can use in stressful situations
- ▶ Modeling, role play, feedback, rehearsal, and homework are especially helpful

SAMHSA Counselor's Manual

- Available in PDF form on the SAMHSA online store

Counselor's Treatment Manual

*Matrix Intensive Outpatient
Treatment for People With
Stimulant Use Disorders*



Substance Abuse and Mental Health Services Administration
SAMHSA
www.samhsa.gov • 1-877-SAMHSA-7 (1-877-726-4727)

Summary: Substance Use Disorders (SUD)

- SUDs are **treatable brain conditions** with **bio-psycho-social-spiritual** origins that commonly exhibit a **chronic and relapsing course**.

Repeated exposure to alcohol & other drugs (AOD)



Strengthening of memory connections across various brain circuits, including the reward pathway



- Distortions in thinking
- Difficulty in dealing with emotions
- Compulsive use of AOD



Summary

- Drugs affect the brain in ways that are **long term**, but **reversible**.
- These brain changes profoundly influence **cognition, emotions** and **behavior**.
- There are **multiple forms of treatment** that can be effective in treating addicted individuals.
- Addiction and many psychiatric illnesses are chronic illnesses and like other chronic disorders, **require ongoing treatment and support**.