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NATIONAL CENTER
FOR DWI COURTS

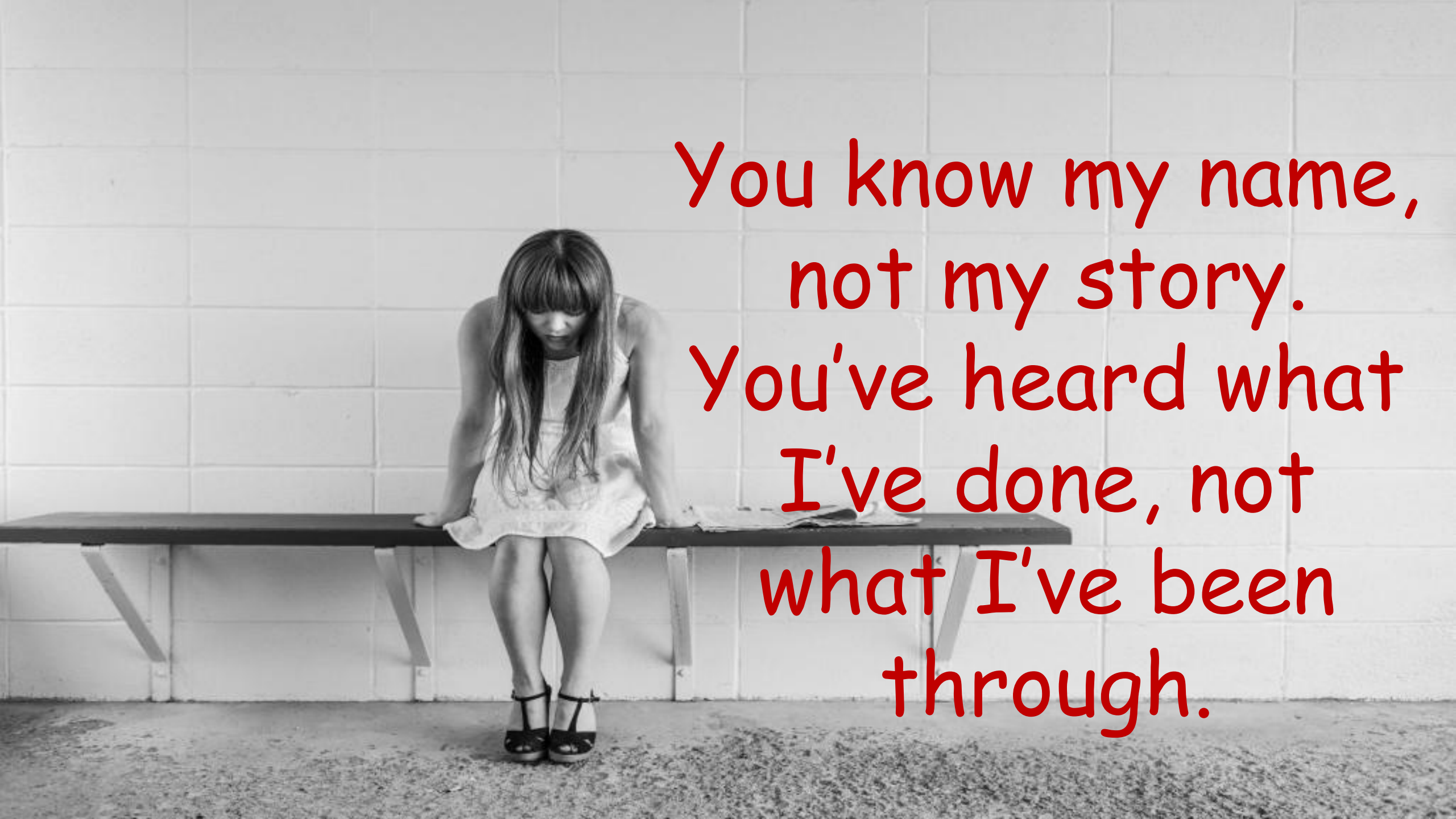


INTRODUCTION TO ADDICTION AND PSYCHOPHARMACOLOGY

Developed by:
National Center for DWI Courts

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You know my name,
not my story.
You've heard what
I've done, not
what I've been
through.

ADDICTION

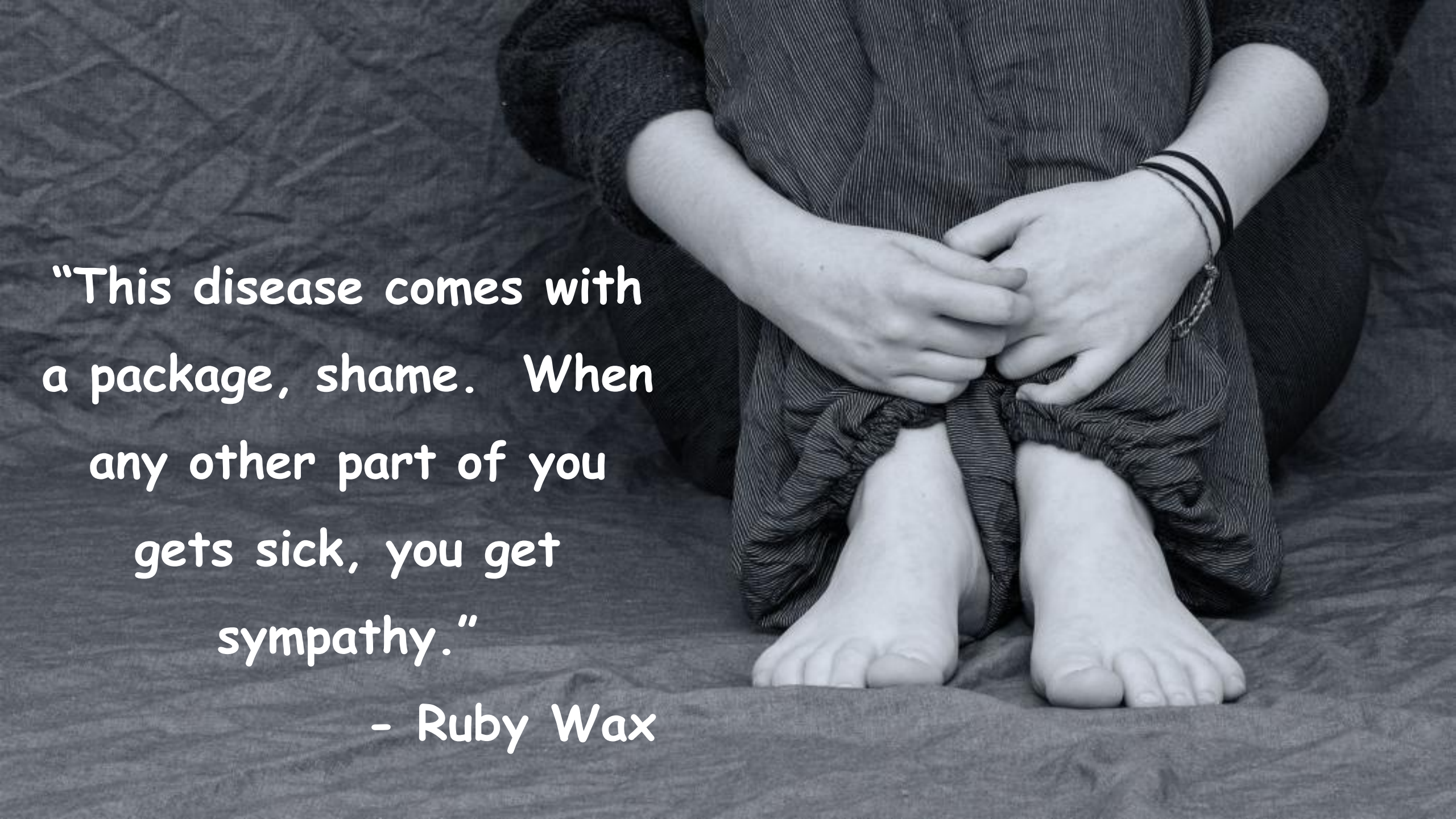
Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

ASAM September 2019

WHAT IS ADDICTION

- ✓ “Addiction” is a common use term for a problem behavior pattern or problematic experience
- ✓ An unhealthy relationship between a person and mood-altering substance, experience, event or activity which contributes to life problems and their reoccurrence
- ✓ Certain risk factors, but potential exists for anyone!





“This disease comes with
a package, shame. When
any other part of you
gets sick, you get
sympathy.”

- Ruby Wax

ADDICTION ABC'S

A

Inability to consistently *Abstain*

B

Impairment in *Behavioral* control

C

Craving

D

Diminished recognition of significant problems

E

A dysfunctional *Emotional* response



ADDICTION

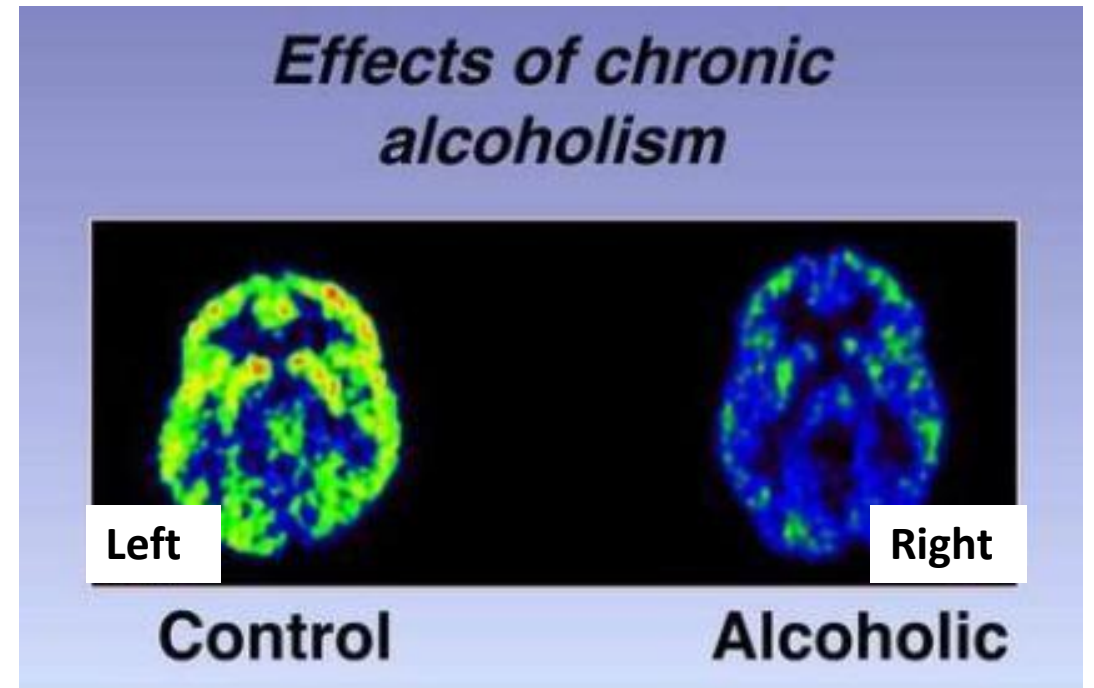
Biopsychosocial Model (BPS)

- ✓ Complex interactions between biological, psychological, and socio-cultural factors
- ✓ Origins of addictive behavior are complex, variable, and multifactorial
 - ✓ Ongoing interaction between factors
 - ✓ Interactions and weighting vary from person to person



IT'S A BRAIN DISEASE BECAUSE...

- ✓ Drugs and alcohol change the brain
- ✓ These changes can be long lasting

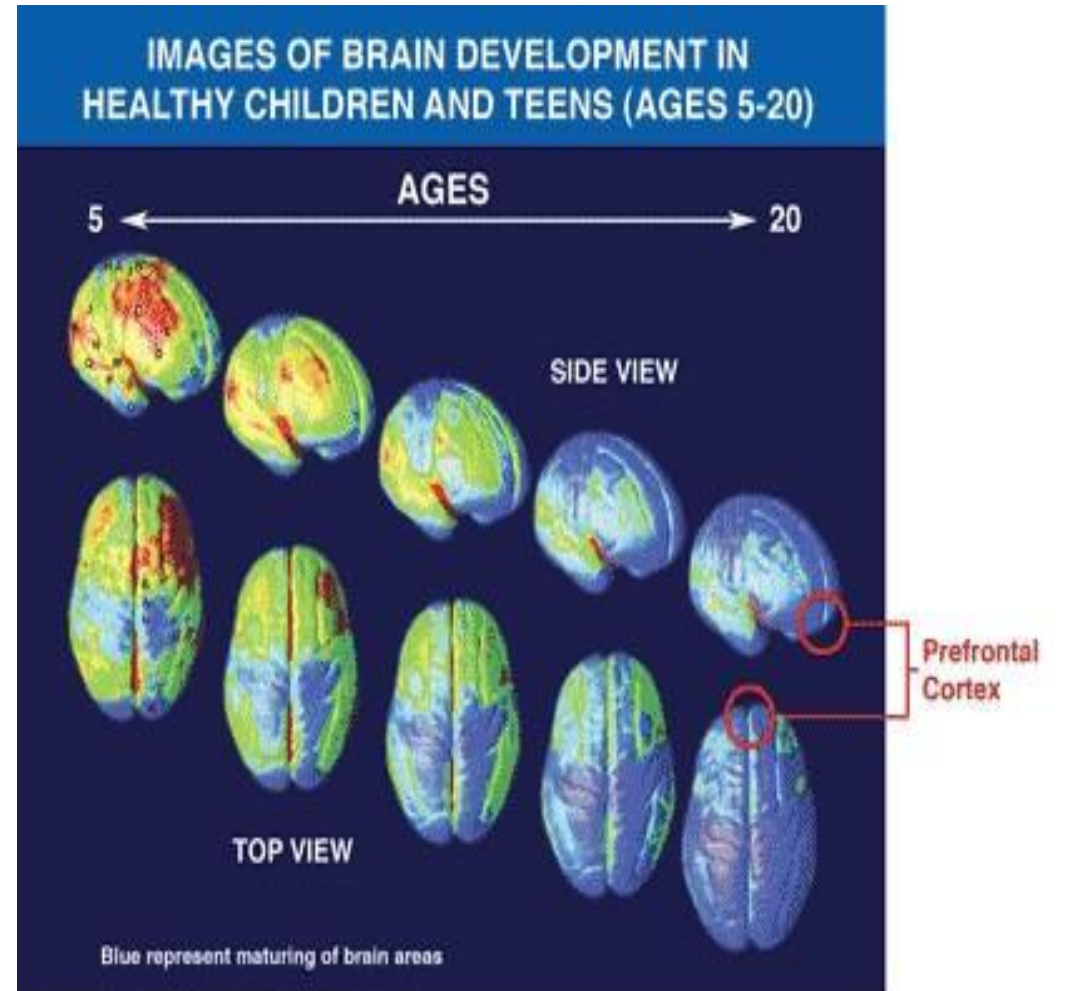


IT'S A BRAIN DISEASE BECAUSE...

- ✓ The brain continues to develop into adulthood and undergoes significant changes during adolescence.

Prefrontal Cortex

- ✓ Problem solving
- ✓ Emotion
- ✓ Complex thought

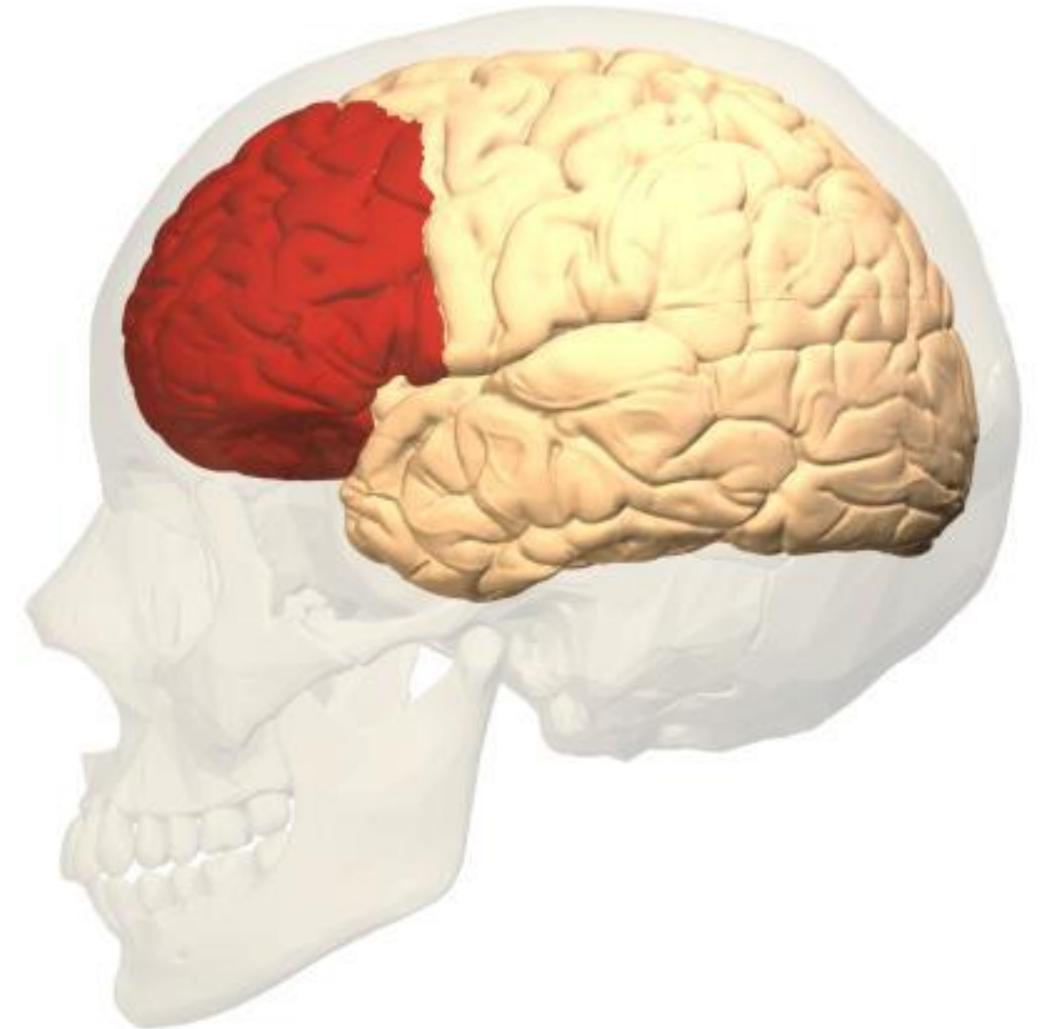


Source: Copyright PNAS ;101(21):8174-9, 2004

PREFRONTAL CORTEX

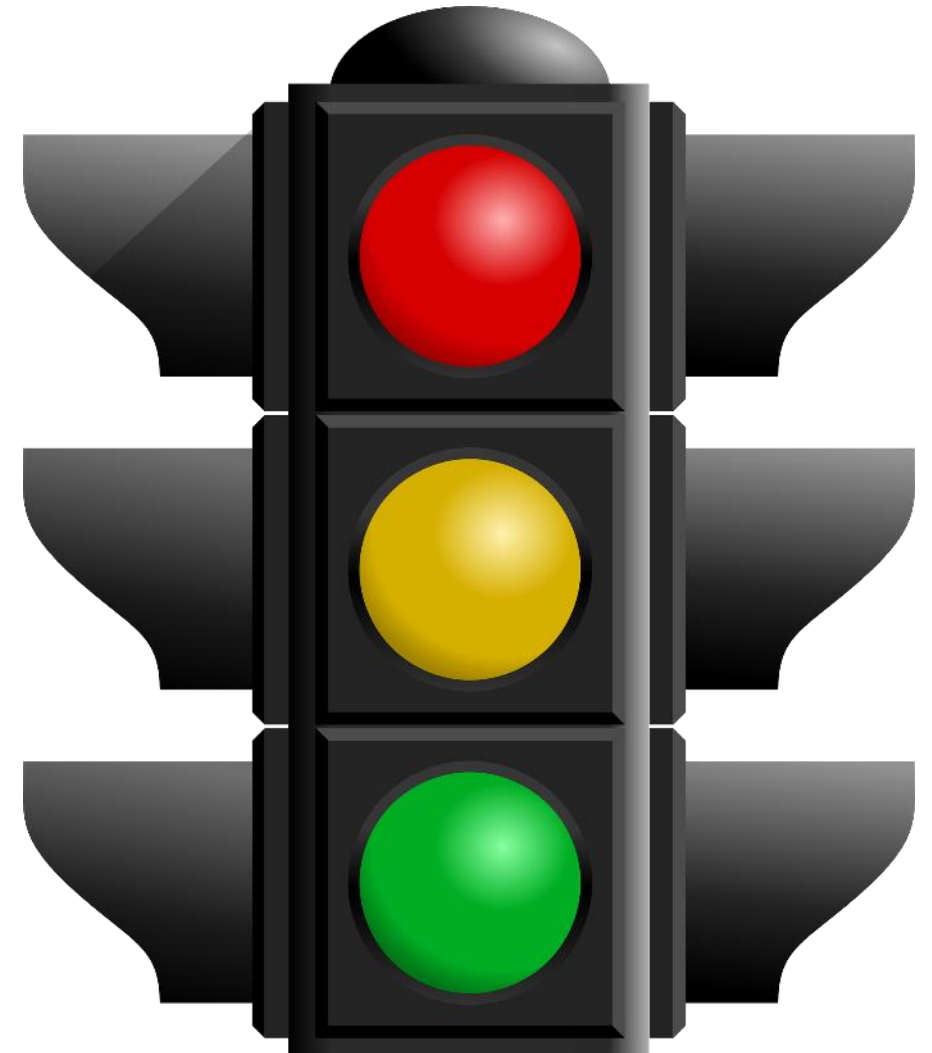
- ✓ Enables us to assess situations
- ✓ Make sound decisions
- ✓ Keep our emotions and desires under control

Introducing chemicals while the brain is still developing may have profound and long-lasting consequences



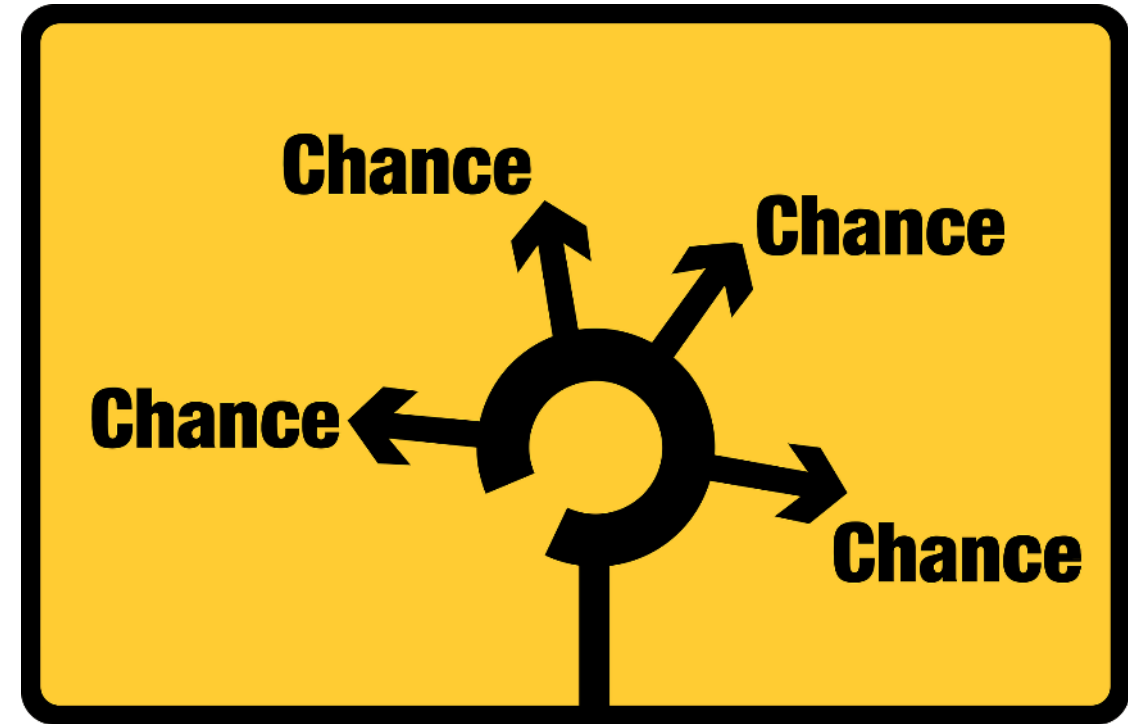
VOLUNTARY OR INVOLUNTARY?

- ✓ **The initial decision to use is mostly voluntary**
- ✓ **When substance use takes over, the ability to exert self control can become seriously impaired**



BRAIN IMAGE STUDIES SHOW

- ✓ Physical changes in areas of the brain that are critical to judgement, decision making, learning and memory, and behavior control.
- ✓ These changes may help explain the compulsive and destructive behaviors of addiction.

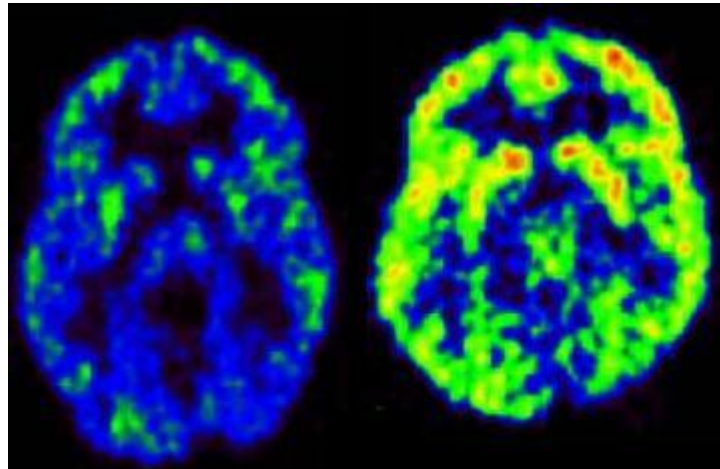


LONG TERM USE REWIRES BRAIN CIRCUITS

- ✓ Trigger adaptation in habit or non-conscious memory systems
- ✓ Conditioning: environmental cues become associated with the use experience and can trigger uncontrollable cravings
- ✓ This learned "reflex" is extremely robust and can emerge even after many years of abstinence



PET SCANS OF ALCOHOL USE



Alcoholic

Darker Colouring
indicates depressed
brain activity

Normal

Healthy levels of
brain activity



Sober

Intoxicated



NIAAA

National Institute on Alcohol
Abuse and Alcoholism

REWARDING

Drugs and alcohol interact with circuits, pathways and chemicals and the results are:

- ✓ Euphoria
- ✓ Reduced negative feelings
- ✓ This feels “normal”
- ✓ Cravings



THE BRAIN LEARNS DRUG USE VERY WELL

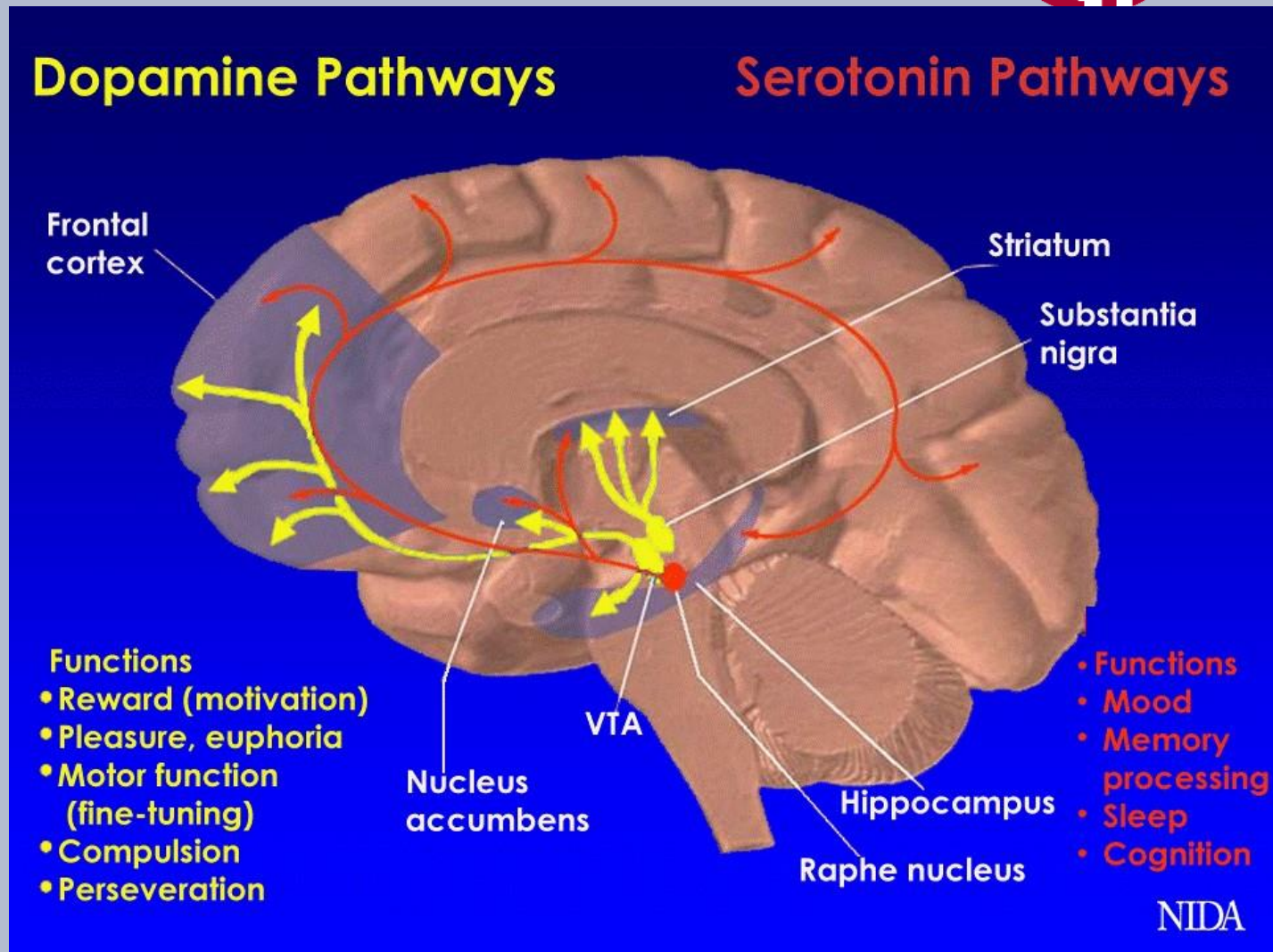
- ✓ Depending on the drug of use, 2-10 times the amount of dopamine can be released vs. natural rewards
- ✓ Onset and duration of dopamine can happen immediately or very quickly and last much longer than natural rewards



LASTING EFFECTS ON THE BRAIN



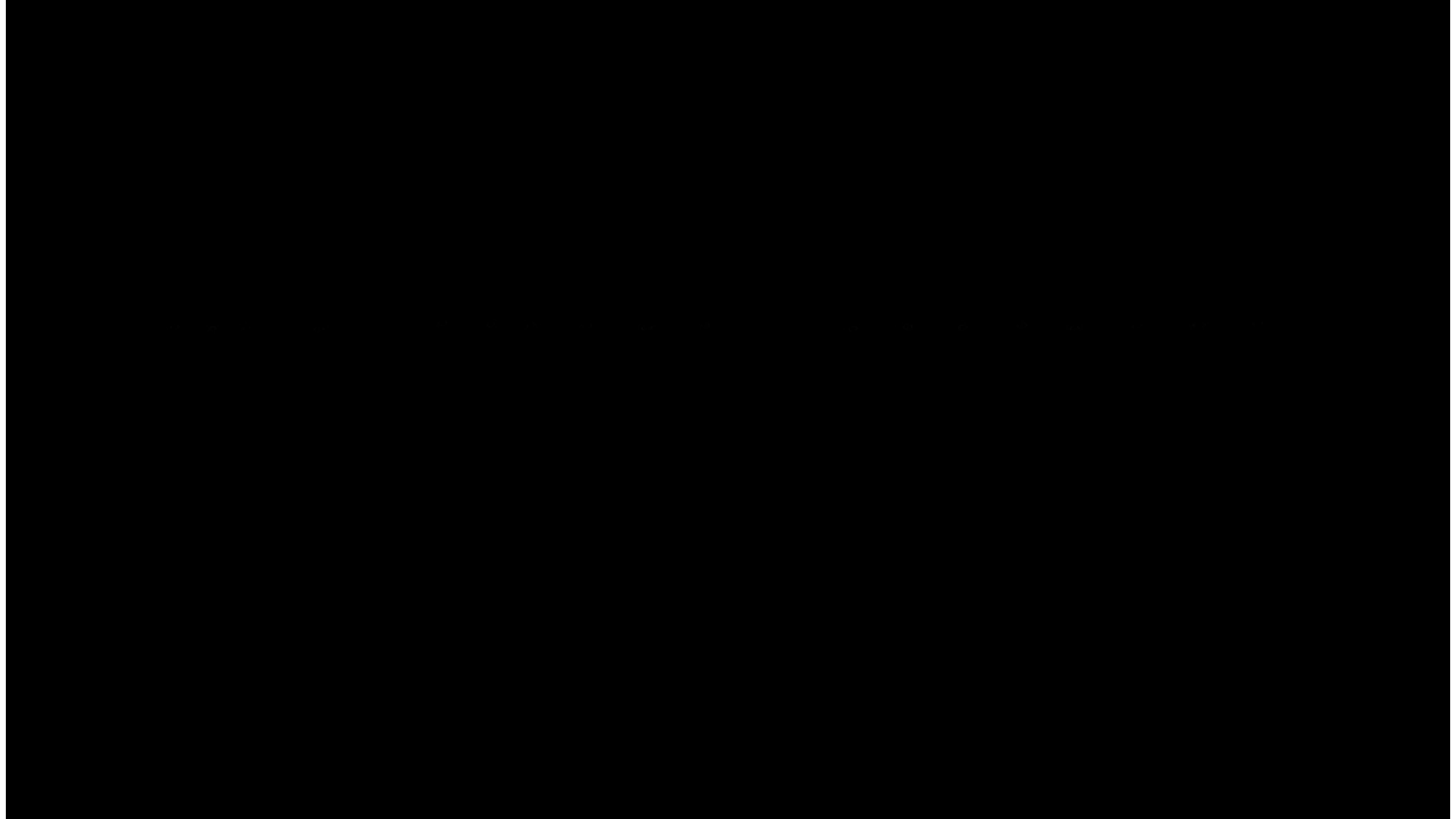
Brain adjusts to overwhelming surges in dopamine by producing less dopamine and fewer receptors



LASTING EFFECTS ON THE BRAIN

- ✓ As a result, the ability to experience any pleasure is reduced
- ✓ Drugs are now needed in larger amounts to feel high
- ✓ Eventually, this is baseline or “normal” and no longer produce a high







“If suffering cured addiction, there wouldn't be any.”

—William R. Miller, PhD

HOT STOVE, DON'T TOUCH?



- ✓ Nearly all people with a substance use disorder believe at the onset that they can stop using on their own
- ✓ Most attempt to control, cut down or stop their use without treatment
- ✓ Although some people are successful, many attempts result in failure to achieve long-term abstinence



ADDICTION RISK FACTORS

- ✓ Genetics
- ✓ Earlier age onset
- ✓ Childhood trauma
- ✓ Mental illness

No single factor determines whether a person develops a SUD



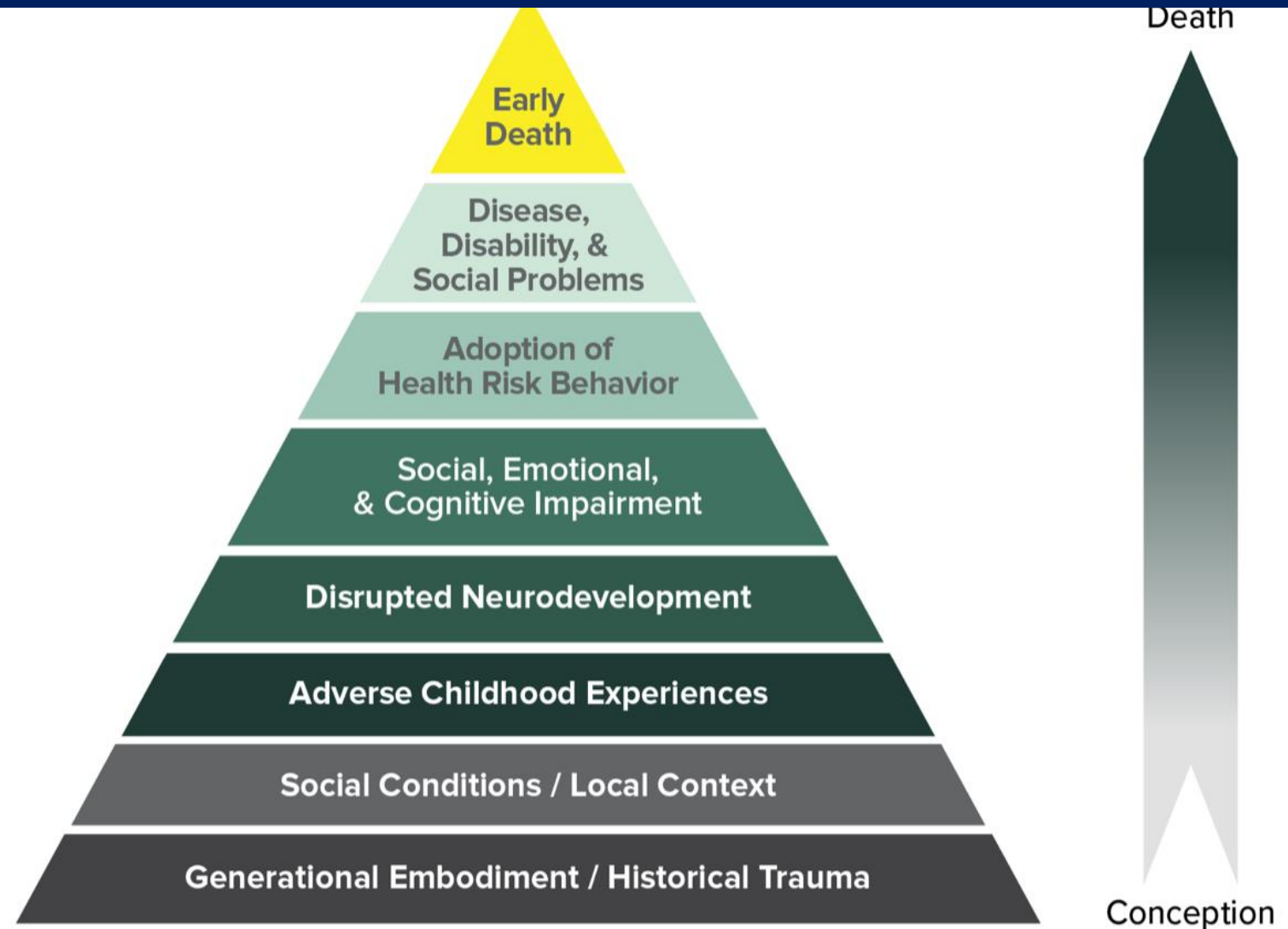
ACE STUDY

Growing up and experiencing any of the following conditions in the household prior to the age of 18:

- Recurrent physical abuse
- Recurrent emotional abuse
- Contact sexual abuse
- An alcohol and/or substance use in the household
- An incarcerated household member
- Someone who is chronically depressed, mentally ill, institutionalized, or suicidal
- Mother is treated violently
- One or no parents
- Emotional or physical neglect



ACE STUDY



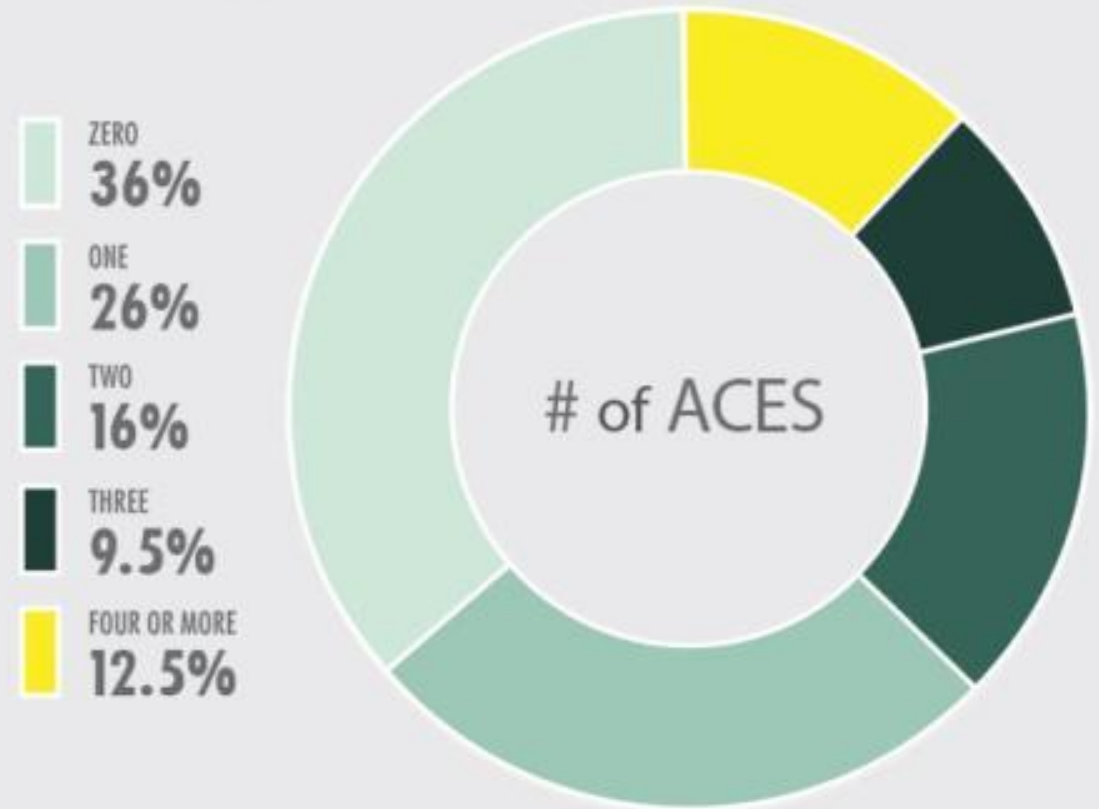
Mechanism by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

ADVERSE CHILDHOOD EXPERIENCES

- The higher the ACE score the higher the risk of disease, social and emotional problems.
- An ACE score of 4 or more increases likelihood of depression, suicide and substance use disorders substantially.

How Common are ACES?

ACE Study



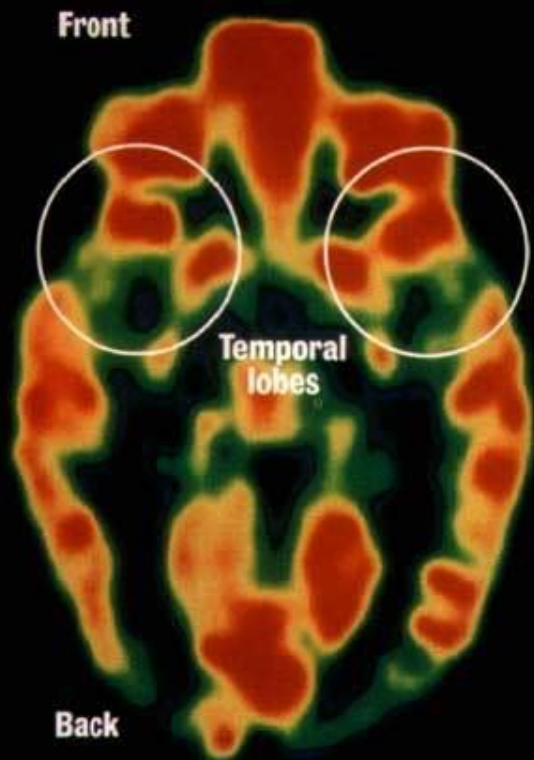
IMPACT OF TRAUMA

- ✓ Over two-thirds of people seeking treatment for substance use disorder report one or more traumatic life events (Back et al., 2000)
- ✓ Individuals with trauma often do not recognize the impact of the trauma on their lives or draw connections to their presenting problems. (Bessel van der Kolk)
- ✓ Can be written off as “treatment resistant” or “difficult.” (SAMHSA’s GAINS Center)
- ✓ Individuals who have experienced trauma have higher risk for substance use and mental health issues. (SAMHSA, 2014)



Healthy Brain

This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.



Front

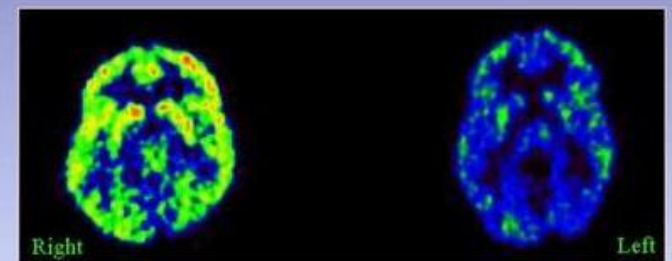


An Abused Brain

This PET scan of the brain of a Romanian orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.



Effects of chronic alcoholism



Control

Alcoholic

TRAUMA INFORMED DWI COURT

- ✓ Realizes the widespread impact of trauma.
- ✓ Understands potential paths for healing
- ✓ Recognizes the signs and symptoms of trauma in staff, clients, and others involved in the court
- ✓ Responds by fully integrating knowledge about trauma into policies, procedures, practices and settings.

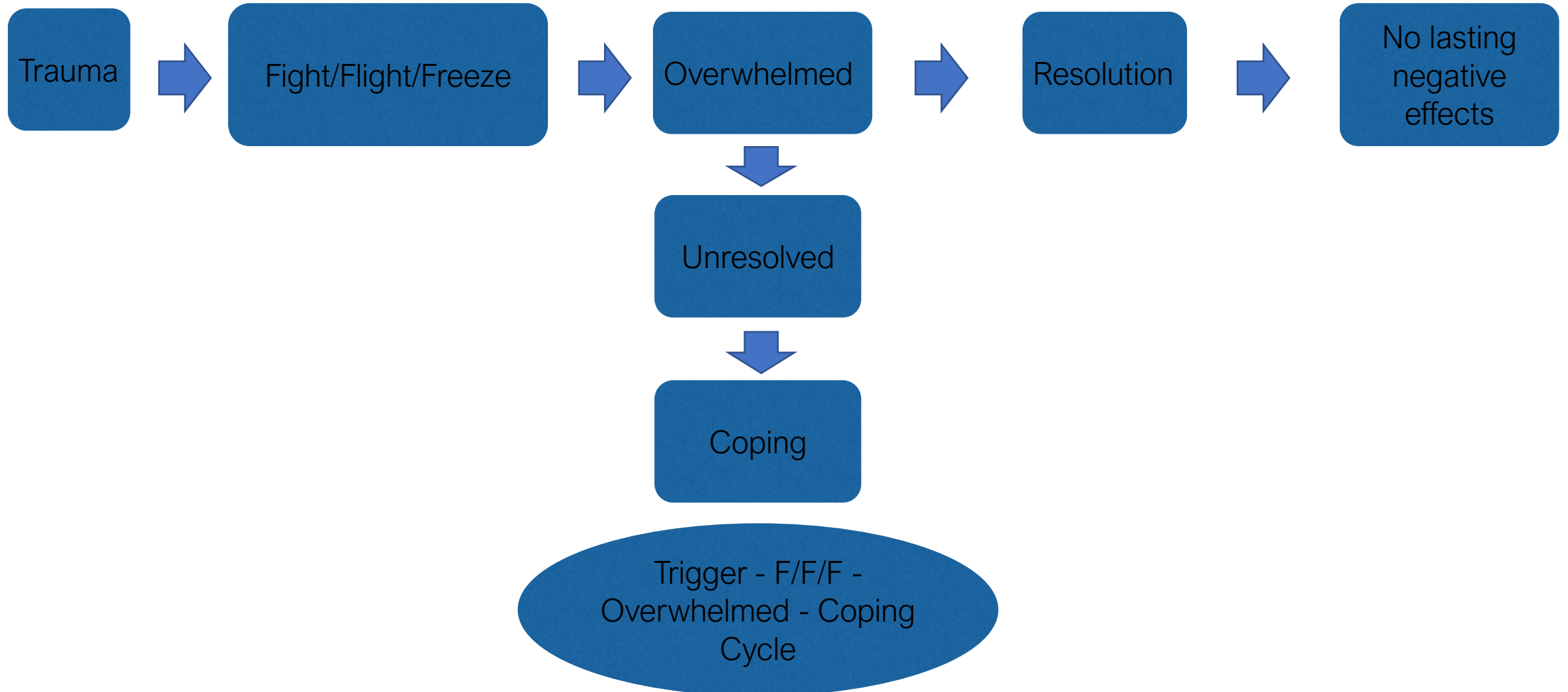


- SAMHSA's
GAINS Center for Behavioral Health
and Justice Transformation

Trauma Cycle Resolved



Trauma Cycle Unresolved



Drug use is a preventable behavior

**Substance use disorder is a
treatable disease**



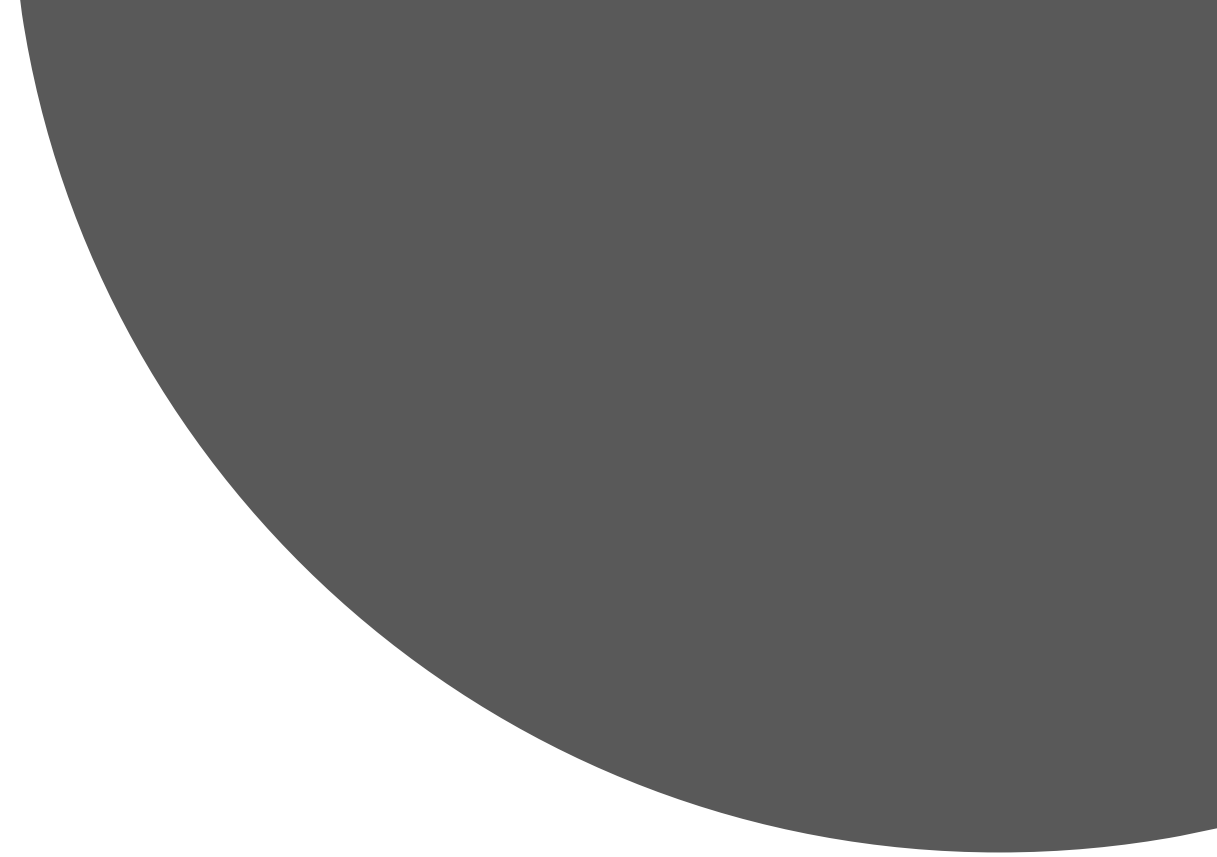
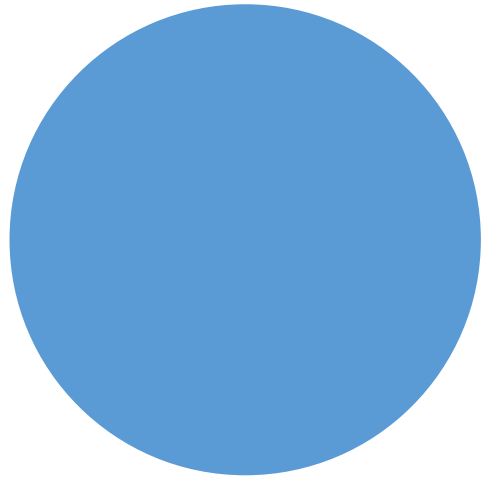
TREATMENT



TREATMENT

- ✓ Substance use disorder is a treatable disease
- ✓ Can be managed similar to other chronic diseases
- ✓ Treatment involves changing deeply embedded behaviors
- ✓ Treatment is often a combination of medications and behavioral therapies





Does relapse mean
failure?



RELAPSE

- ✓ Not only possible, but likely
- ✓ Relapse serves as a trigger for renewed intervention
- ✓ Relapse rates are similar to those for other well-characterized chronic medical illnesses – about 40%

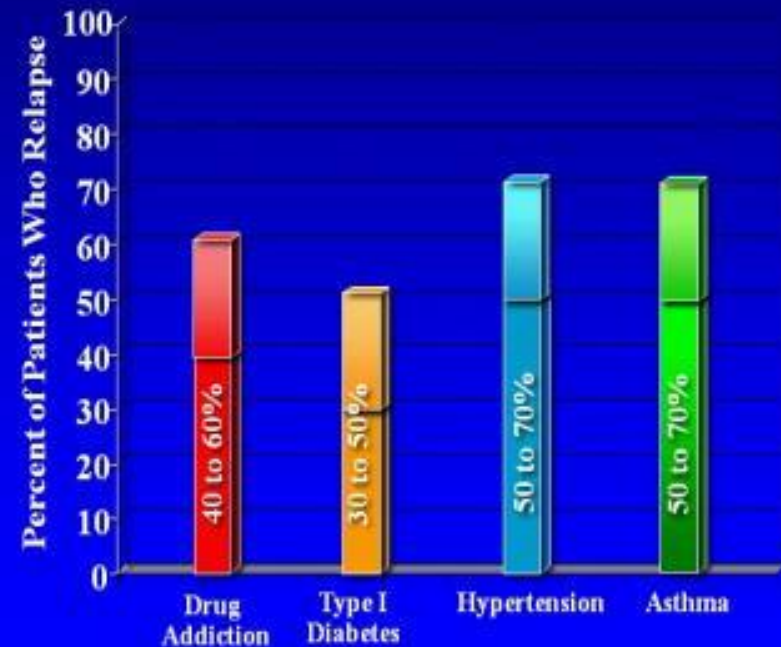


RELAPSE

This image compares relapse rates for patients with substance use disorder with those suffering from diabetes, hypertension, and asthma.

Relapse is common and similar across these illnesses (as in adherence to medication/treatment plan).

Relapse Rates Are Similar for Drug Addiction & Other Chronic Illnesses



McLellan et al., JAMA, 2000.

NIDA

RECOVERY

A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential.

- SAMHSA, Working Definition of Recovery



IT TAKES TIME....

- More than half of individuals that go through treatment for addiction need multiple episodes
- Progress in recovery is often cyclic, with episodes of abstinence, relapse and treatment



IT TAKES TIME....

By some estimates, it can take 8-9 years for an individual to reach full recovery and it usually includes 3-4 treatment episodes.

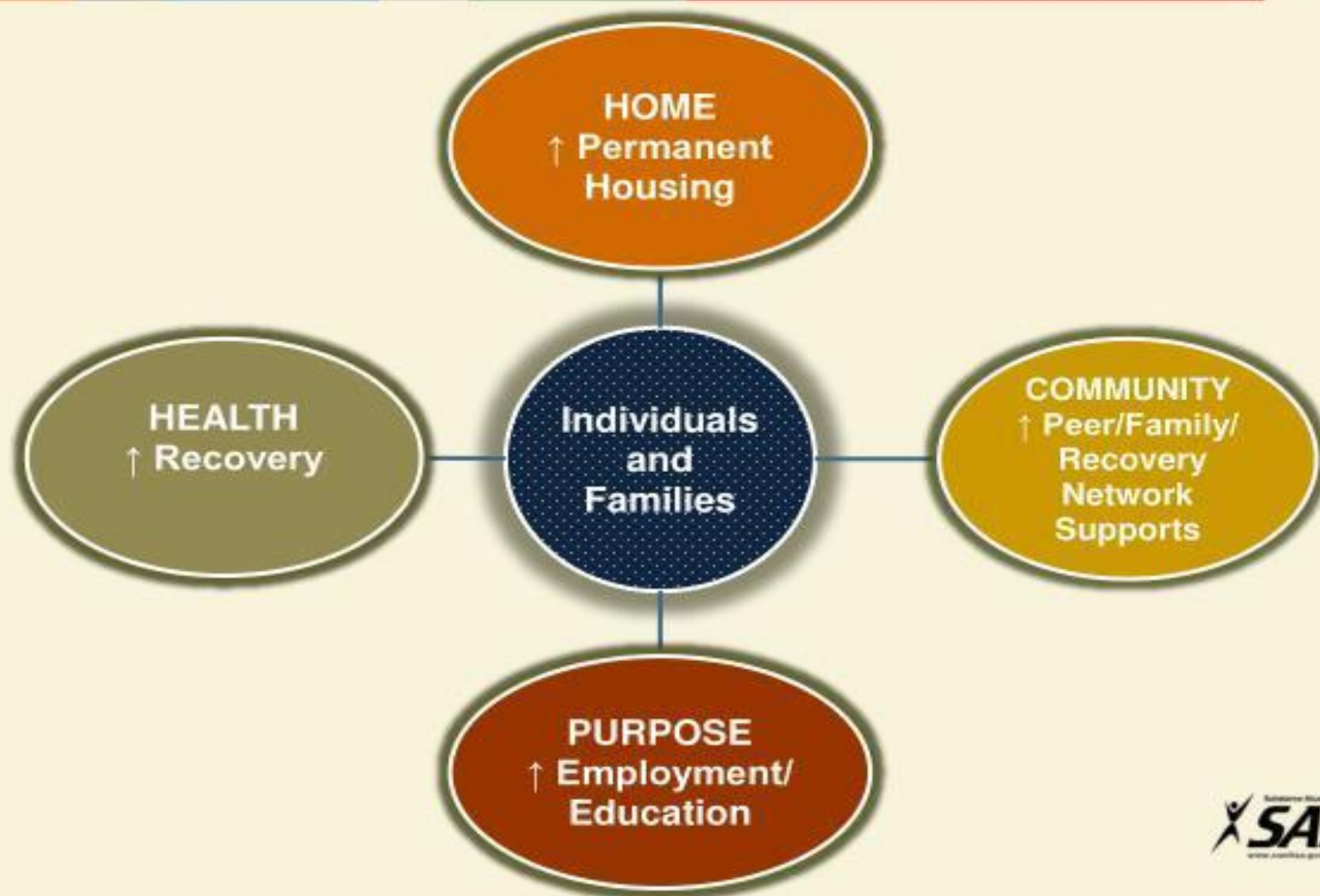


IT TAKES TIME....

The progress of many clients will be marked by cycles of recovery, relapse, and repeated treatments; often spanning many years...

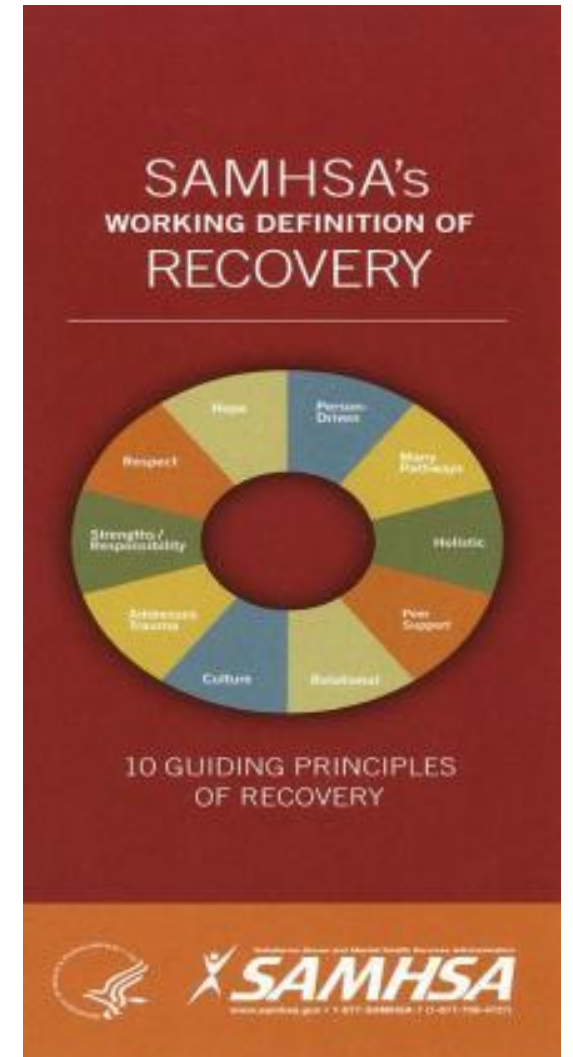


RECOVERY CONSTRUCT



GUIDING PRINCIPLES OF RECOVERY

- ✓ There are many pathways to recovery
- ✓ Recovery is self-directed and empowering
- ✓ Recovery involves personal recognition of the need for change and transformation
- ✓ Recovery is holistic
- ✓ Recovery has cultural dimensions
- ✓ Recovery exists on a continuum of improved health and wellness



GUIDING PRINCIPLES OF RECOVERY

- ✓ Recovery emerges from hope and gratitude
- ✓ Recovery involves a process of healing and self redefinition
- ✓ Recovery involves addressing discrimination and transcending shame and stigma
- ✓ Recovery is supported by peers and allies
- ✓ Recovery involves (re)joining and (re)building life in the community
- ✓ Recovery is a reality.



CLIENT ADVOCACY



**Until lions have their
historians, tales of
hunting will always
glorify the hunter.**

African Proverb