

The Intersection of Substance Use and Trauma on the Path to One Kansas

Kansas Prevention Collaborative Conference
2023

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Opioid
Response
Network
STR-TA



Disclosures

- ✧ I have no financial conflicts of interest.
- ✧ I will not be discussing off label use of medications or medical devices.



Objectives

As a results of today's sessions, participants will be able to

- ✧ **Describe** pathways in the brain that are affected by substance use disorders (SUDs) and trauma
- ✧ **List** some behaviors that can result from the impact of substances and trauma on brain chemistry and structure
- ✧ **Recall** protective and vulnerability factors for SUD
- ✧ **Identify** the impact of SSDOH in risky use and development of SUDs
- ✧ **Practice** ways to open conversations and normalize discussions about substance use, mental health, and trauma
- ✧ **Identify** resources for additional learning



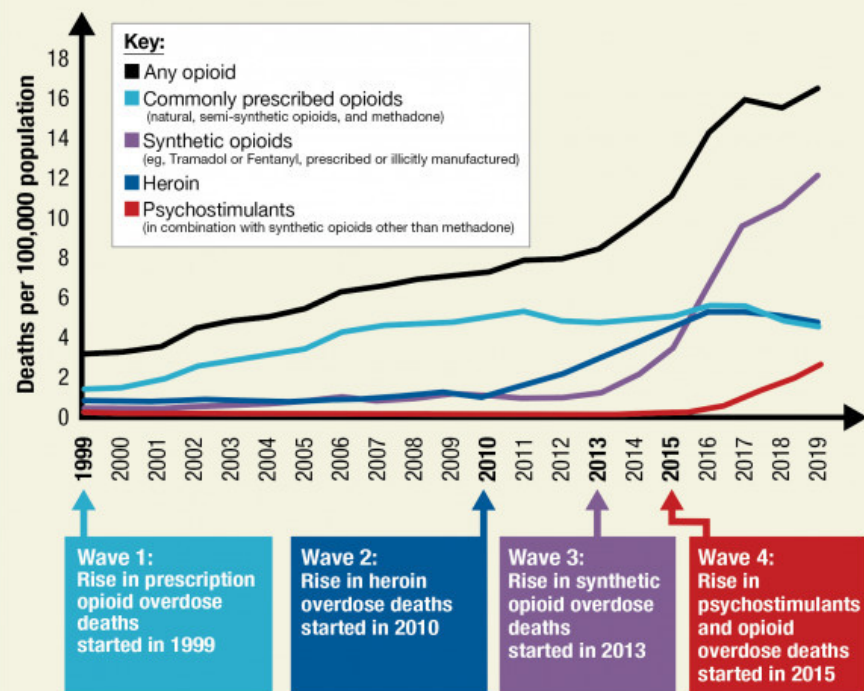


**Individuals, families,
communities, and the
common good**

Where are we now?

FIGURE 1

Timeline of Opioid-related Overdose Deaths



Source: National Vital Statistics Systems Mortality File and the National Institute on Drug Abuse.



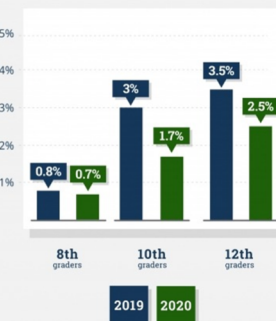
cdc.gov/alcohol

Past-Year Marijuana Vaping Holds Steady

Past-Year Marijuana Vaping

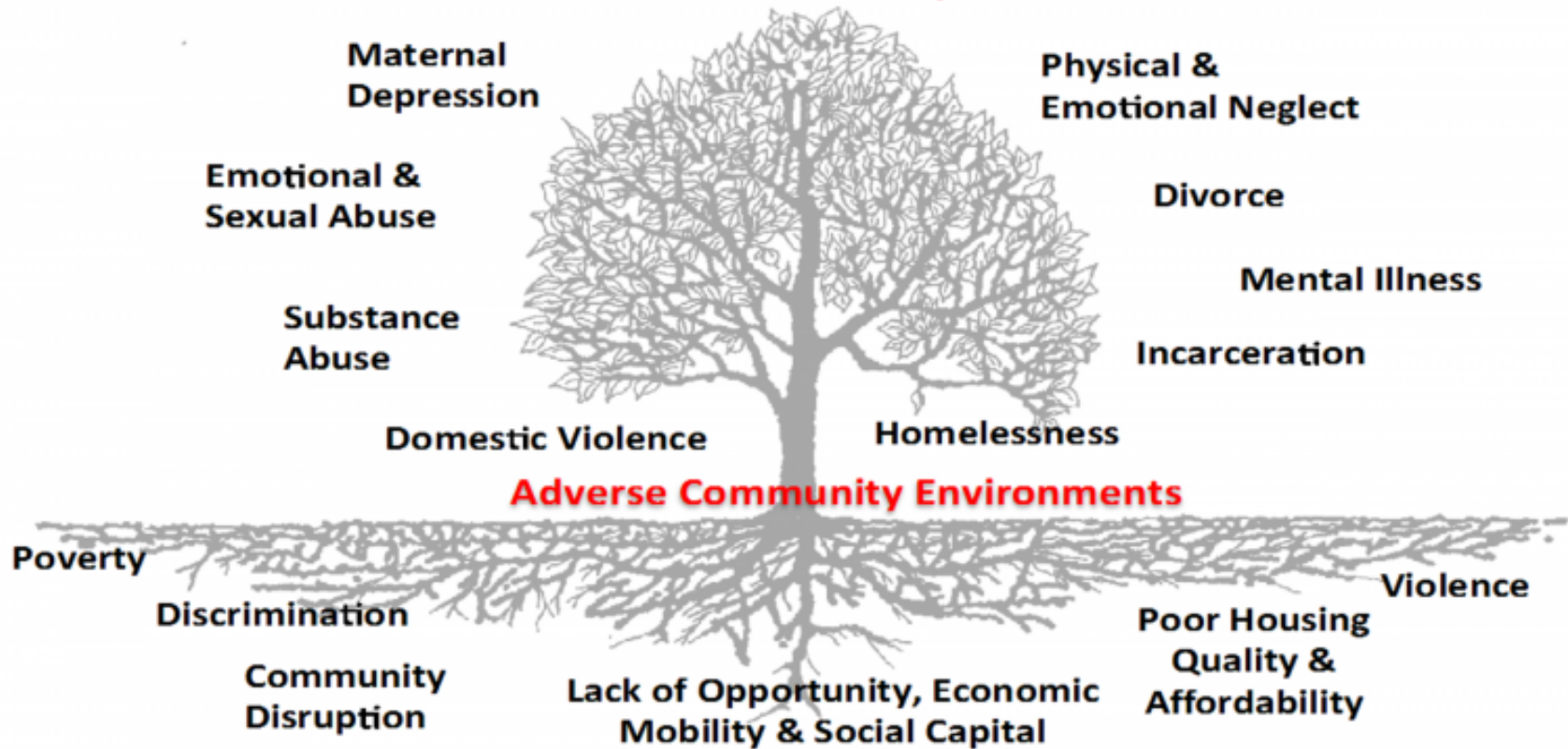


Daily or Near-Daily Marijuana Vaping Decreases Significantly Among 10th Graders



The Pair of ACEs

Adverse Childhood Experiences

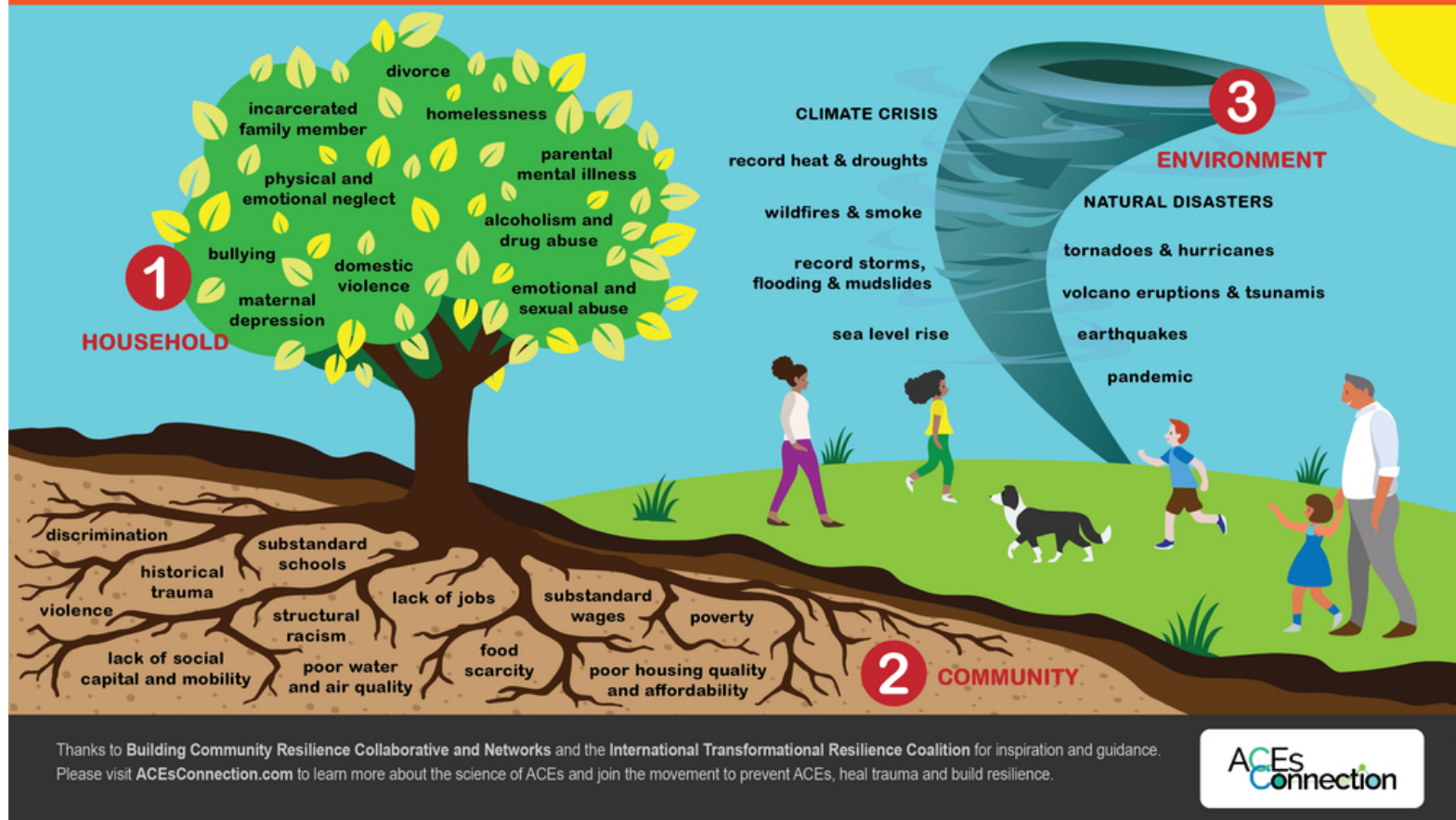


Ellis, W., Dietz, W. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. *Academic Pediatrics*. 17 (2017) pp. S86-S93. DOI information: 10.1016/j.acap.2016.12.011



3 Realms of ACEs

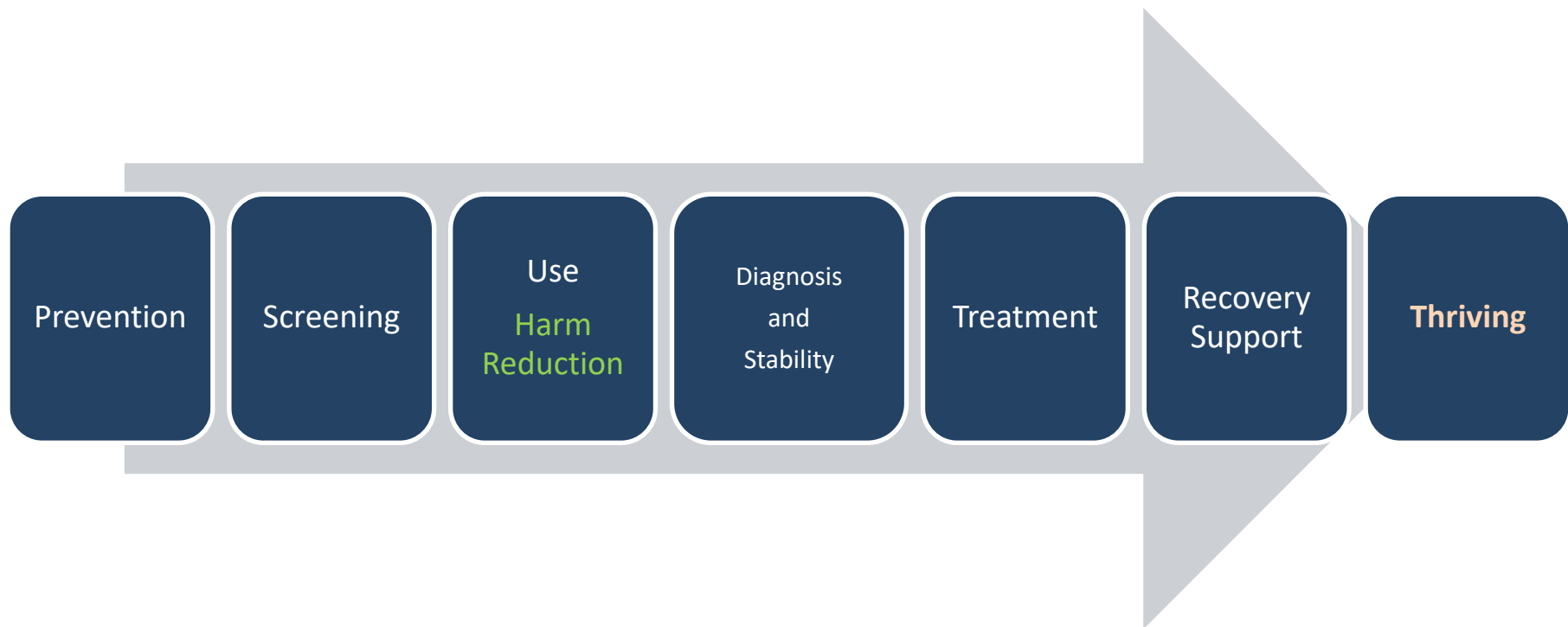
Adverse childhood and community experiences (ACEs) can occur in the household, the community, or in the environment and cause toxic stress. Left unaddressed, toxic stress from ACEs harms children and families, organizations, systems and communities, and reduces the ability of individuals and entities to respond to stressful events with resiliency. Research has shown that there are many ways to reduce and heal from toxic stress and build healthy, caring communities.

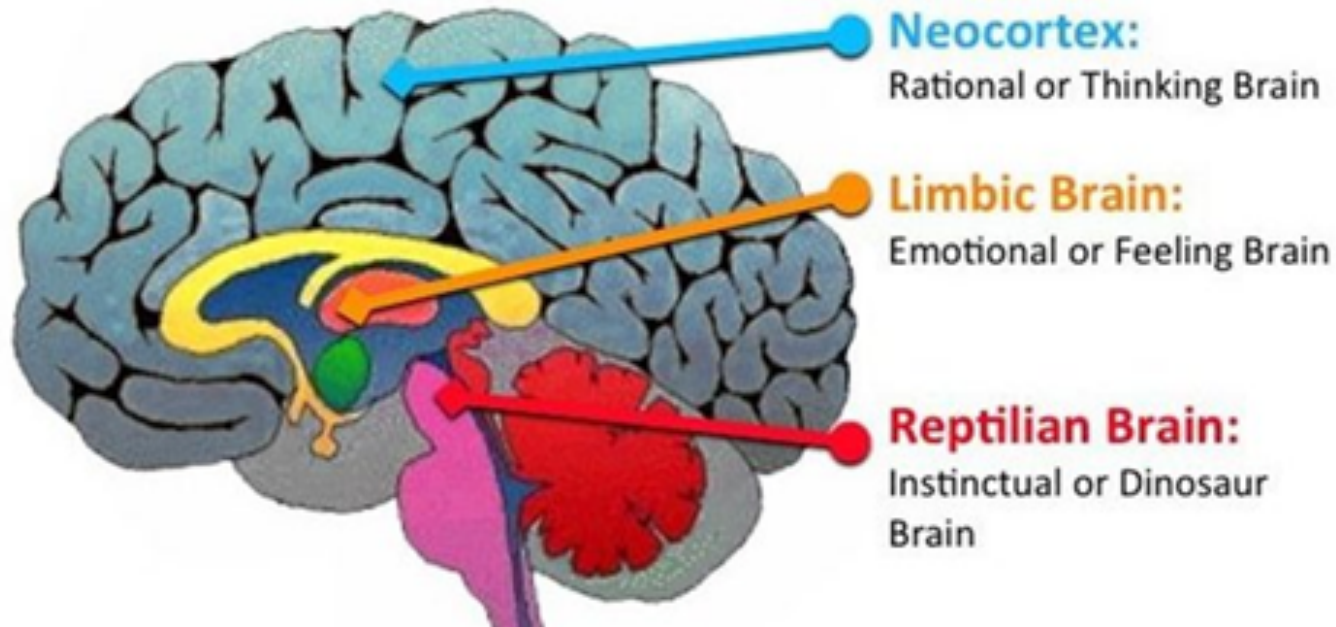




Neurobiology of Trauma and Substance Use

Continuum of Care: Substance Related Services

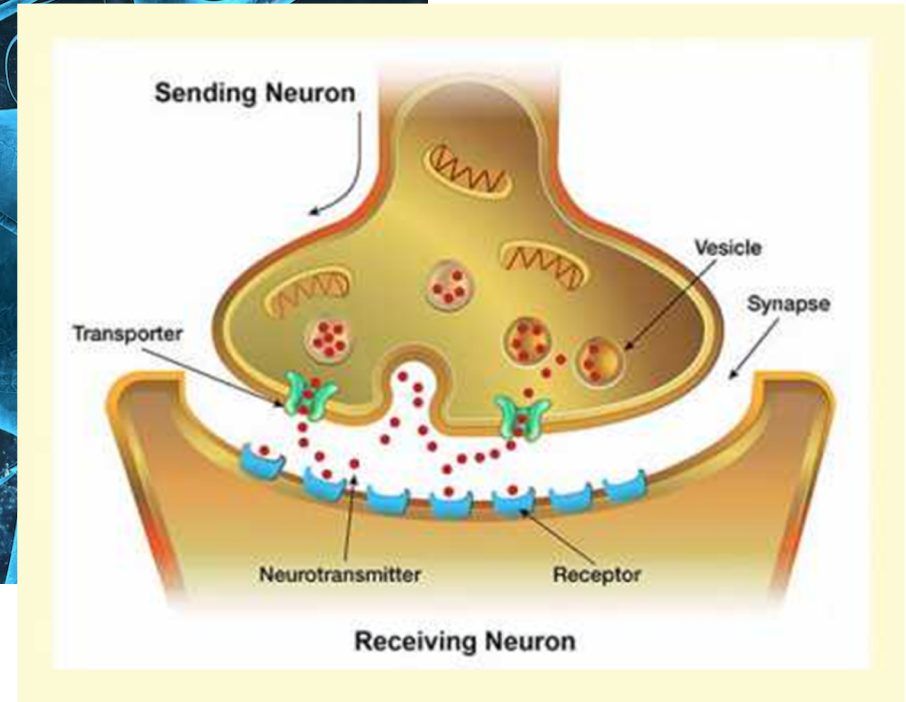
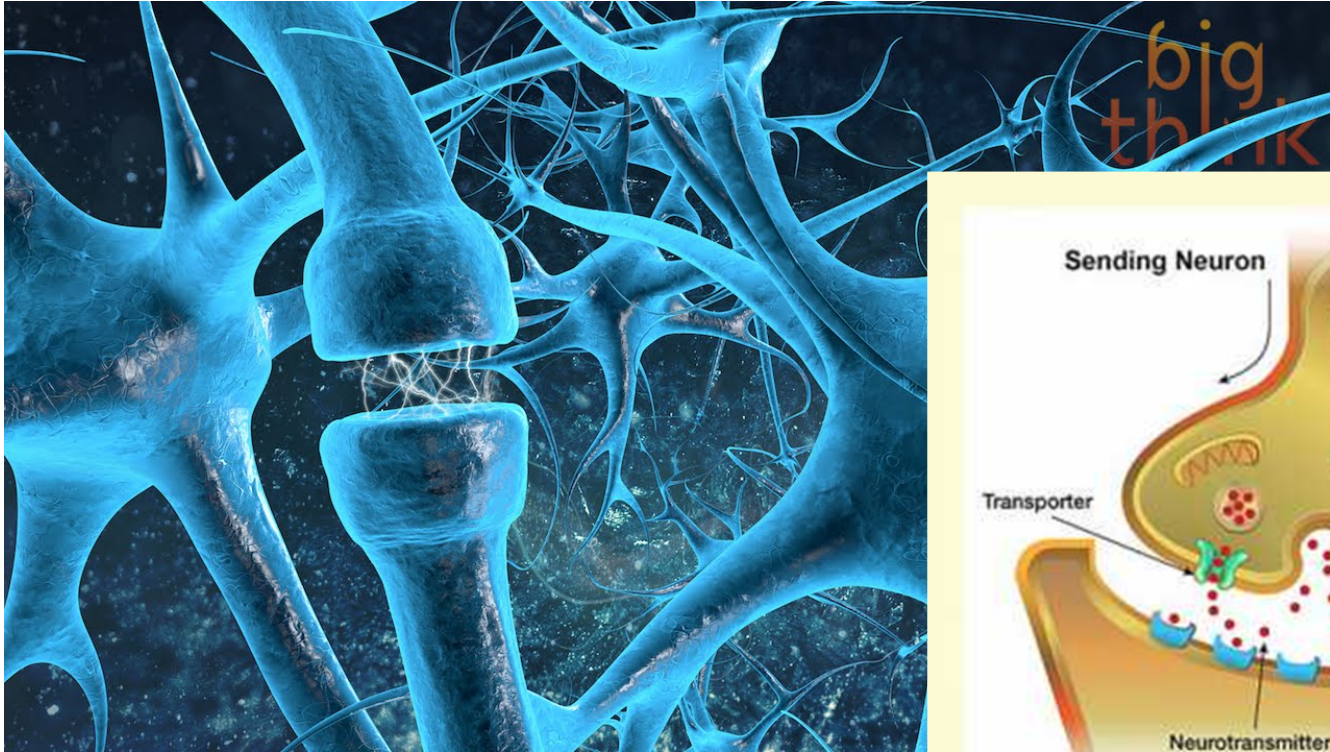


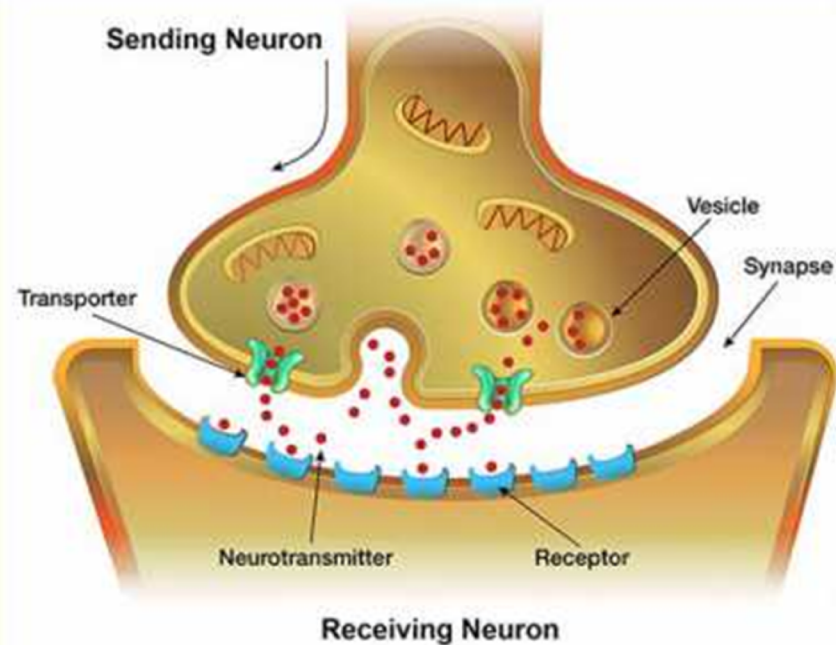


<https://samaritan-center.org/brainstorm-the-power-and-purpose-of-the-teenage-brain-part-1/>



Neurotransmitters and Neuroreceptors





Neurotransmitter	Abbreviation	Behaviors or Diseases Related to These Neurotransmitter
Acetylcholine	ACh	Learning and memory; Alzheimer's disease; muscle movement in the peripheral nervous system
Dopamine	DA	Reward circuits; Motor circuits involved in Parkinson's disease; Schizophrenia
Norepinephrine	NE	Arousal; Depression
Serotonin	5HT	Depression; Aggression; Schizophrenia
Glutamate	GLU	Learning; Major excitatory neurotransmitter in the brain
GABA	GABA	Anxiety disorders; Epilepsy; Major inhibitory neurotransmitter in the brain
Endogenous Opioids	Endorphins, Enkephalins	Pain; Analgesia; Reward



How does trauma affect brain development and function?

1. **Cognitive Impairment:** May appear as difficulty with attention and focus, learning disabilities, and impaired social skills
2. **Emotional Dysregulation:** May appear as emotional dysregulation, causing difficulties in managing and expressing emotions. This can result in low self-esteem, sleep disturbances, and other emotional problems
3. **Neurotransmitter Imbalance:** Developmental trauma can impact the balance of neurotransmitters in the brain, such as serotonin, dopamine, and norepinephrine. Imbalances in brain chemistry can contribute to various mental health conditions, including depression and anxiety

De Bellis MD, Zisk A. The biological effects of childhood trauma. Child Adolesc Psychiatr Clin N Am. 2014 Apr;23(2):185-222, vii. doi: 10.1016/j.chc.2014.01.002. Epub 2014 Feb 16. PMID: 24656576; PMCID: PMC3968319.



How does trauma affect brain development and function?

4. **Disrupted Attachment:** Disrupted attachment can lead to cognitive delays and impaired emotional regulation

5. **Altered Brain Structure and Function:** Affected areas can include the amygdala and hippocampus, which are involved in emotional processing and memory. These alterations can contribute to the development of post-traumatic stress disorder (PTSD) symptoms and other mental health issues[2].

6. **Impaired Development of Pathways:** Traumatic experiences can lead to the overdevelopment of certain neural pathways and the underdevelopment of others. This can result in impairment later in life and difficulties with adaptive behavior

De Bellis MD, Zisk A. The biological effects of childhood trauma. Child Adolesc Psychiatr Clin N Am. 2014 Apr;23(2):185-222, vii. doi: 10.1016/j.chc.2014.01.002. Epub 2014 Feb 16. PMID: 24656576; PMCID: PMC3968319.



How does trauma present?

- 1. Physical Symptoms:** Can include headaches, stomachaches, and other unexplained pains
- 2. Behavioral Issues:** Patients may exhibit behavioral issues such as aggression, hyperactivity, and difficulty with impulse control
- 3. Mental Health Issues:** ACEs can increase the risk of developing mental health issues such as depression, anxiety, and post-traumatic stress disorder (PTSD).

Larkin W, Cairns P. Addressing adverse childhood experiences: implications for professional practice. Br J Gen Pract. 2020 Mar 26;70(693):160-161. doi: 10.3399/bjgp20X708929. PMID: 32217571; PMCID: PMC7098501.



How does trauma present?

4. **Substance Abuse:** Patients with ACEs are at increased risk of developing substance abuse issues.
5. **Difficulty with Trust and Attachment:** Patients with ACEs may have difficulty with trust and attachment, which can manifest as difficulty forming relationships with healthcare providers or difficulty following through with treatment plans
6. **Avoidance of Medical Care:** Patients with ACEs may avoid seeking medical care due to fear or mistrust of healthcare providers. This can result in delayed diagnosis and treatment of medical conditions

Larkin W, Cairns P. Addressing adverse childhood experiences: implications for professional practice. Br J Gen Pract. 2020 Mar 26;70(693):160-161. doi: 10.3399/bjgp20X708929. PMID: 32217571; PMCID: PMC7098501.



Risk factors for high-risk substance use (Activity)

Risk factors for youth high-risk substance use can include:

- Family history of substance use
- Favorable parental attitudes towards the behavior
- Poor parental monitoring
- Parental substance use
- Family rejection of sexual orientation or gender identity
- Association with delinquent or substance using peers
- Lack of school connectedness
- Low academic achievement
- Childhood sexual abuse
- Mental health issues

<https://www.cdc.gov/healthyyouth/substance-use/index.htm>



Protective factors for high-risk substance use (Activity)

These are also known as protective factors. Some protective factors for high-risk substance use include:

- Parent or family engagement
- Family support
- Parental disapproval of substance use
- Parental monitoring
- School connectedness

<https://www.cdc.gov/healthyyouth/substance-use/index.htm>



Why is Science Important?

- ✧ Kitchen table conversations and messages to youth
- ✧ Messages in society and on social media
- ✧ Drivers for health care don't always follow evidence-informed practices
- ✧ Meaning well doesn't mean doing good
- ✧ Science can drive out stigma





The Science of Stigma

Types of Stigma	Public	Self	Institutional
Stereotypes & Prejudices	People with mental illness are dangerous, incompetent, to blame for their disorder, unpredictable	I am dangerous, incompetent, to blame	Stereotypes are embodied in laws and other institutions
Discrimination	Therefore, employers may not hire them, landlords may not rent to them, the health care system may offer a lower standard of care	These thoughts lead to lowered self-esteem and self-efficacy: "Why try? Someone like me is not worthy of good health."	Intended and unintended loss of opportunity



Harmful Effects of Stigma and Discrimination

- ✧ Reduced hope
- ✧ Lower self-esteem
- ✧ Increased psychiatric symptoms
- ✧ Difficulties with social relationships
- ✧ Reduced likelihood of staying with treatment
- ✧ More difficulties at work

https://www.sciencedirect.com/science/article/abs/pii/S0165178120301682?dgcid=raven_sd_via_email





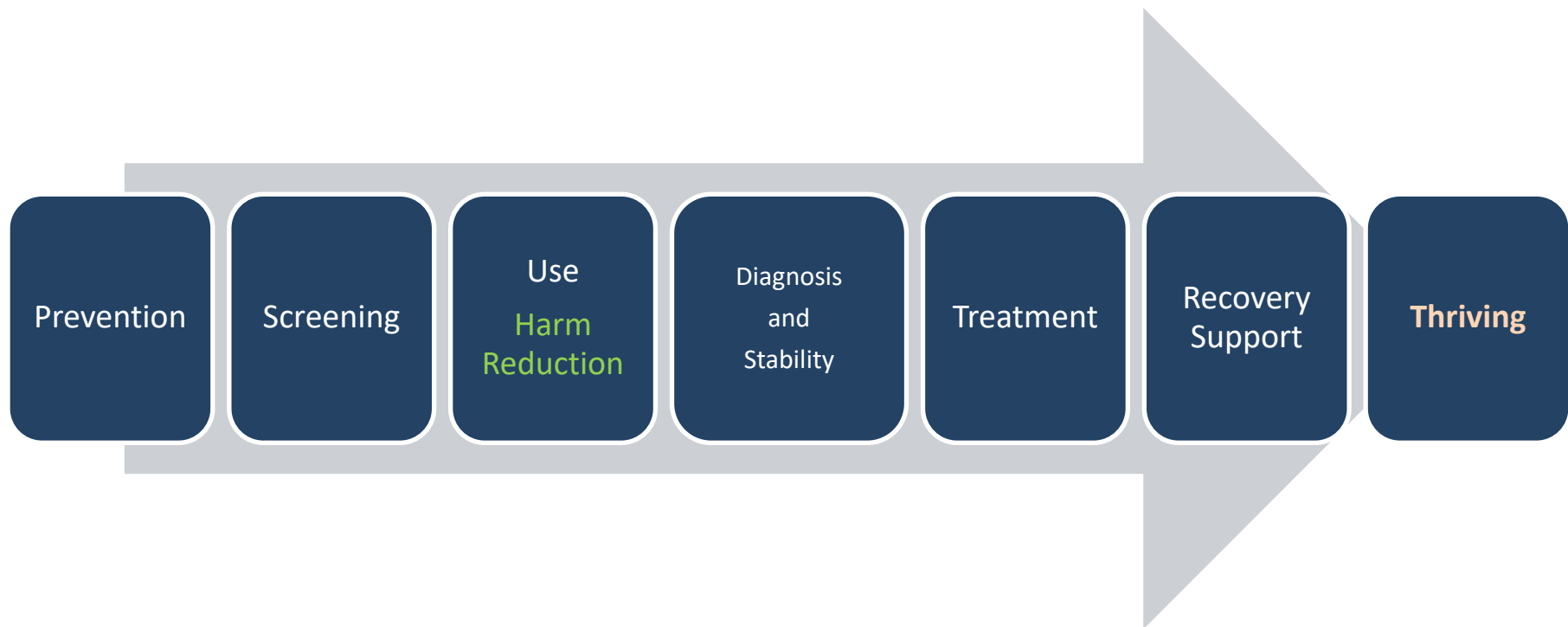
Hearing Harm Reduction

Guiding Principles Of Harm Reduction

- ✧ Accepts, for better or worse, that licit and illicit drug use is part of our world and chooses to work to minimize its harmful effects.
- ✧ Accepts drug use as a complex, multi-faceted phenomenon that encompasses a continuum of behaviors from severe use to total abstinence and acknowledges that some ways of using drugs are clearly safer than other.



Continuum of Care: Substance Related Services



Guiding Principles Of Harm Reduction

- ✧ Ensures that people who use drugs and those with a history of drug use routinely have a real voice in the creation of programs and policies designed to serve them.
- ✧ Affirms people who use drugs (PWUD) themselves as the primary agents of reducing the harms of their drug use and seeks to empower PWUD to share information and support each other in strategies which meet their actual conditions of use.



Guiding Principles Of Harm Reduction

- ✧ Recognizes that the realities of poverty, class, racism, social isolation, past trauma, sex-based discrimination, and other social inequalities affect both people's vulnerability to and capacity for effectively dealing with drug-related harm.
- ✧ Does not attempt to minimize or ignore the real and tragic harm and danger that can be associated with illicit drug use.





Having healthy conversations

What do healthy conversations sound like?

Say

- ✧ "Thanks for opening up to me."
- ✧ "Is there anything I can do to help?"
- ✧ "I'm sorry to hear that. It must be tough."
- ✧ "I'm here for you when you need me."
- ✧ "I can't imagine what you're going through."
- ✧ "People do get better."
- ✧ ""Can I drive you to an appointment?"
- ✧ "How are you feeling today?"

Avoid

- ✧ "It could be worse."
- ✧ "Just deal with it."
- ✧ "Snap out of it."
- ✧ "Everyone feels that way sometimes."
- ✧ "You may have brought this on yourself."
- ✧ "We've all been there."
- ✧ "You've got to pull yourself together."
- ✧ "Maybe try thinking happier thoughts."



What may health behaviors look like?

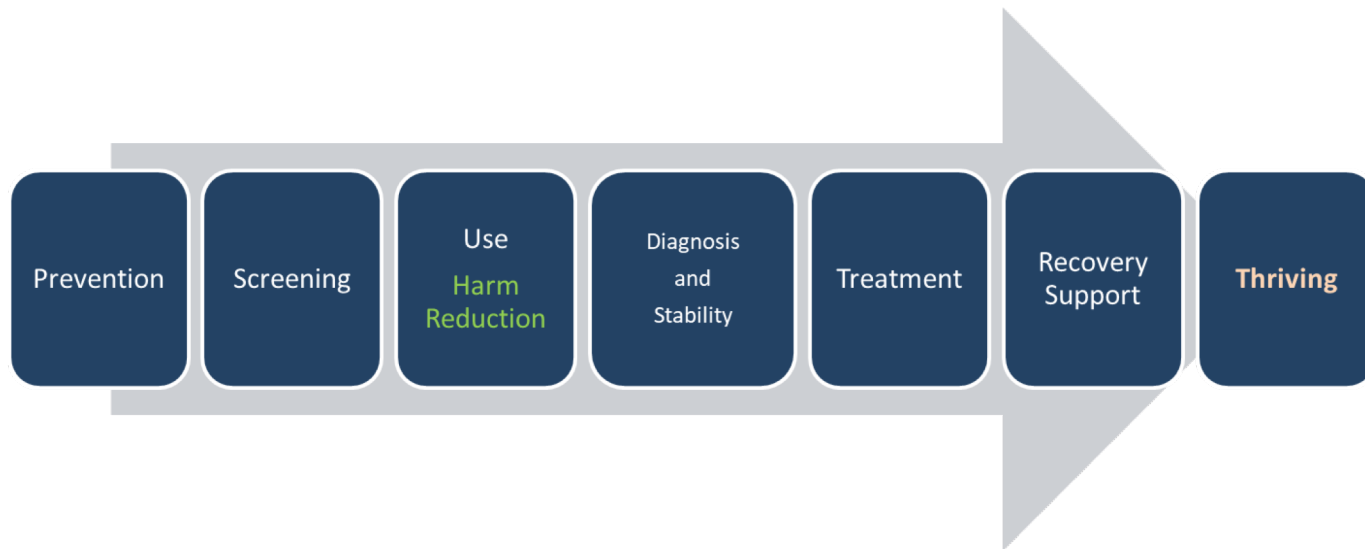
- ✧ Talk openly about mental health
- ✧ Educate yourself and others
- ✧ Speak up when you hear negative comments
- ✧ Use person-first language
- ✧ Support mental health organizations
- ✧ Share your story
- ✧ Challenge media portrayals of mental illness

<https://www.psychiatry.org/patients-families/stigma-and-discrimination>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1489832/>



What do healthy services look like?

- ✧ What are you taking back to your agencies?
- ✧ What are you taking home?



Resources: Community Education

- ✧ Centers for Disease Control and Prevention,
<https://www.cdc.gov/drugoverdose/>
- ✧ National Institute of Drug Abuse,
<https://nida.nih.gov/>
- ✧ National Association of County and City Health Officials,
<https://www.naccho.org/programs/community-health/injury-and-violence/overdose>



Questions? Comments?

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- ✧ Saint Louis University, Family and Community Medicine, <https://www.slu.edu/medicine/family-medicine/>
- ✧ Saint Louis University Addiction Medicine Fellowship, <https://www.slu.edu/medicine/family-medicine/addiction-medicine.php>

