# Adverse Childhood Experiences and Trauma-Informed Care

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## Objectives

1. Be able to define adverse childhood experiences.
2. Be able to describe the relationship between adverse childhood experiences and negative physical and mental health outcomes in childhood and adulthood.
3. Be able to define trauma informed care and be familiar with the role of the caregivers and medical providers in facilitating trauma informed care.

# Part I: Child Trauma

## Defining Trauma

**Any witnessed or experienced event that threatens the life or physical integrity of the child or someone critically important to the child**

| ACUTE | CHRONIC | COMPLEX |
|---|---|---|
| An isolated traumatic event<br>e.g., car accident, dog bite, date rape | Multiple traumatic events, often over a long period of time<br>e.g., repeated physical abuse | Multiple traumatic events that begin at a very young age and are caused by the adults who should have been caring for and protecting the child |

# Prevalence of Trauma

- Each year in the U.S., more than 1,500 children – nearly two children per 100,000 – die of abuse or neglect.
- In 2010, 695,000 unique children were substantiated victims of child maltreatment.
- In a national sample of children, over 60% were exposed to violence or abuse in their homes or communities during the past year.
- A national study of adult foster care alumni found that 25.2% had PTSD, nearly double the rate of U.S. war veterans.
- 1 out of 4 children experience a traumatic event before the age of 16
- 10 – 13% of America's children have been kicked, burned, bit, punched, hit with an object, beaten or threatened with weapon by a parent
- 21 – 32% of U.S. women were sexually abused before age 18

(U.S. Department of Health and Human Services, 2011; Finkelhor et al., 2009; Pecora et al., 2005 Kilpatrick; 1996; Vogeltanz et al., 1999)

# Trauma & Children

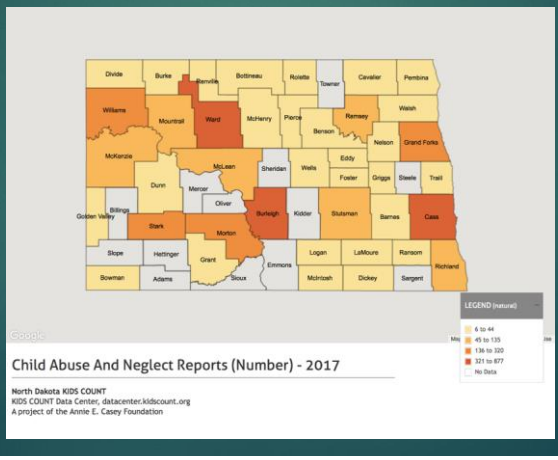
Before reaching the age of 16, an estimated

**two thirds**

of children in the United States have experienced a traumatic life event.

# Child Abuse and Neglect in North Dakota

- 3,982 referrals for child abuse & neglect




01/12/14 **NEWS**

## Early Adversity Increases Physical, Mental, Behavioral Problems, Scientists Report


Dr. Robert Anda & Dr. Vincent Felitti
Investigators

Centers for Disease Control & Prevention, Kaiser Permanente Study

Over 17,000 study participants

The ACE Study confirms, with scientific evidence, that adversity early in life increases physical, mental and behavioral problems later in life.

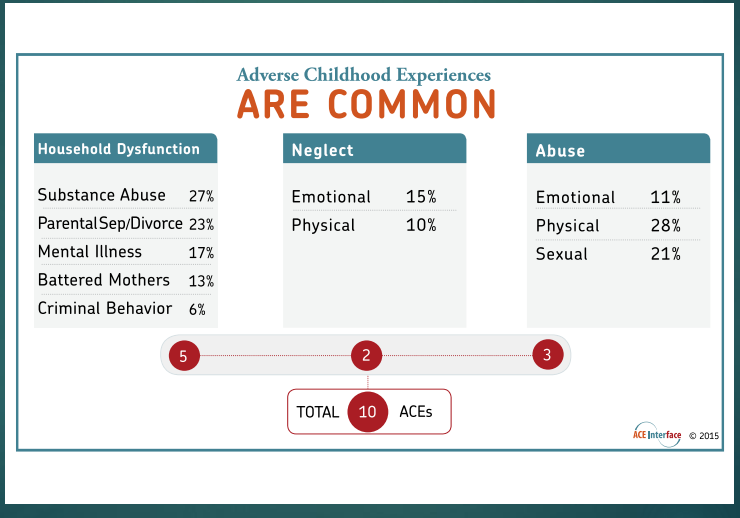
ACE Interface © 2015

# Adverse Childhood Experiences

1. Child physical abuse.
2. Child sexual abuse.
3. Child emotional abuse.
4. Emotional neglect.
5. Physical neglect.
6. Mentally ill, depressed or suicidal person in the home.
7. Drug addicted or alcoholic family member.
8. Witnessing domestic violence against the mother.
9. Loss of a parent to death or abandonment, including abandonment by parental divorce.
10. Incarceration of any family member for a crime.

Source: Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245-258.

# Prevalence of ACES



# Prevalence of ACES: ND

- **Prevalence of one or more ACES, according to parents' reports on their child birth to age 17**

| | 0 ACES | 1 ACE | 2 ACES | 3 TO 8 ACES |
|---|---|---|---|---|
| United States National | 55% | 24% | 11% | 10% |
| North Dakota | 60% | 25% | 8% | 8% |

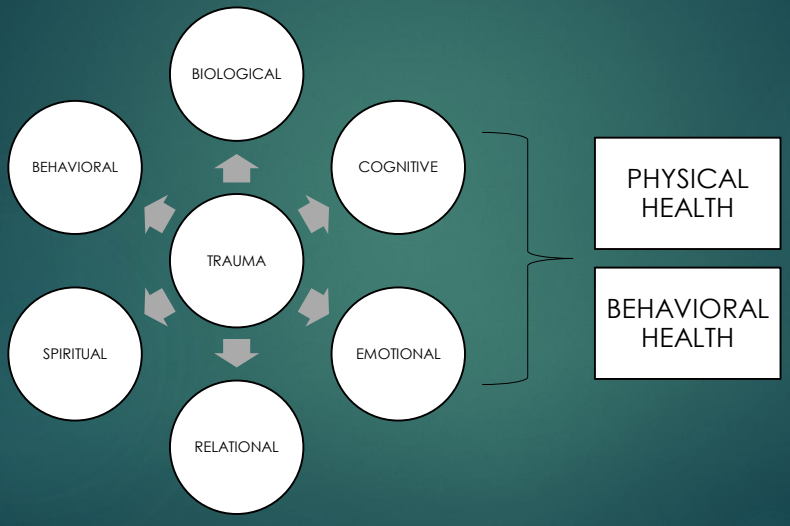
Child Trends Brief: 2016 NSCH Data

# Trauma and chronic stress are common…

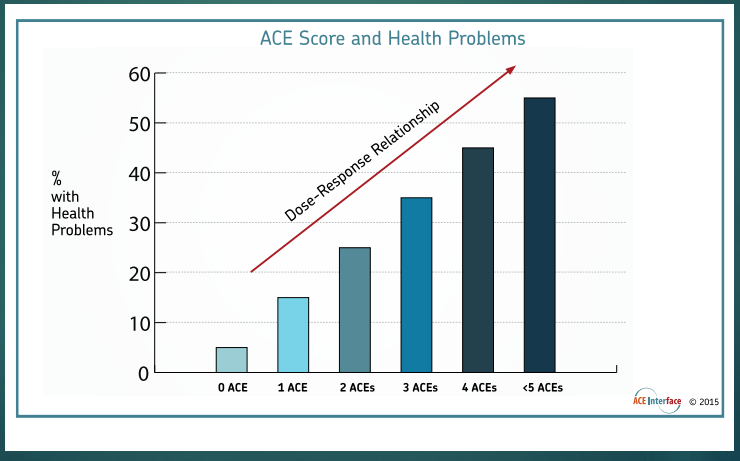
# So what??

# Part II: Impact of Trauma

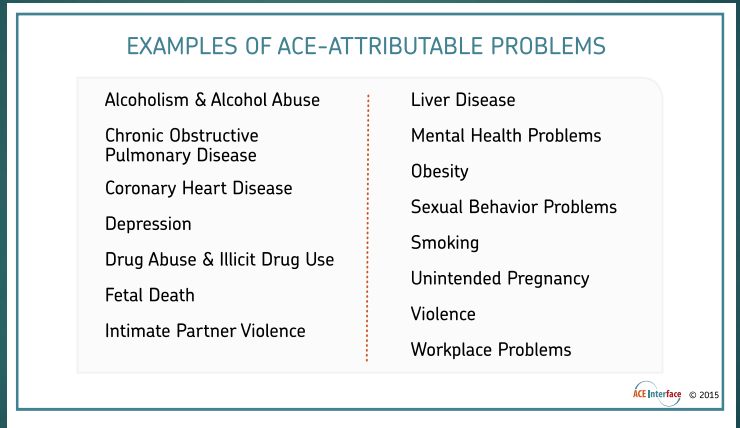
## Impact of Trauma



# The Impact of ACES: Health Problems




# The Impact of ACES



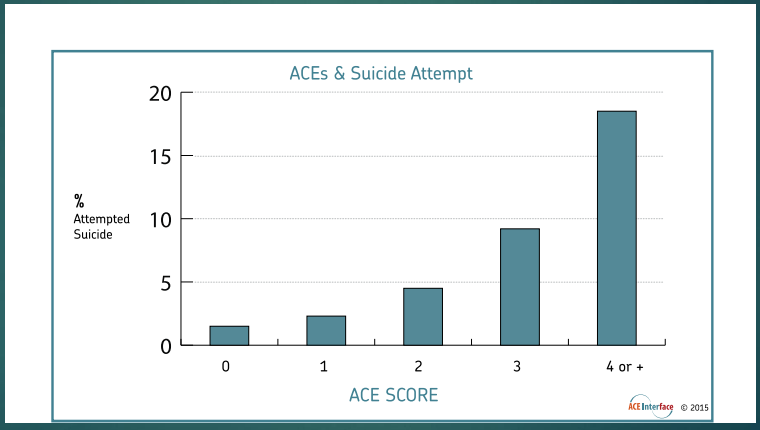
# The ACE Study
(Felitti et al., 1998)

| Disease | 4 or More Adversities (Odds Ratio) |
|---|---|
| Smoking | 2.2 |
| Obesity | 1.6 |
| Depression | 4.6 |
| Suicide Gesture | 12.2 |
| Alcoholism | 7.4 |
| Illicit Drugs | 4.7 |
| Injectable Drugs | 10.3 |
| Sexual Promiscuity | 3.2 |
| STD | 2.5 |

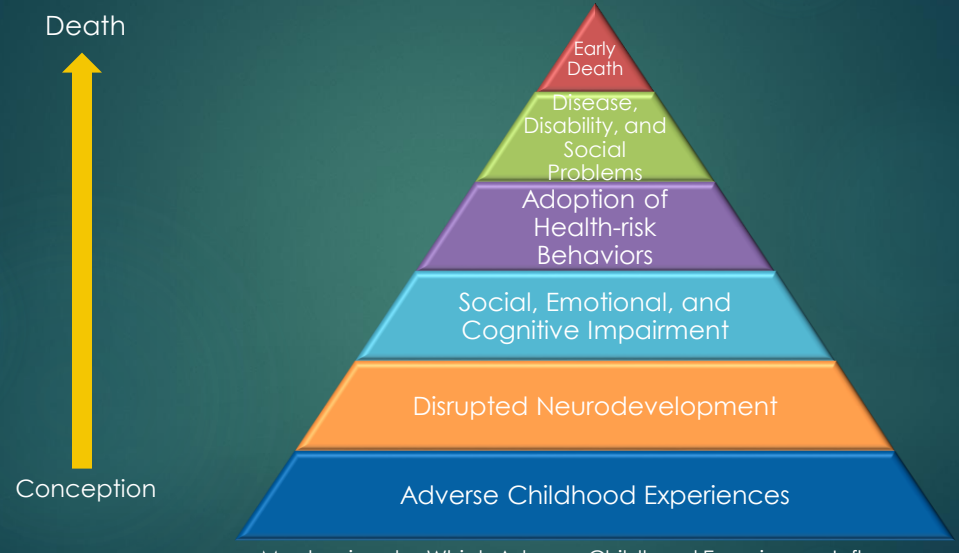
# The ACE Study
(Felitti et al., 1998)

| Disease | 4 or More Adversities (Odds Ratio) |
|---|---|
| Heart Disease | 2.2 |
| Cancer | 1.9 |
| Stroke | 2.4 |
| Bronchitis/Emphysema | 3.9 |
| Diabetes | 1.6 |
| Hepatitis | 2.4 |
| Fair/Poor Health | 2.2 |

# The Impact of ACES: Suicide Rates




# Long-Term Trauma Impact–ACE Pyramid: CDC



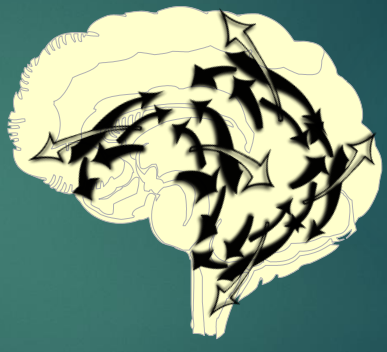

Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

# Trauma and the Brain

- Trauma-induced alterations in biological stress systems can adversely affect brain development.
- Trauma-exposed children and adolescents display changes in their levels of stress hormones similar to those seen in combat veterans.
- Plasticity means the brain continues to change in response to repeated stimulation.

Source: Pynoos, R. S., Steinberg, A. M., Ornitz, E. M., & Goenjian, A. K. (1997). Issues in the developmental neurobiology of traumatic stress. *Annals of the New York Academy of Sciences, 821*, 176-193.

# Experience Grows the Brain

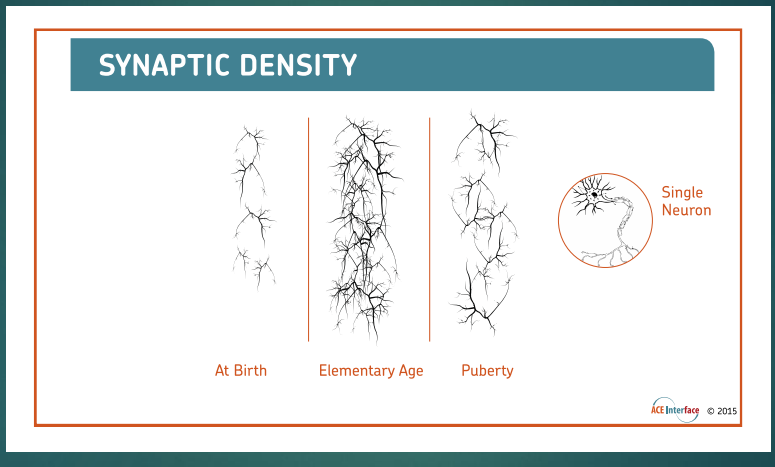


- The brain develops by forming connections.
- Interactions with caregivers are critical to brain development.
- The more an experience is repeated, the stronger the connections become.

Source: *NCTSN: Caring for Children Who Have Experienced Trauma.* Retrieved from http://nctsn.org/products/caring-for-children-who-have-experienced-trauma

# Brain Development

- The prenatal brain has **2-3 times** the number of nerve cells as the adult brain
- The maximum number of nerve cells is present at birth
- Brain growth (size and weight) over the first years of life is due to:
  - Myelination: the process that allows nerve impulses to move more quickly
  - Increase in synaptic connections: how nerve cells communicate with other cells
- Growth is dependent on stimulation and experience



# Trauma Derails Development

- Exposure to trauma causes the brain to develop in a way that will help the child survive in a dangerous world:
  - On constant alert for danger
  - Quick to react to threats (fight, flight, freeze)
  - The stress hormones produced during trauma also interfere with the development of higher brain functions

Source: Teicher., M. H. (2002). Scars that won't heal: The neurobiology of child abuse. *Scientific American, 286* (3),68-75.

# Traumatic Stress Response Cycle

- Past trauma causes the brain to interpret minor events as threatening (i.e., triggers).
- The limbic system has a disproportionate fear/emotional response to the experience and sends signals to the brainstem.
- Cortisol and adrenaline are released, increasing heart rate and respiration.
- Fight, flight, or freeze response occurs.
- Prefrontal cortex is skipped (lack of reasoning), leading to impulsive reactions.

Source: Campbell, J.S.W. (n.d.). *Trauma and the brain*. Retrieved from the KidsPeace Institute website: http://www.kidspeace.org/healing.aspx?id=2514

## We Learn by Experience

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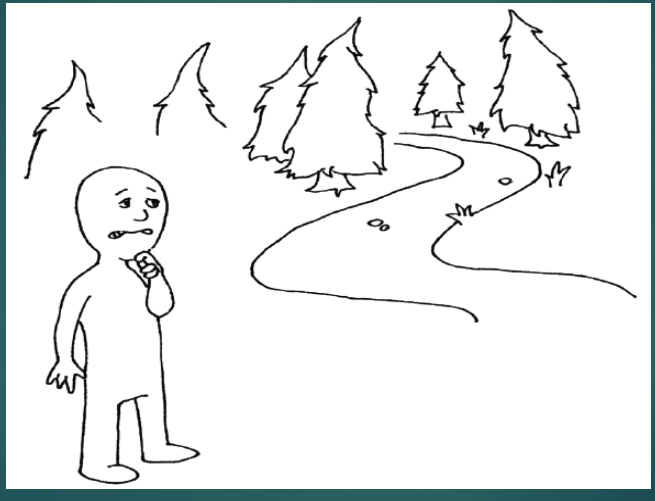

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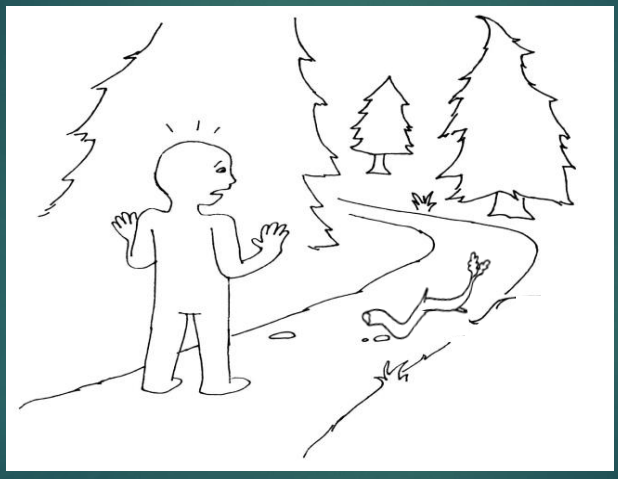
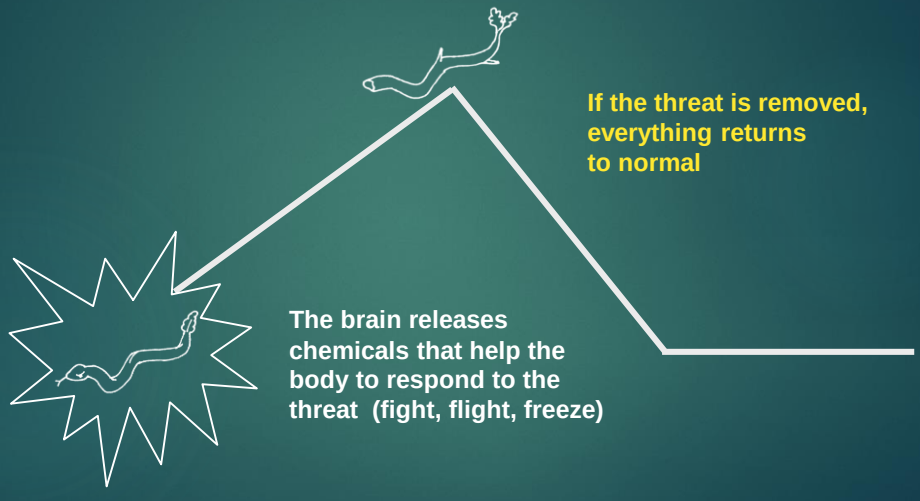
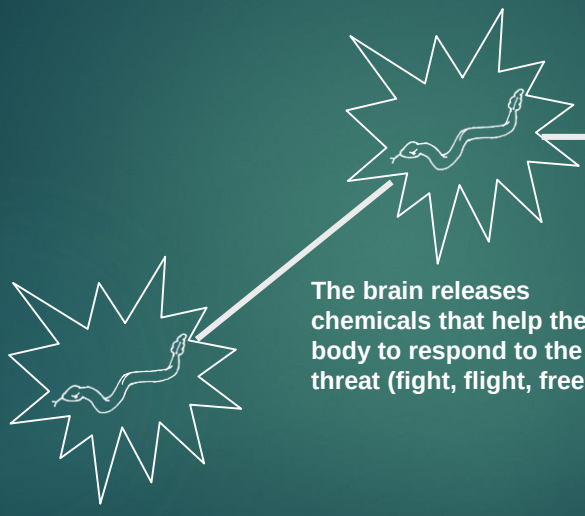


## Your Internal Alarm System: Normal



## Your Internal Alarm System: Trauma

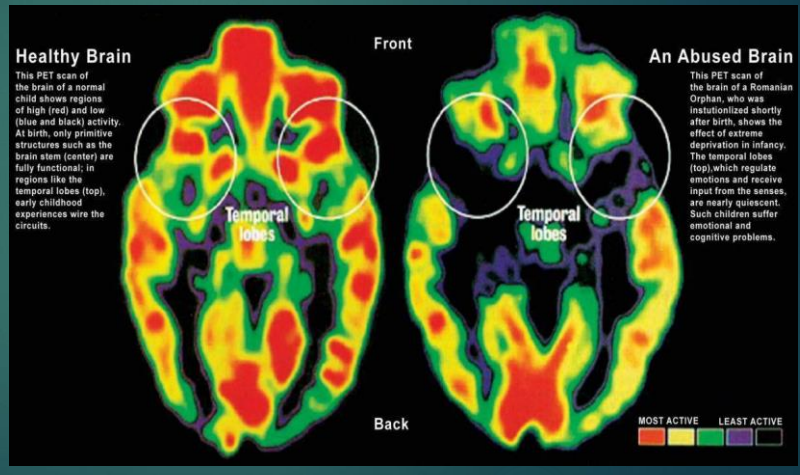


**If the threat continues or is repeated, the system stays on "red alert"**

**The brain releases chemicals that help the body to respond to the threat (fight, flight, freeze)**

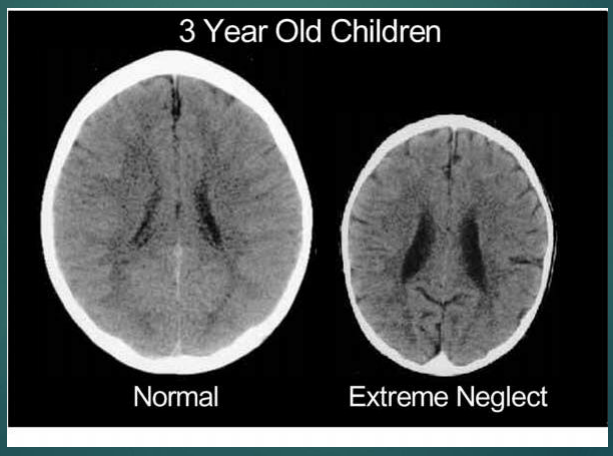
## Toxic Stress Can Affect Brain Development

- Organizational changes
- Brain chemistry imbalances
- Structural changes




Centers for Disease Control and Prevention

# Toxic Stress Can Affect Brain Development




(Perry, 2002)

# Toxic Stress Can Affect Brain Development

In a child's brain elevated catecholamines and cortisol may lead to:

- Loss of neurons
- Delays in myelination
- Deviant pruning processes
- Inhibiting of neurogenesis

(Lauder, 1988; Sapolsky, 1990; DeBellis et al., 2002; Dunlop et al., 1997; Tanapat et al., 1998; Bremner, 1999)

# Toxic Stress Can Affect Brain Functioning

In Maltreated Children

- Increased activation of ACC (inhibition, emotion, regulation)
- Decreased activation of hippocampus (avoidance, numbing)
- Institutionalized children (orphans) display increased amygdala and increased ACC activity (emotion and coping)

(McCrory et al., 2010)

# Psychobiological Mediation (Animal Studies)


(Suomi, 1991; Kraemer, 1992; McEwen, 1998; Meaney et al., 1988; Sapolsky et al., 1986)

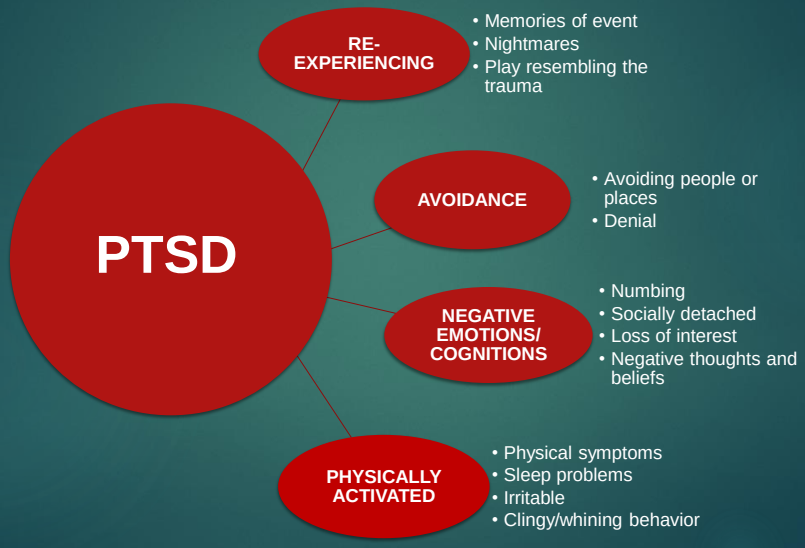
# Possible Mediators/Mechanisms

Trauma → • Shame
• Dissociation
• Impulse Control
• Anxiety
• Substance Use
• Cognitions
• Mood Instability → Psychopathology

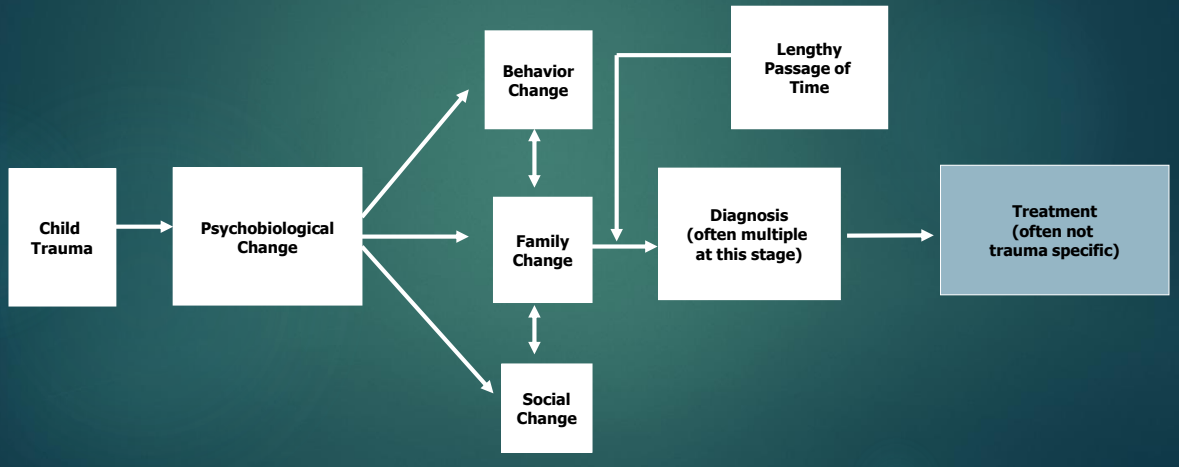
(Andrews, 1997; Kent et al., 1999; Hart & Waller, 2002; Murray & Waller, 2002; Wonderlich et al., 2001)

# Vicious Cycle Develops

# Common PTSD Reactions in Children




# PROCESS WITHOUT EARLY INTERVENTION



# Part III: Trauma Informed Care

## SAMSHA Trauma Informed Approach

A program, organization, or system that is trauma-informed:

- *Realizes the widespread impact of trauma and understands potential paths for recovery;*
- *Recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system;*
- *Responds by fully integrating knowledge about trauma into policies, procedures, and practices; and*
- *Seeks to actively resist re-traumatization.*

(Substance Abuse and Mental Health Services Administration, 2014)

# National Child Traumatic Stress Network's (NCTSN) Trauma-Informed Systems Definition

*A trauma-informed child- and family-service system is one in which:*

- ***All parties involved recognize and respond** to the impact of traumatic stress on those who have contact with the system including children, caregivers, and service providers.*
- *Programs and agencies within such a system **infuse and sustain trauma awareness**, knowledge, and skills into their organizational cultures, practices, and policies.*
- *They act in collaboration with all those who are involved with the child, using the best available science, to **facilitate and support the recovery and resiliency** of the child and family.*

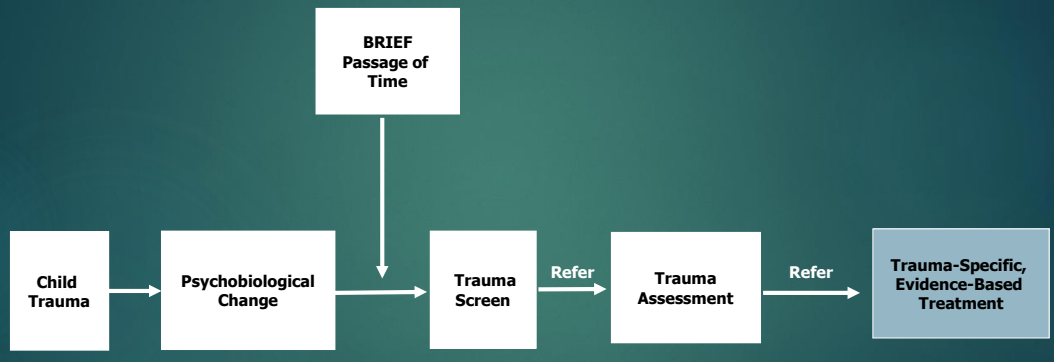
(NCTSN, n.d.)

# NCTSN's Trauma Informed Approach

1) *Routinely screen for trauma exposure and related symptoms;*
2) *Use culturally appropriate evidence-based assessment and treatment for traumatic stress and associated mental health symptoms;*
3) *Make resources available to children, families, and providers on trauma exposure, its impact, and treatment;*
4) *Engage in efforts to strengthen the resilience and protective factors of children and families impacted by and vulnerable to trauma;*
5) *Address parent and caregiver trauma and its impact on the family system;*
6) *Emphasize continuity of care and collaboration across child-service systems; and*
7) *Maintain an environment of care for staff that addresses, minimizes, and treats secondary traumatic stress, and that increases staff resilience.*

(NCTSN, n.d.)

# PROCESS WITH EARLY INTERVENTION




# Part IV: Next Steps

# Where to from here?

1. Screen for trauma exposure
2. Screen for trauma symptoms
3. Consider how trauma exposure and symptoms may be contributing to the presenting problem and overall clinical picture
4. Connect families with appropriate resources
5. Refer for further assessment to determine need for treatment with trauma-informed provider
6. Coordinate with mental health provider

# Questions??

# Thank You!

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