



Pacific Southwest (HHS Region 9)

PTTC

Prevention Technology Transfer Center Network

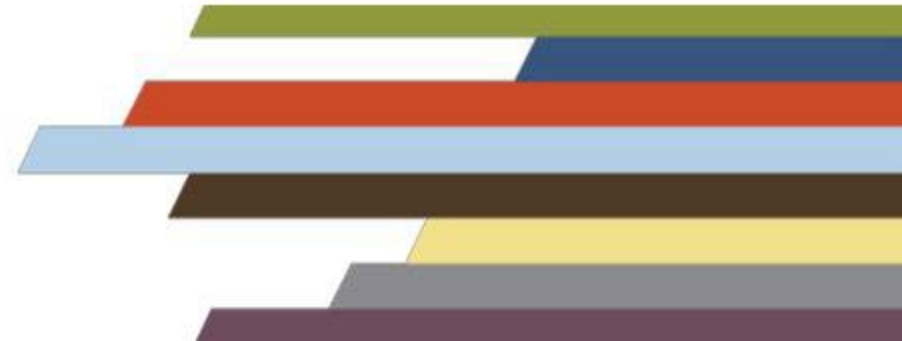
Funded by Substance Abuse and Mental Health Services Administration



# Preventing ACEs and their associated harms: Moving upstream and building resilience

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# Disclaimer

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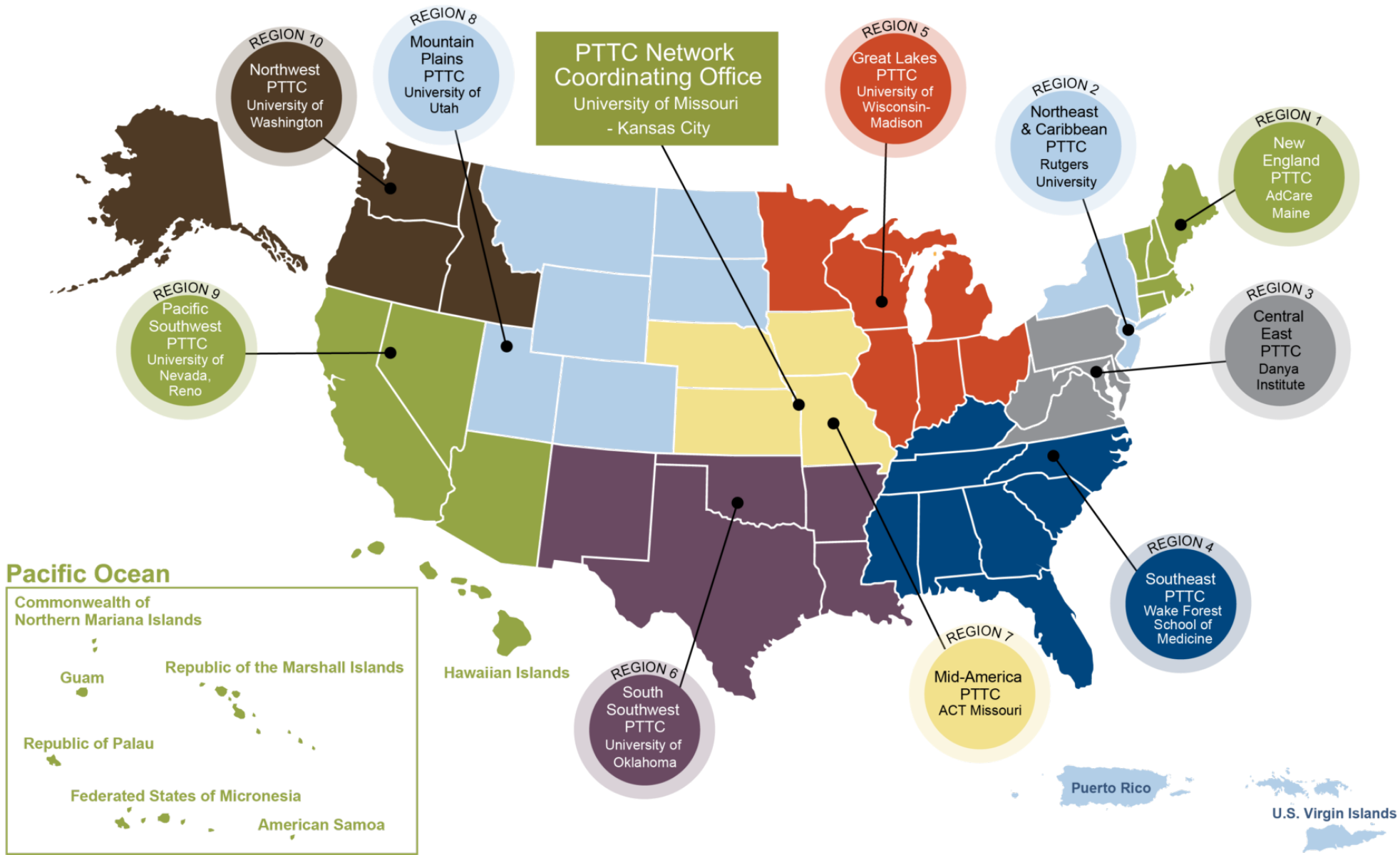
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# PTTC

Prevention Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration

## PTTC Network



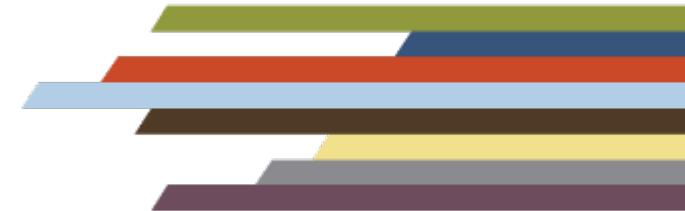
# Purpose of the TTCs

1

Develop and strengthen the **workforces** that provide substance use disorder and mental health disorder prevention, treatment, and recovery support services.

2

Help people and organizations incorporate **effective practices** into substance use and mental health disorder prevention, treatment and recovery services.



# PTTC Network Approach

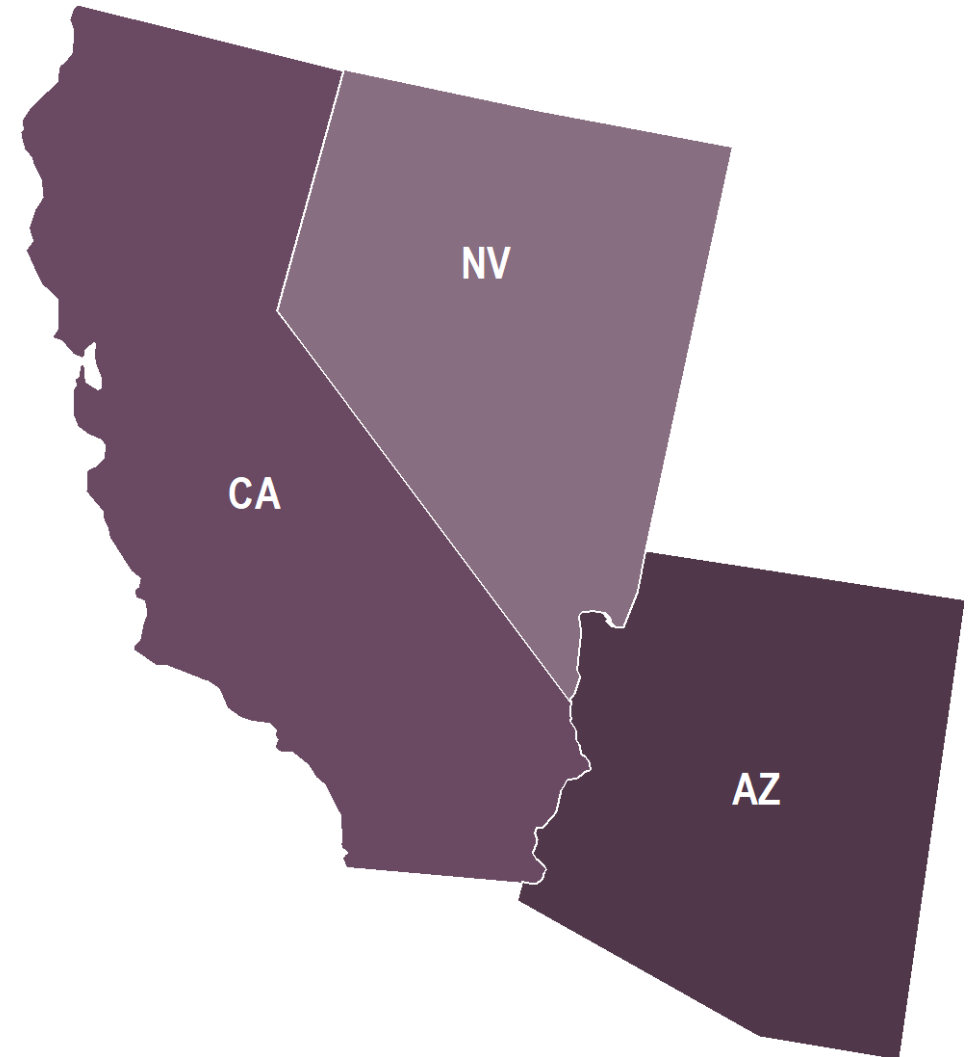
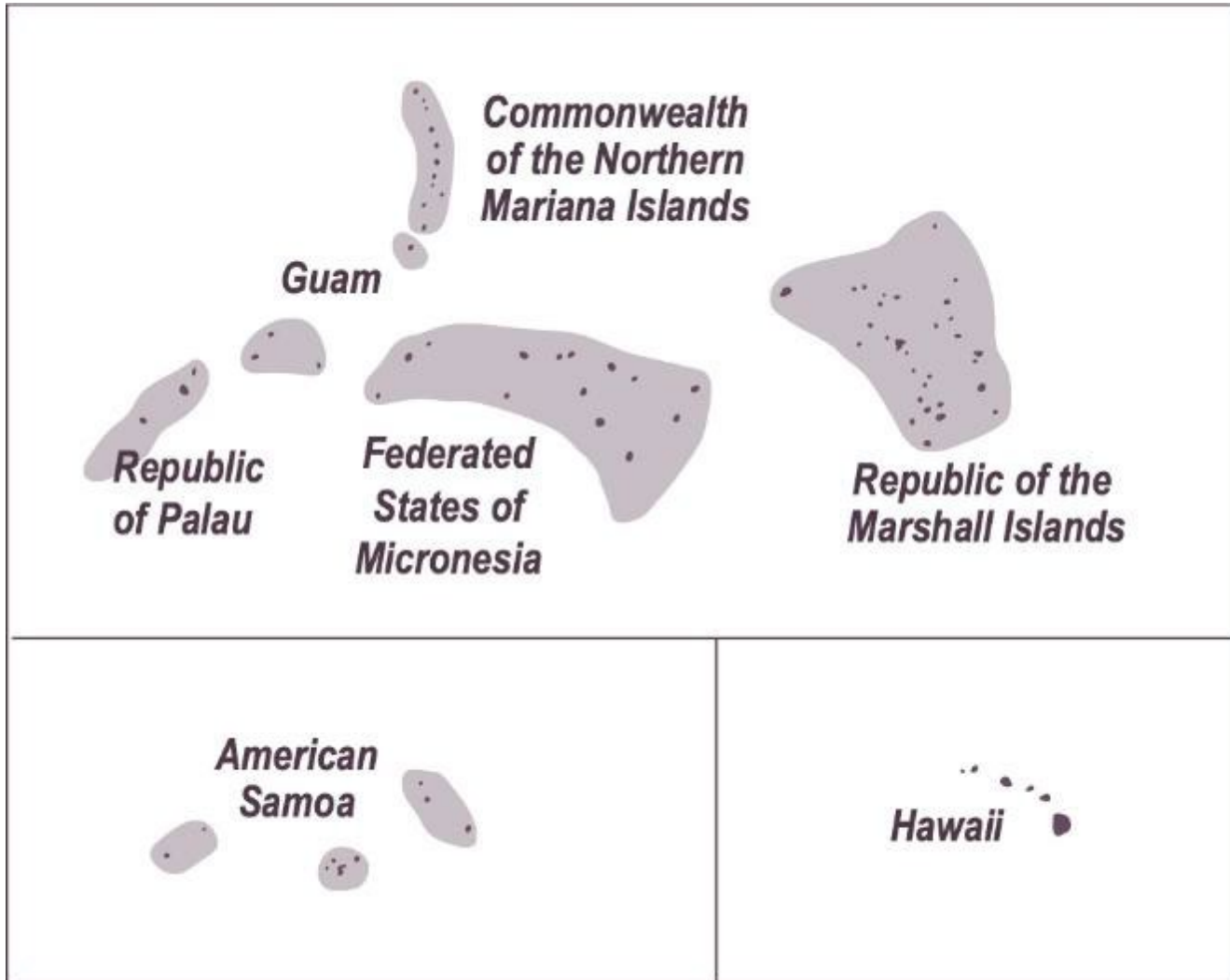
## ***The PTTCs...***

Develop and disseminate tools and strategies needed to improve the quality of substance abuse prevention efforts

Provide training and resources to prevention professionals to improve their understanding of

- prevention science,
- how to use epidemiological data to guide prevention planning, and
- selection and implementation of evidence-based and promising prevention practices.

Develop tools and resources to engage the next generation of prevention professionals







# Land acknowledgement

We acknowledge that the University of Nevada, Reno is situated on the traditional homelands of the Numu (Northern Paiute), Wašiw (Washoe), Newe (Western Shoshone), Nuwu (Southern Paiute) peoples. These lands continue to be a gathering place for Indigenous Peoples and we recognize their deep connections to these places. We extend our appreciation for the opportunity to live and learn on their territory.

# Housekeeping

- Webinar recording and materials
- Certificates of attendance







# Mark your calendar...

## **The Power of Prevention: Curriculum Infusion Packages to Prepare the Prevention Workforce**

Thursday, May 9

3:00 pm Pacific

### **Office Hours**

Every 3<sup>rd</sup> Thursday

11:00 am and 3:00 pm Pacific

# Presenter Bios



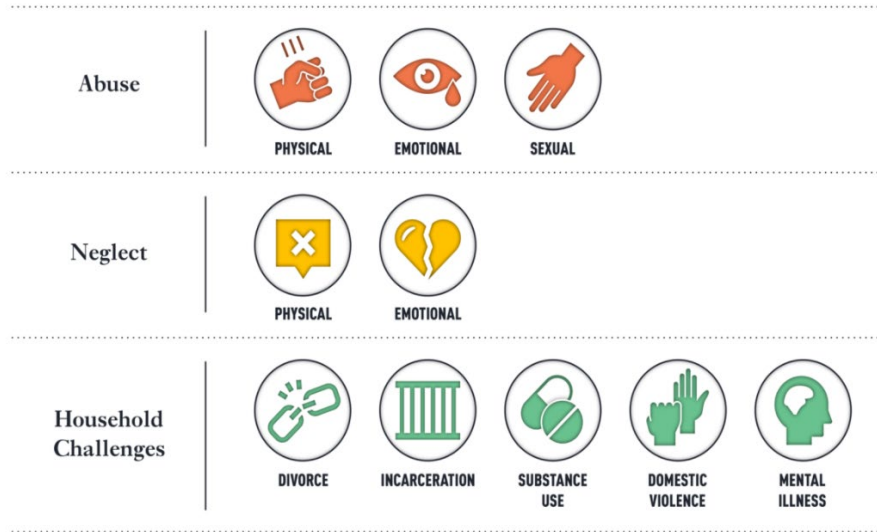


# Adverse Childhood Experiences

ACEs are disruptions to the promotion of safe, stable, and nurturing family relationships and are characterized by stressful or traumatic events that occur during an individual's first 18 years of life.



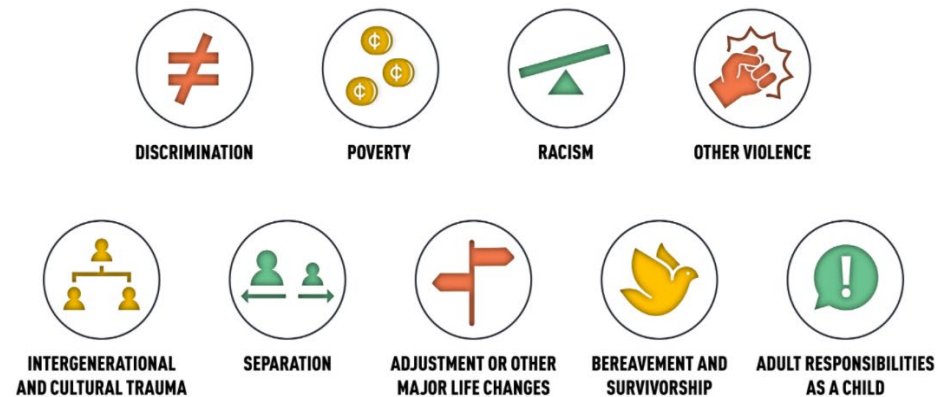
The Original 10 ACEs (Adverse Childhood Experiences)



# Original ACEs focus on individual experiences

Beyond the 10 ACEs

# Adversity goes beyond individual experiences





# The Pair of ACEs

## Adverse Childhood Experiences

Maternal Depression

Emotional & Sexual Abuse

Substance Abuse

Domestic Violence

Incarceration

Mental Illness

Divorce

Physical & Emotional Neglect

## Adverse Community Environments

Community Disruption

Lack of Opportunity, Economic Mobility, & Social Capital

Poor Housing Quality and Affordability

Poverty

Violence

Discrimination

# Types of Stress

## **1. Positive**

Brief increases in heart rate, mild elevations in stress hormone levels.

## **2. Tolerable**

Serious, temporary stress responses, buffered by supportive relationship

## **3. Toxic**

Prolonged activation of stress response systems in the absence of protective relationships.

# POSITIVE STRESS

Normal, typical childhood experiences

Common Stressors

Child care drop off  
and pick up



Playground injuries



Losing a game

Buffering

No buffering support  
necessary



Brain & Body

Temporary, mild elevation  
in stress hormones



Brief increase in heart rate  
and blood pressure

Long-term

Increased resiliency and  
confidence  
Coping skills development



## 1. Positive

Brief increases in heart rate, mild  
elevations in stress hormone levels.

## TOLERABLE STRESS

More complicated, scary, challenging, and long-lasting



Natural or manmade tragedy

Parents' divorce

Poverty



Death of a loved one



Common Stressors



Caring adult buffers stress

Buffering

More severe, continuing cardiovascular and hormonal response



Brain & Body



Adaption and recovery likely, but potential for lasting physical or emotional damage



Long-term

## 2. Tolerable

Serious, temporary stress responses, buffered by supportive relationships.



# TOXIC STRESS

Severe, long-lasting, uncontrollable, and/or frequent stress

Common Stressors



Physical, sexual, or mental abuse



Neglect

Exposure to violence



Severe economic hardship

Buffering



No adult buffers child from stress

Brain & Body



Prolonged activation of stress response system  
Disrupted development of brain circuits  
Immune system depression



Long-term

Possible lifelong changes, such as:



Heart disease  
Alcoholism



Memory, learning,  
multitasking difficulties



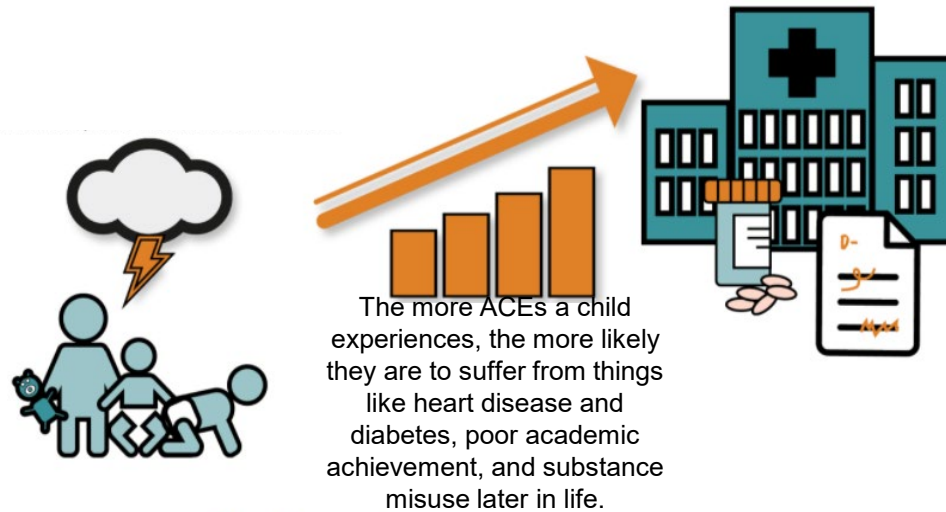
Anxiety/depression  
Cancer



## 3. Toxic

Prolonged activation of stress response systems in the absence of protective relationships.

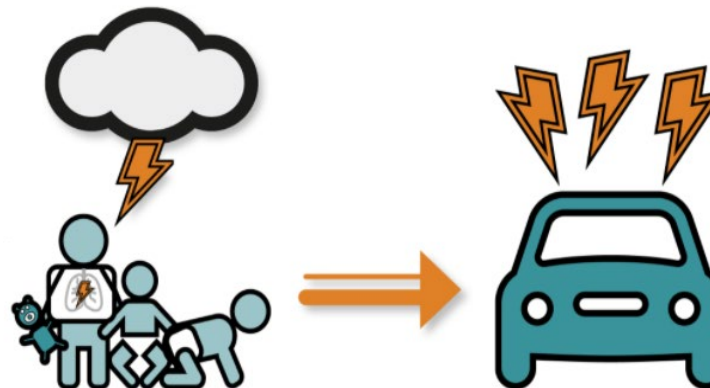
# How do ACEs Relate to Toxic Stress



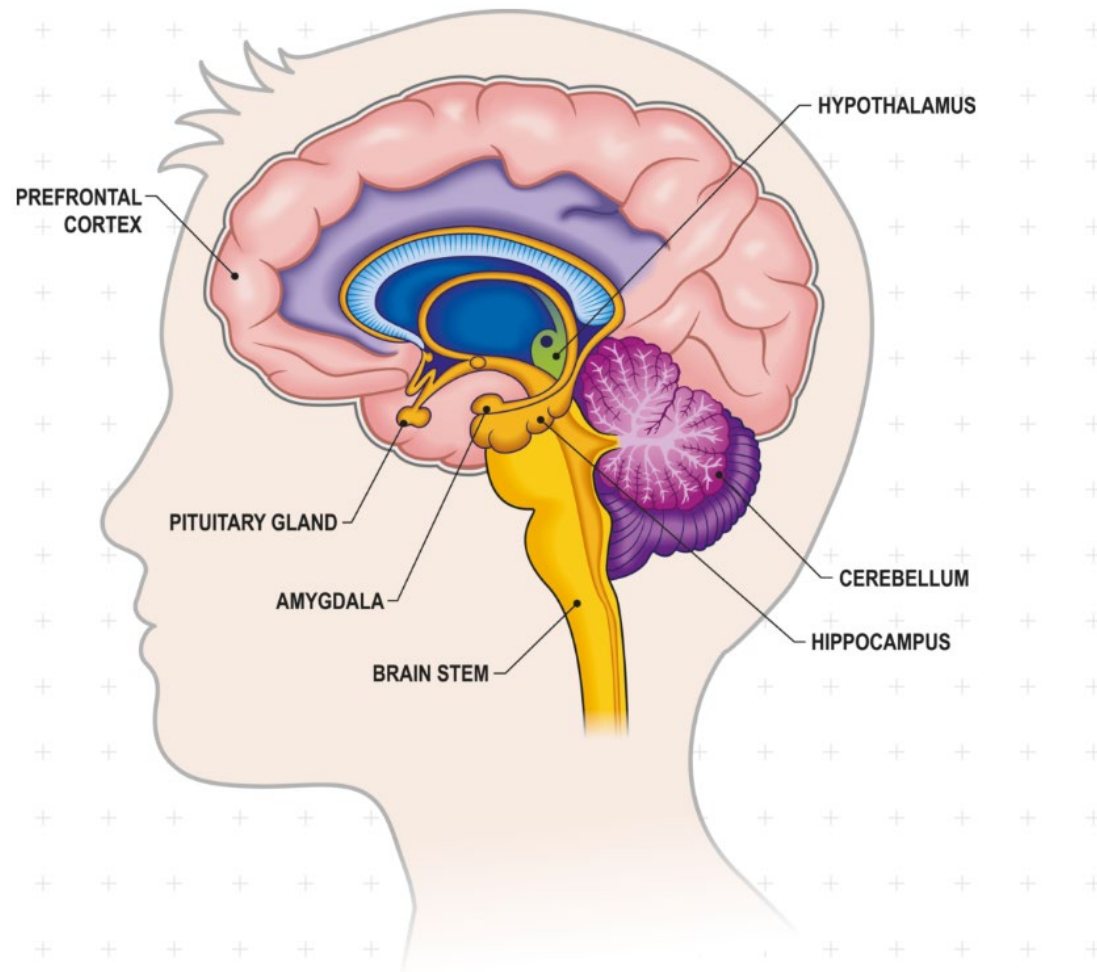
## TOXIC STRESS EXPLAINS HOW ACEs "GET UNDER THE SKIN."

Experiencing many ACEs, as well as things like racism and community violence, without supportive adults, can cause what's known as **toxic stress**.

This excessive activation of the stress response system can lead to long lasting wear and tear on the body and the brain.

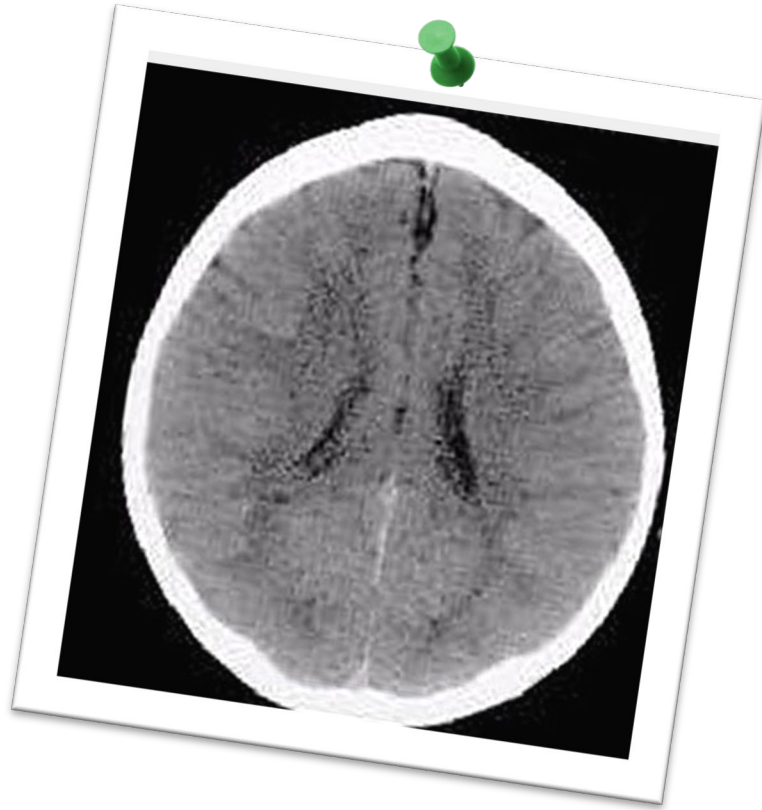


The effect would be similar to revving a car engine for days or weeks at a time.

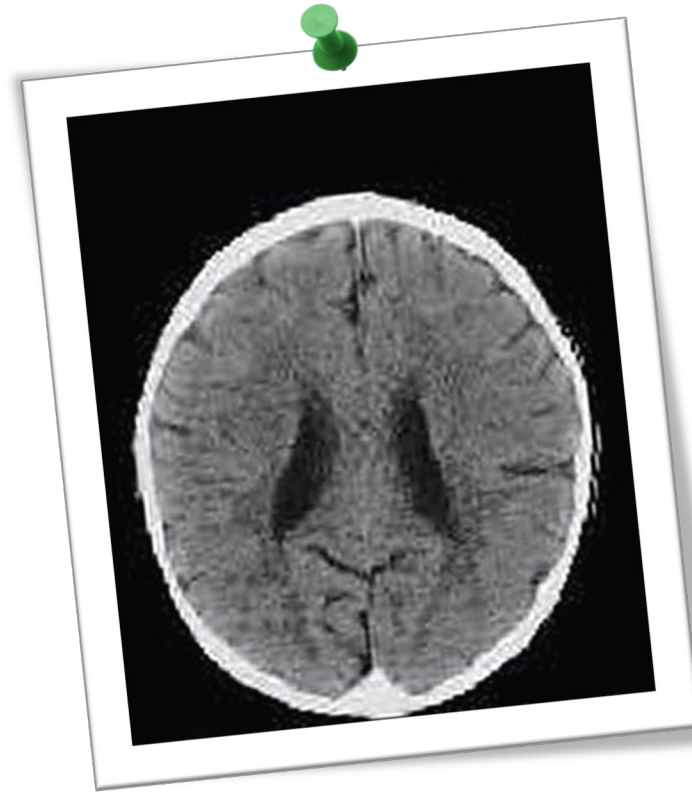


# 3-year-old children

Typical



Extreme Neglect



Perry, BD and Pollard, D. Altered brain development following global neglect in early childhood. Society For Neuroscience: Proceedings from Annual Meeting ,New Orleans, 1997



# WHAT IS EPIGENETICS?

## AND HOW DOES IT RELATE TO CHILD DEVELOPMENT?

“Epigenetics” is an emerging area of scientific research that shows how environmental influences—children’s experiences—actually affect the expression of their genes.



This means the old idea that genes are “set in stone” has been disproven. Nature vs. Nurture is no longer a debate. It’s nearly always both!

During development, the DNA that makes up our genes accumulates chemical marks that determine how much or little of the genes is expressed. This collection of chemical marks is known as the “epigenome.” The different experiences children have rearrange those chemical marks. This explains why genetically identical twins can exhibit different behaviors, skills, health, and achievement.



# EPIGENETICS EXPLAINS HOW EARLY EXPERIENCES CAN HAVE LIFELONG IMPACTS.



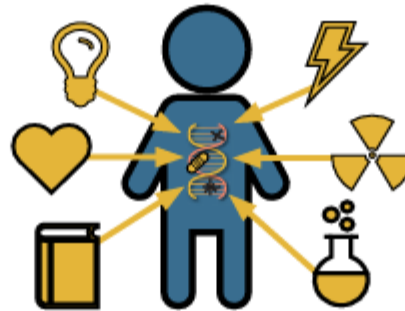
The genes children inherit from their biological parents provide information that guides their development. For example, how tall they could eventually become or the kind of temperament they could have.



When **EXPERIENCES** during development rearrange the epigenetic marks that govern gene expression, they can change whether and how genes release the information they carry.



Thus, the epigenome can be affected by positive experiences, such as supportive relationships and opportunities for learning...

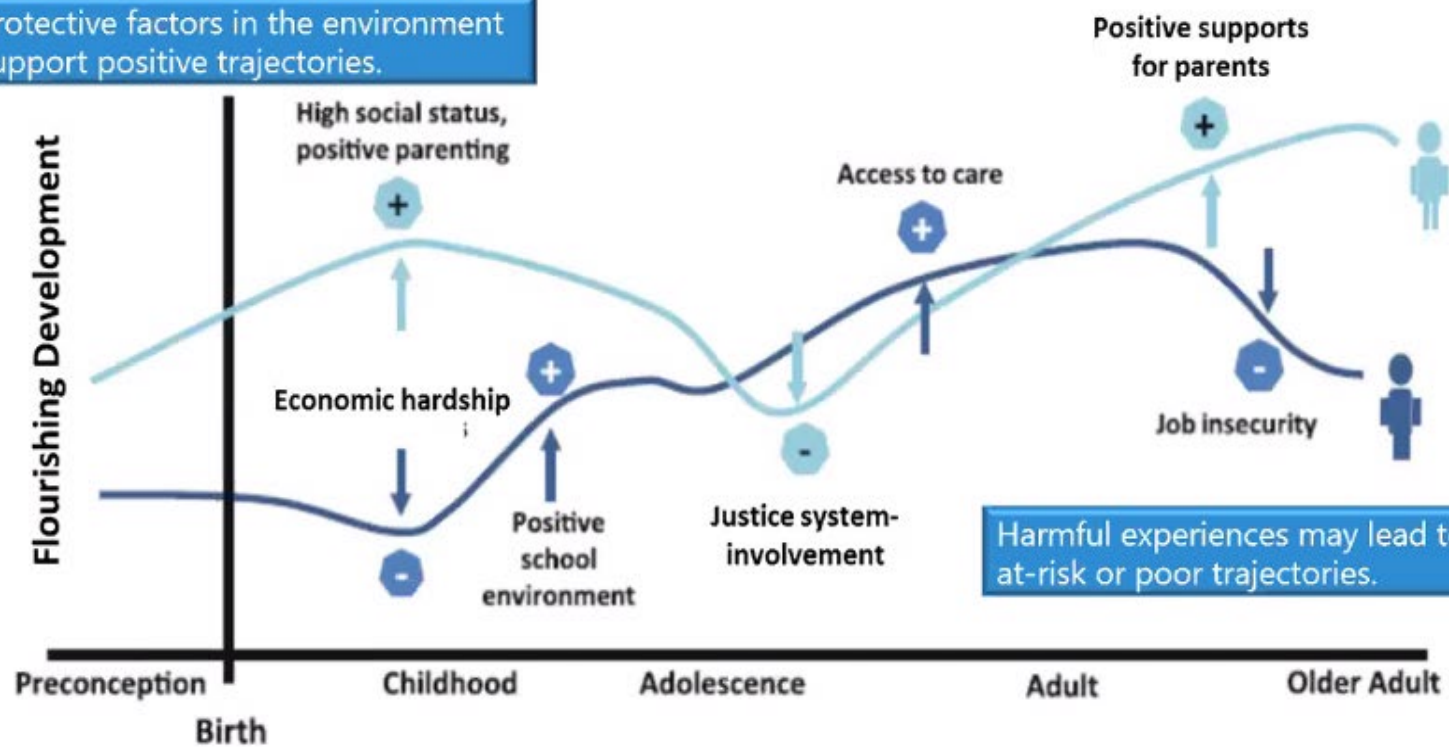


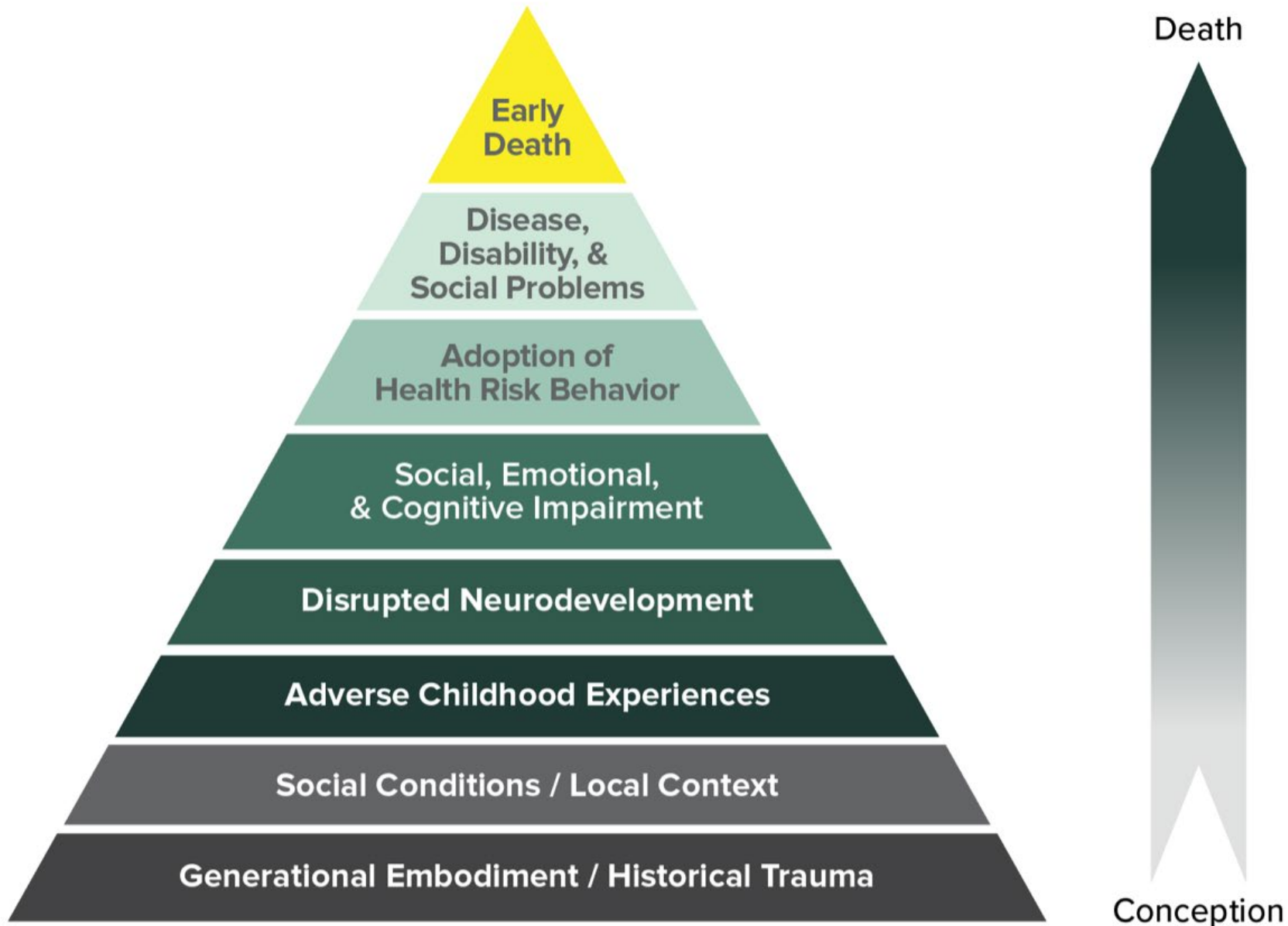
... or negative influences, such as environmental toxins or stressful life circumstances ...

... which leave a unique epigenetic “signature” on the genes. These signatures can be temporary or permanent and both types affect how easily the genes are switched on or off. Recent research demonstrates that there may be ways to reverse certain negative changes and restore healthy functioning. But the very best strategy is to support responsive relationships and reduce stress to build strong brains from the beginning.

## Epigenetics: Environmental Influences that Shape Adolescent Development

Protective factors in the environment support positive trajectories.





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

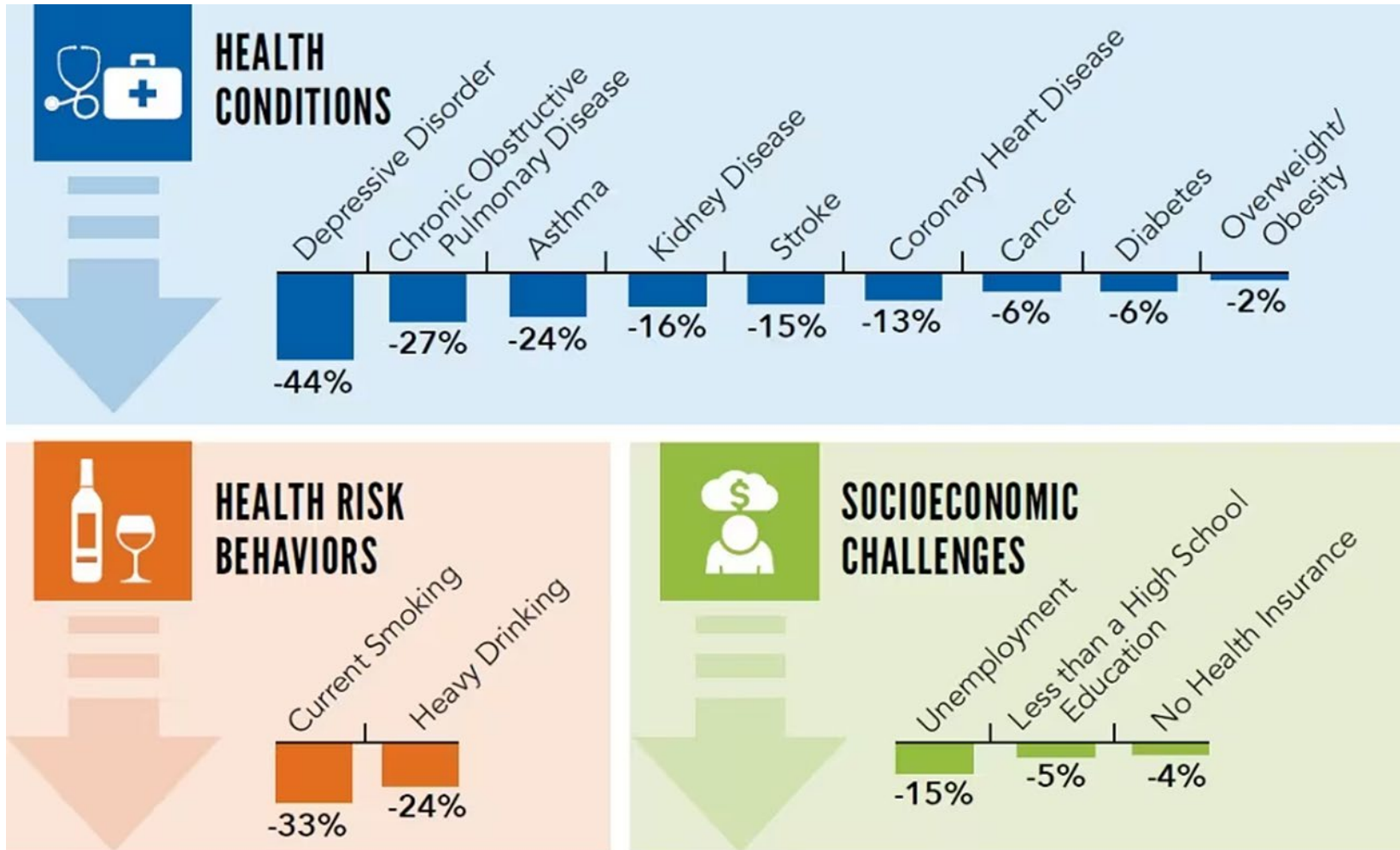


# How Prevalent are ACEs among Adults?



SOURCE: BRFSS 2015-2017, 25 states, CDC Vital Signs, November 2019.

# Potential Reduction of Negative Outcomes in Adulthood

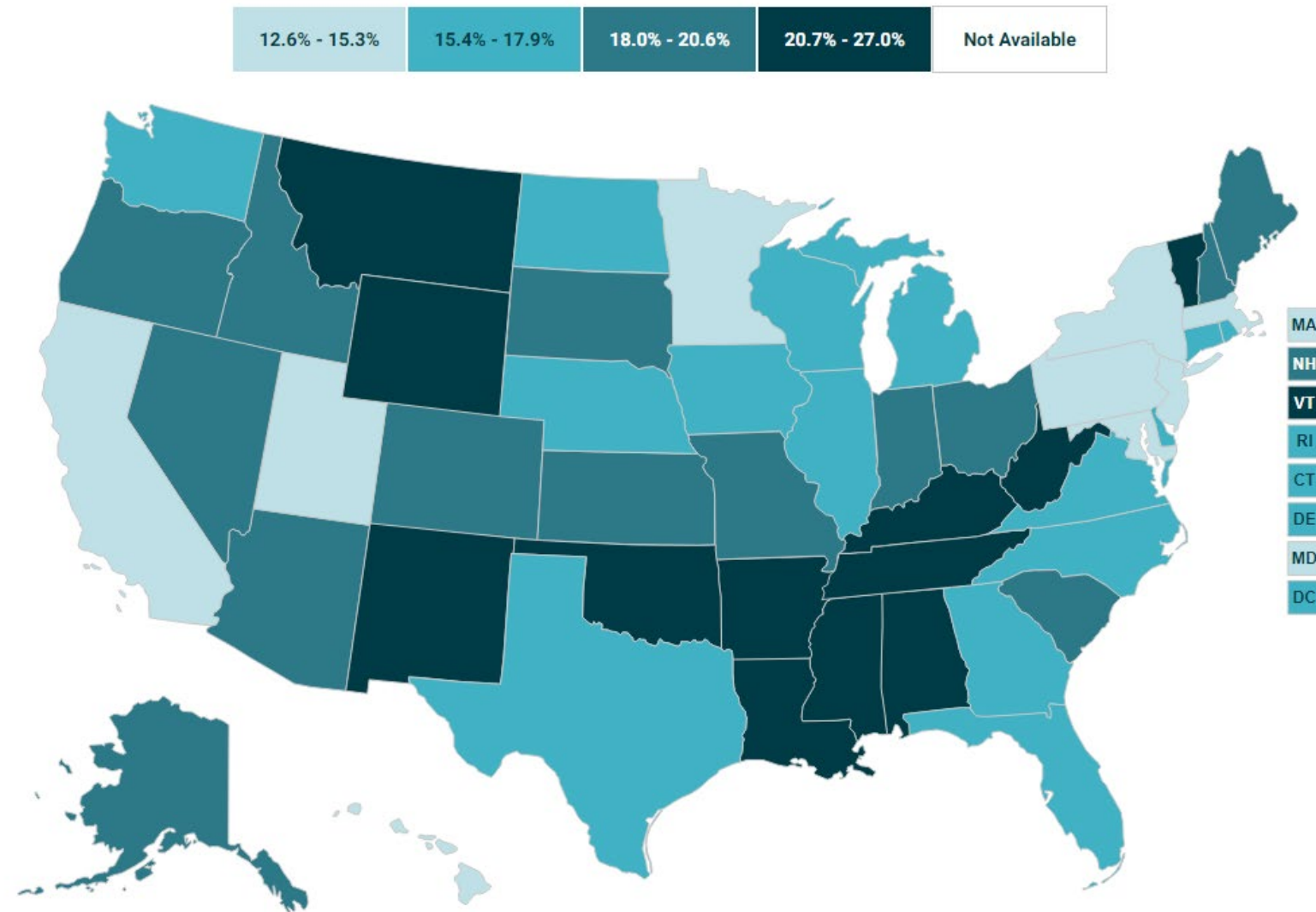


SOURCE: BRFSS 2015-2017, 25 states, CDC Vital Signs, November 2019.

# What About Child/Adolescent ACE Data?

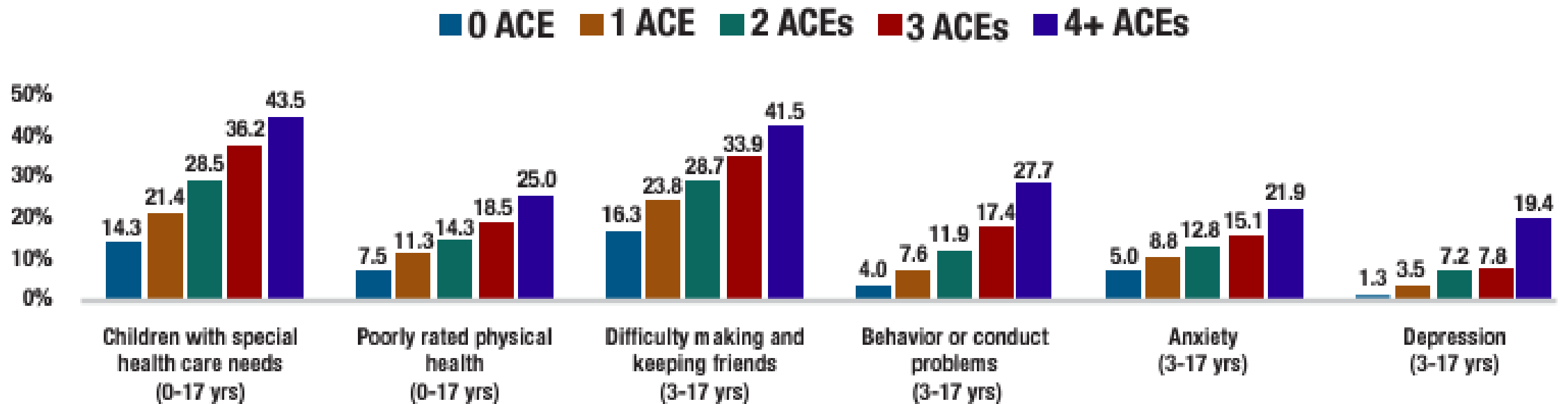
- National Survey of Children's Health (NSCH)
  - Survey with parents/caregivers
  - National survey, but state-level estimates available
  - No questions about abuse or neglect
- Youth Risk Behavior Survey (YRBS)
  - Some states have monitored ACEs for many years
  - An increasing number of states and jurisdictions are adopting a standardized ACE module (financial incentive)

# NSCH: Percent of Children with 2+ ACEs (2020-2021)



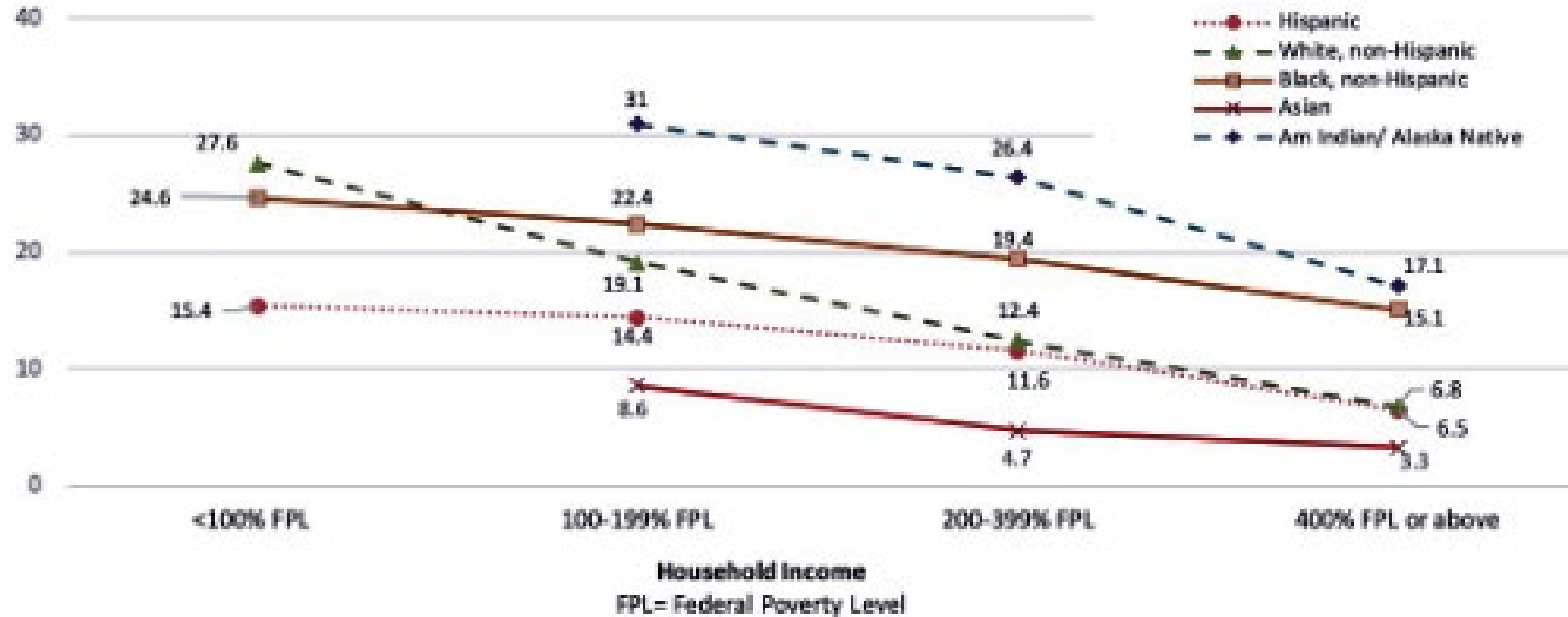


# NSCH: ACEs and Poor Health Outcomes



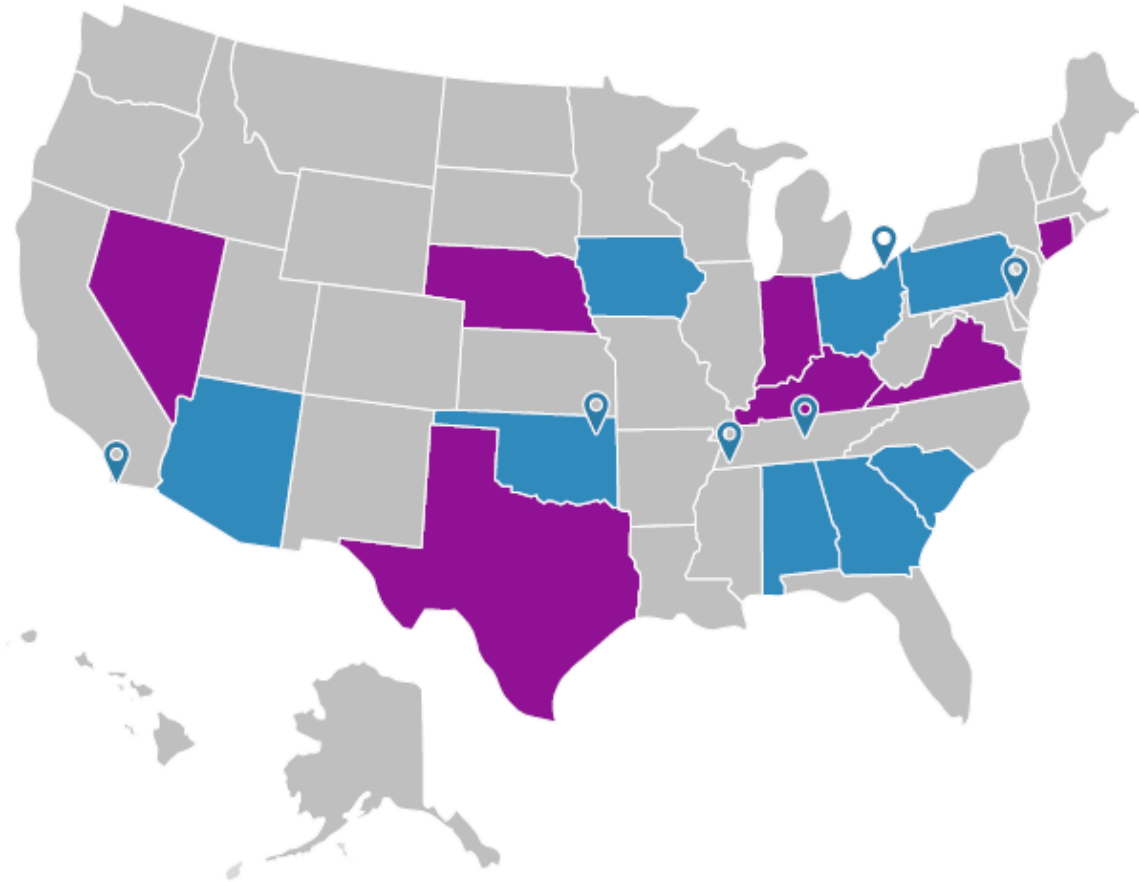
Source: National Survey of Children's Health Adverse Childhood Experiences, 2017-2018 Data Brief | June 2020

# NSCH: Children with 2+ ACEs (2017-2018)



Source: National Survey of Children's Health Adverse Childhood Experiences, 2017-2018 Data Brief | June 2020

# YRBS ACE Surveillance

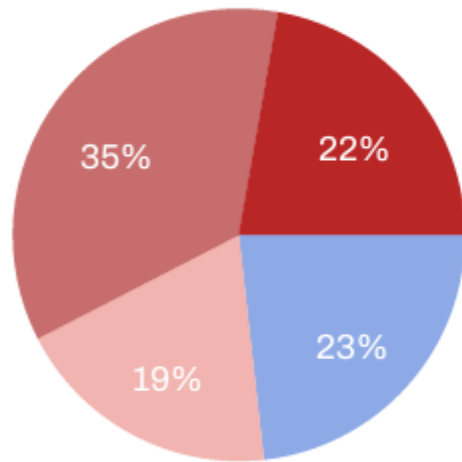


Included 8 CDC-developed ACEs questions on their YRBS questionnaire in 2021

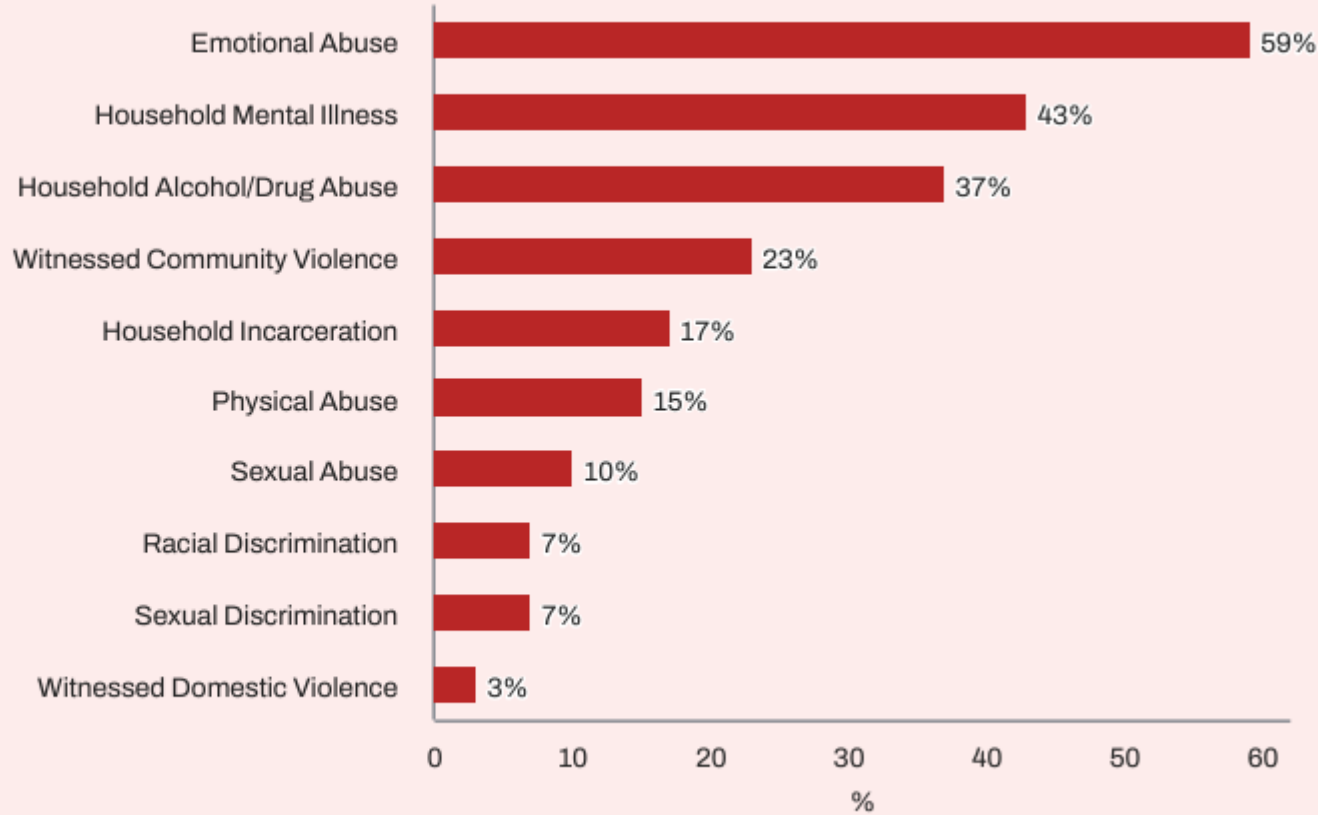
Included 16 CDC-developed ACE/PCEs questions on their YRBS questionnaire in 2021

# Arizona High School YRBS - 2021

## Prevalence of ACEs in Adolescents in Arizona



0 ACE 1 ACE  
2-3 ACE 4+ ACEs






# Ohio High School YRBS - 2021



**56%** of **Black** Ohio high school students have experienced **4 or more ACEs** in their lifetime.



**27%** of **White** Ohio high school students have experienced **4 or more ACEs** in their lifetime.

**14%** of Ohio high school students who have experienced **0 ACEs** currently drink alcohol.

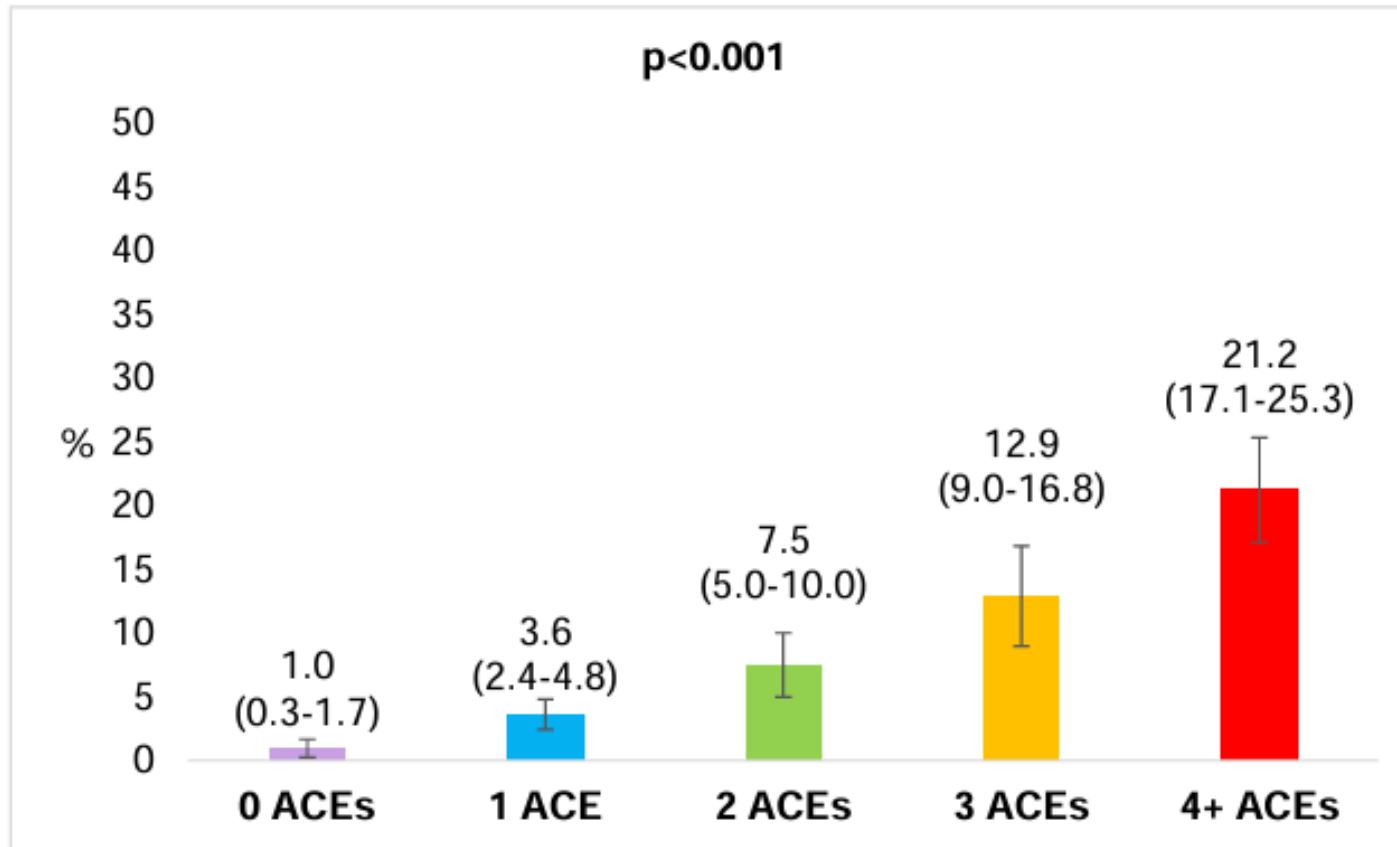


**36%** of Ohio high school students who have experienced **4 or more ACEs** currently drink alcohol.



# Nevada Middle School YRBS - 2021

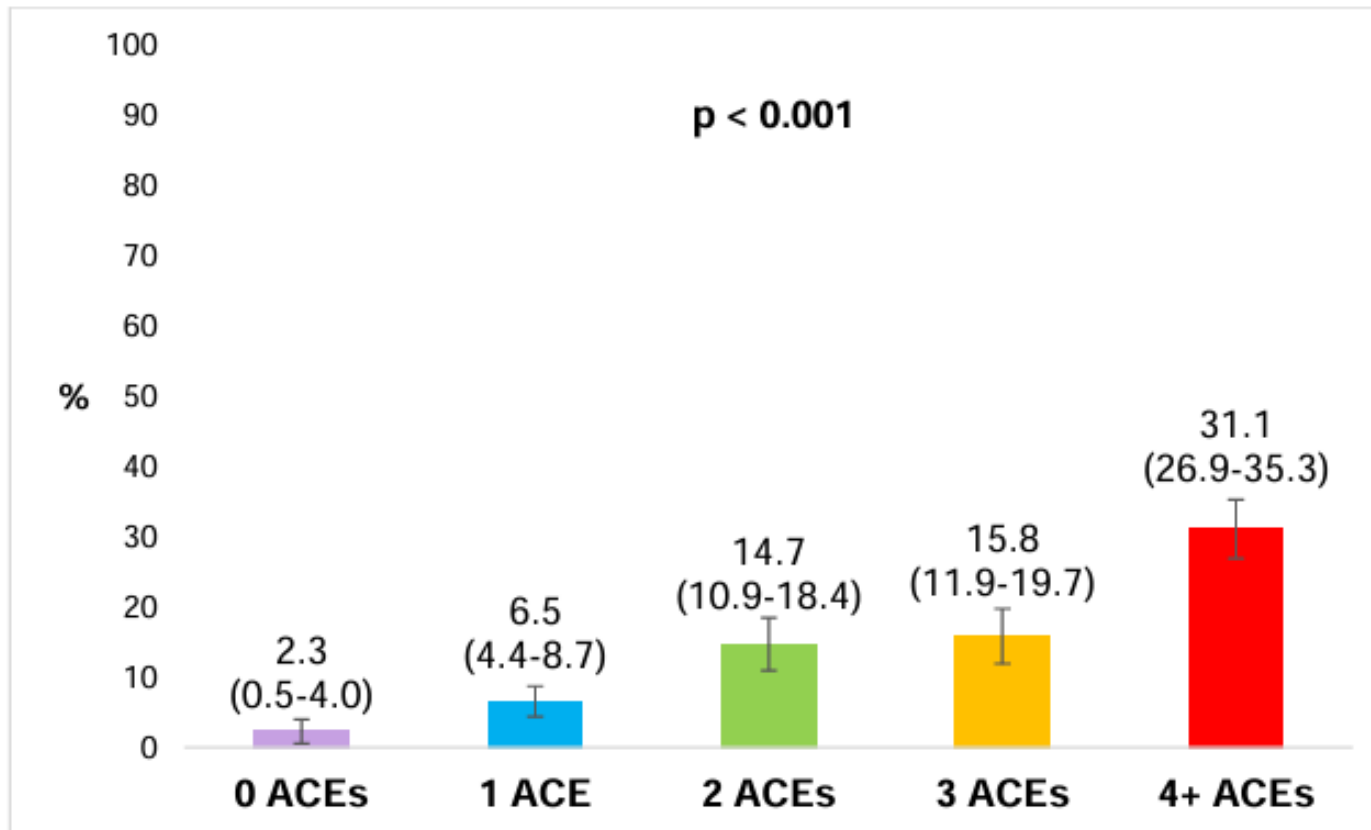
**Figure 20: Percentage of middle school students who had at least one drink of alcohol during the 30 days before the survey, by ACE score<sup>a</sup> — Nevada YRBS 2021**



<sup>a</sup> One or more days during the 30 days before the survey

# Nevada High School YRBS - 2021

**Figure 22: Percentage of high school students who used an electronic vapor product to vape marijuana during the 30 days before the survey, by ACE score<sup>a,b,c</sup> — Nevada YRBS 2021**



<sup>a</sup> Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens, and mods such as 'JUUL', 'SMOK', 'Suorin', 'Vuse',

# What Can Do to Prevent ACEs?

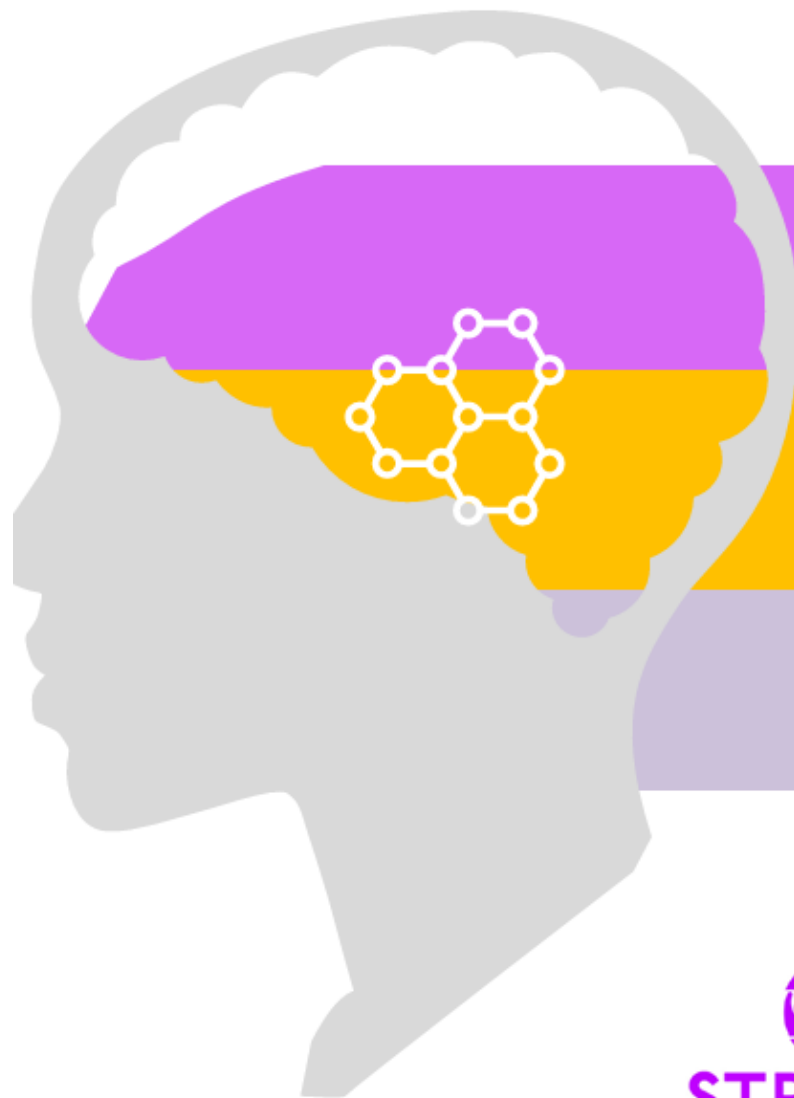




# ACE Screening & Referral

- Screening for ACEs can help primary care clinicians assess risk for toxic stress and guide effective responses.
  - Sensitive and effective screening can be integrated into a routine clinical appointment in approximately 10 minutes
  - Parents report that ACEs screening is acceptable and helpful to their children's care,
  - Addressing ACEs in standard pediatric care affords an opportunity to improve health outcomes for children .
- To receive payment for conducting ACE screenings, clinical team members sometimes must use specific screening tools
- Tools are DIFFERENT for:
  - children,
  - adolescents,
  - and adults.

# Limitations of Population-Level ACE Data



## **“All traumas are not created equal”**

ACEs are weighted equally;

ACE score assumes that ACEs are equally traumatic

Differential experience of trauma;  
wide variation in stress response

## **Much of the existing data is cross-sectional**

More longitudinal studies needed

Conventional ACE questionnaire does not capture community contexts and social injustices/stressors, i.e. racism

# ACE Screening: Important Considerations

- Screening has benefits when we have interventions that mitigate potential harmful outcomes
  - Wide range of potential interventions needed for specific ACE types; costs and skill of workforce in some settings may be prohibitive/limited
  - While referral of 'high ACE scorers' to behavioral health providers may have benefit, evidence is limited
- ACEs questions may be seen as intrusive, and carry stigma
- Risk for overtreatment
- Mandatory child abuse reporting may contribute to underreporting of ACEs, and/or inquiries about ACEs (even ACE score) may provoke suspicion of abuse
- Usefulness of a screening tool depends on it's accuracy (sensitivity and specificity) and potential to inform clinical decision-making, enhance receipt of care, and promote health

# ACE Screening: Important Knowledge Gaps

- Provider perspectives about ACEs screening have not been fully elucidated
- Measuring the accuracy (sensitivity, specificity, predictive value) of tools
- Further research examining benefits of universal ACEs screening in pediatric primary care is needed
- How best to screen in ways that minimize stigma and underreporting
  - Explain the rationale for the questionnaire and limits of confidentiality
  - Discuss the results
  - Collaborate on treatment planning
  - Also screen for Positive Childhood Experiences



# Promote Positive Childhood Experiences (PCEs)

PCEs stem from safe, stable, nurturing relationships and environments, and have the power to prevent or protect children from ACEs



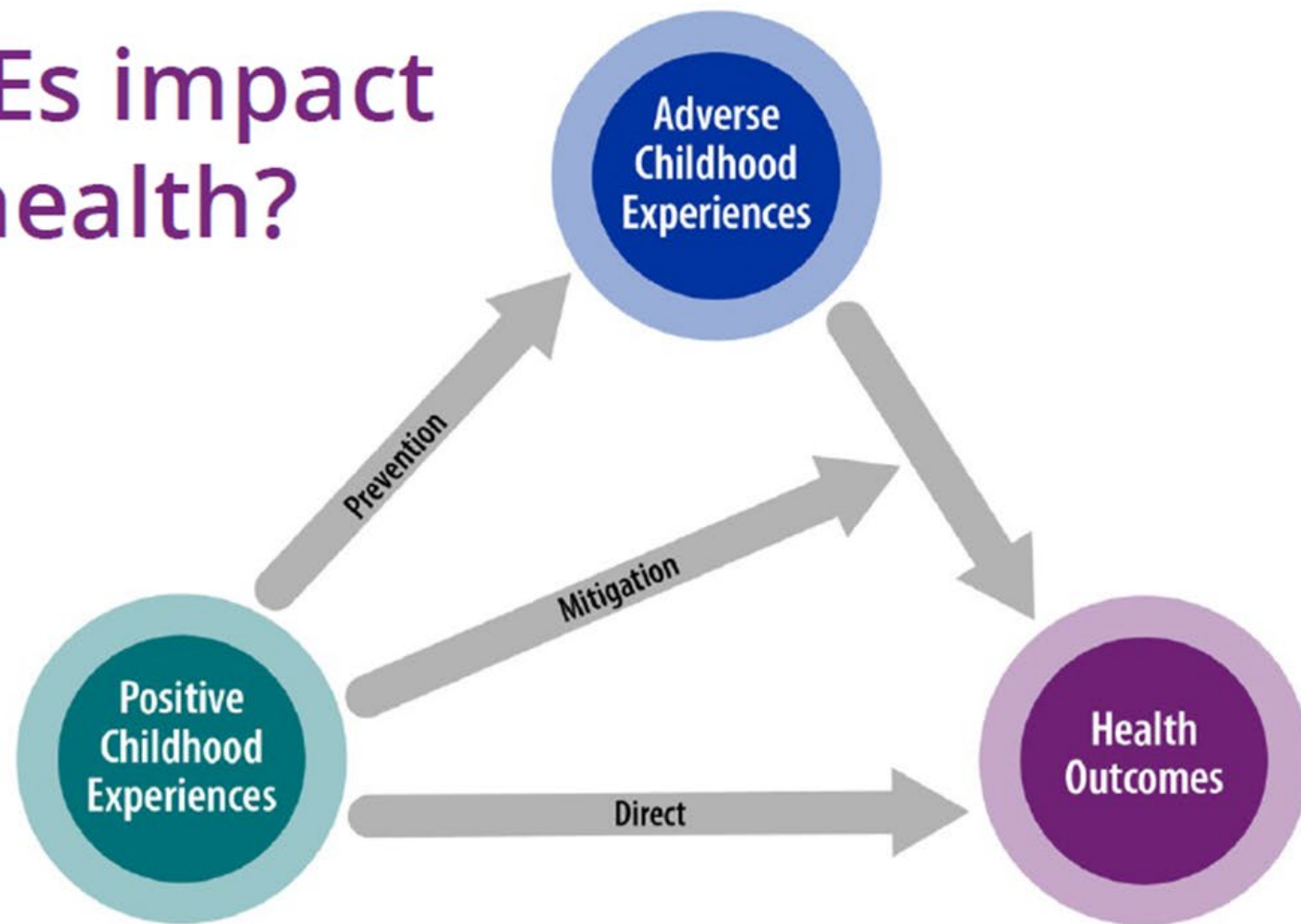
## What are **Positive Childhood Experiences (PCEs)**?



Research shows that when PCEs are **actively promoted** during early childhood, adult mental health risks are significantly **reduced!**



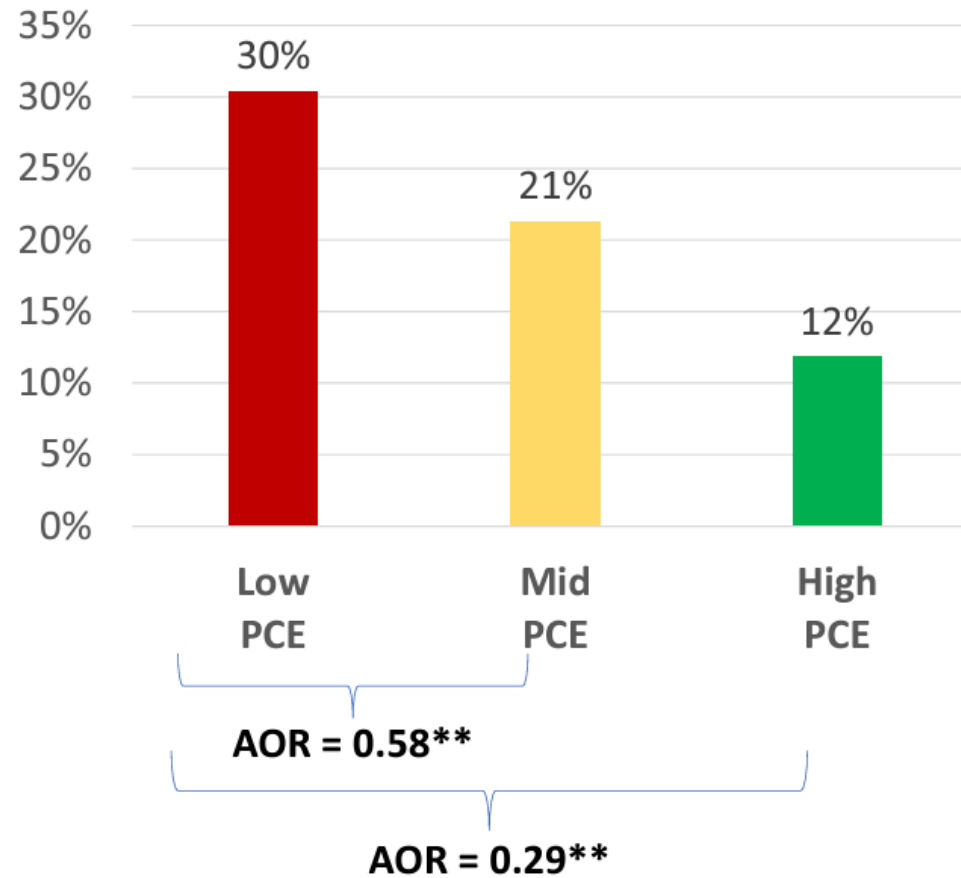
# How do PCEs impact children's health?



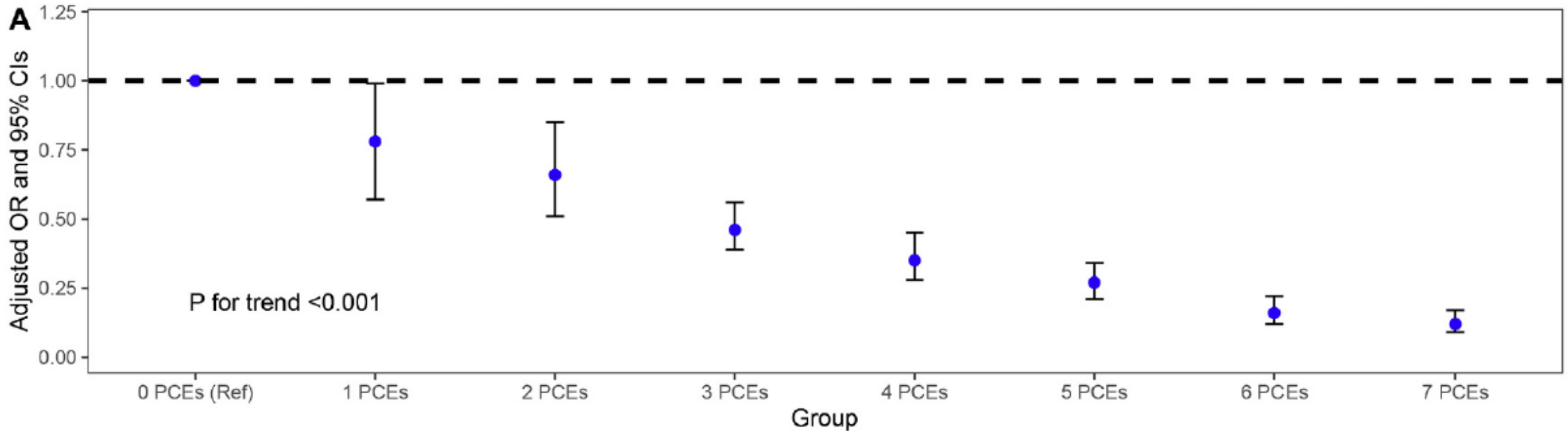


## PCEs and Substance Use Behaviors: Illicit Drug Use

### Lifetime Use of Any Illicit Drug



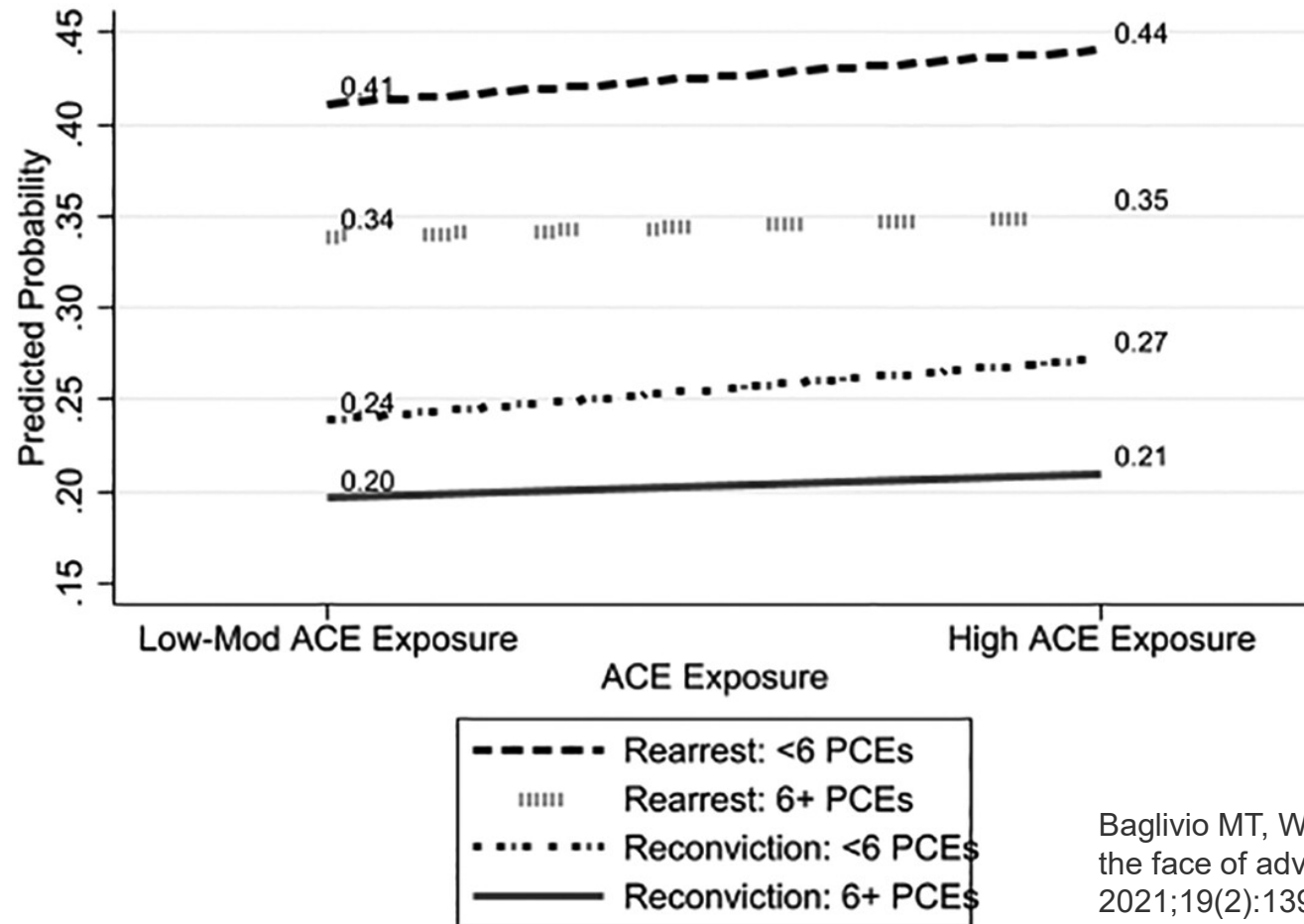
# Association Between Cumulative PCE Exposure and Adolescent Depression



Qu G et al. Positive childhood experiences can moderate the impact of adverse childhood experiences on adolescent depression and anxiety: Results from a cross-sectional study. *Child Abuse & Neglect*. 2022;125.



# PCEs Buffer Relationship Between ACE Exposure & Youth Rearrest/Reconviction




Baglivio MT, Wolff KT. Positive childhood experiences (PCE): Cumulative resiliency in the face of adverse childhood experiences. Youth Violence and Juvenile Justice. 2021;19(2):139–162.

# Sources of PCE Data

- Behavioral Risk Factor Surveillance System (BRFSS)
  - Some states have added a 7-item PCE module
- National Survey of Children's Health (NSCH)
  - After school activities, community volunteer, guiding mentor, connected caregiver, safe neighborhood, resilient family
- Youth Risk Behavior Survey (YRBS)
  - Supportive adult, supportive friends, sense of belonging at school
  - States add other PCEs as well (e.g., participation in school activities, feeling safe and protected by an adult in the home)
- Local School Climate Surveys

## Promote Positive Experiences

**Healthy and happy childhoods start now. Learn how you can help!** Children and families thrive when they have access to safe, stable, nurturing relationships and environments. These relationships and environments are essential to creating positive childhood experiences and preventing adverse childhood experiences.

 <b>Preventing ACEs</b>	
Strategy	Approach
<b>Strengthen economic supports to families</b>	<ul style="list-style-type: none"> <li>• Strengthening household financial security</li> <li>• Family-friendly work policies</li> </ul>
<b>Promote social norms that protect against violence and adversity</b>	<ul style="list-style-type: none"> <li>• Public education campaigns</li> <li>• Legislative approaches to reduce corporal punishment</li> <li>• Bystander approaches</li> <li>• Men and boys as allies in prevention</li> </ul>
<b>Ensure a strong start for children</b>	<ul style="list-style-type: none"> <li>• Early childhood home visitation</li> <li>• High-quality child care</li> <li>• Preschool enrichment with family engagement</li> </ul>
<b>Teach skills</b>	<ul style="list-style-type: none"> <li>• Social-emotional learning</li> <li>• Safe dating and healthy relationship skill programs</li> <li>• Parenting skills and family relationship approaches</li> </ul>
<b>Connect youth to caring adults and activities</b>	<ul style="list-style-type: none"> <li>• Mentoring programs</li> <li>• After-school programs</li> </ul>
<b>Intervene to lessen immediate and long-term harms</b>	<ul style="list-style-type: none"> <li>• Enhanced primary care</li> <li>• Victim-centered services</li> <li>• Treatment to lessen the harms of ACEs</li> <li>• Treatment to prevent problem behavior and future involvement in violence</li> <li>• Family-centered treatment for substance use disorders</li> </ul>

At work...

At home....

In your neighborhood...

*Think...*

**How can we work together to create positive experiences for each other?**

*...then make it happen!*



# Example 1: Expand Family Friendly Workplace Policies



POLICY 1

Company-paid  
Health Care  
Coverage



POLICY 2

Paid Time  
Off



POLICY 3

Parental  
Leave



POLICY 4

Nursing  
Benefits



POLICY 5

"Best Place"  
Designation



POLICY 6

Onsite Child  
Care



POLICY 7

Child Care  
Assistance



POLICY 8

Backup Child  
Care



POLICY 9

Flexible  
Hours



POLICY 10

Working  
Remotely



# Example 2: Public Education Campaign

## Children and Mental Health

Is this just  
a stage?

**Know when to seek  
help for your child.**



[nimh.nih.gov/children](https://nimh.nih.gov/children)



# LEVEL UP

**YOUR PARENTING GAME!**

Get winning ideas to level up your parenting from:  
[www.GreenvilleParents.com](http://www.GreenvilleParents.com)



# Example 3: Parenting Classes

## Local Parenting Resources


 English  Español



CLASSES MAY BE OFFERED VIRTUAL OR IN-PERSON

### [Boys Town](#)

Focuses on skills for toddlers, preschoolers and children ages 6-16.

[More information](#) 



### [Cappalappa Family Resource Center](#)

Emphasize skills for children ages 1-18.



“What happens in childhood does not stay in childhood.”

Adverse experiences in childhood are **NOT** destiny, but for many children, significant adversity bends life-course trajectories for the worse.

Relational health, in the form of at least one SSNR (Safe Stable Nurturing Relationship), is a universal, biological imperative for children:

- to fulfill their potential;
- to be healthy and resilient;
- to be successful academically, economically, and socially;
- **and, perhaps most importantly, to be the caregivers that value and build SSNRs with subsequent generations.**

# Post-Webinar Feedback

Please click on the link in the chat to complete a very brief online feedback form!

*Thank you!*



# Connect with us!

Find us on the web: [www.pspttc.org](http://www.pspttc.org)

Join our mailing list: <http://eepurl.com/glssWD>

Email with general questions: [pspttc-info@casat.org](mailto:pspttc-info@casat.org)

Like us on Facebook: <https://tinyurl.com/PSPTTC-Facebook>

Follow us on Twitter: [https://twitter.com/PS\\_PTTC](https://twitter.com/PS_PTTC)

Call us toll-free: 1-833-9SW-PTTC

# Pacific Southwest PTTC Contact Information

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Pacific Southwest (HHS Region 9)

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**PTTC**

Prevention Technology Transfer Center Network

Funded by Substance Abuse and Mental Health Services Administration

# Thank You!

# CASAT



Center for the Application of  
Substance Abuse Technologies

UNIVERSITY OF NEVADA, RENO

