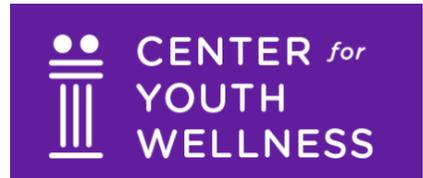




## ACEs & Childhood Trauma: Pediatric Opportunities

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Chief Medical Officer



## Disclosure

- Neither I nor any member of my immediate family has a financial relationship or interest (currently or within the past 12 months) with any proprietary entity producing health care goods or services consumed by, or used on, patients related to the content of this CME activity.
- I do not intend to discuss an unapproved/investigative use of a commercial product/device.



# Original Adverse Childhood Experiences (ACEs)

## ABUSE



Physical



Sexual



Emotional

## NEGLECT



Physical



Emotional

## HOUSEHOLD INSTABILITY



Mental Illness



Incarcerated  
Relative



Divorce



Mother Treated  
Violently



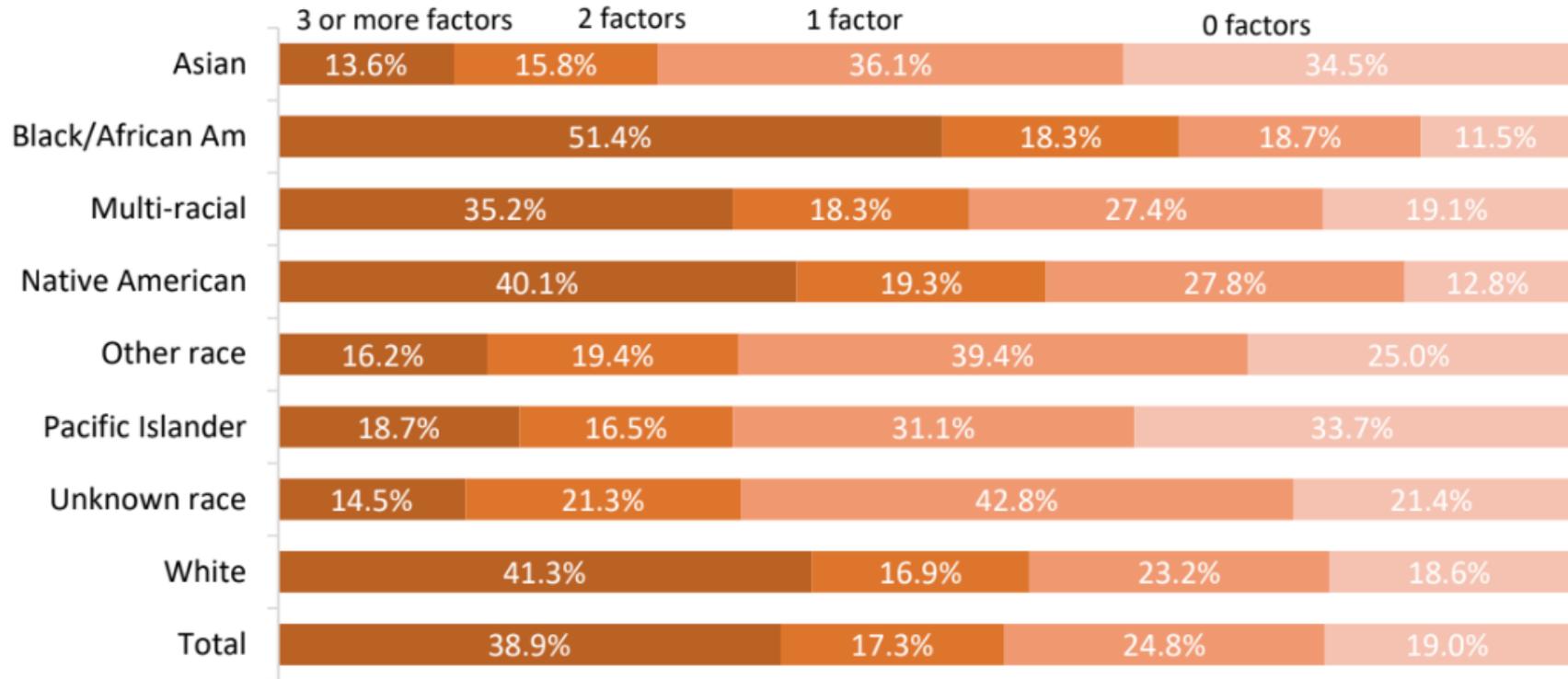
Substance  
Abuse

# Additional adversities in our validated tool ("the PEARLS")

- Has your child ever seen, heard, or been a victim of violence in your neighborhood, community or school? (for example targeted bullying, assault or other violent actions, war or terrorism)
- Has your child experienced discrimination (for example being hassled or made to feel inferior or excluded because of their race, ethnicity, gender identity, sexual orientation, religion, learning differences, or disabilities)?
- Has your child ever had problems with housing (for example being homeless, not having a stable place to live, moved more than two times in a six-month period, faced eviction or foreclosure, or had to live with multiple families or family members)?
- Have you ever worried that your child did not have enough food to eat or that the food for your child would run out before you could buy more?
- Has your child ever been separated from their parent or caregiver due to foster care, or immigration?
- Has your child ever lived with a parent/caregiver who had a serious physical illness or disability?
- Has your child ever lived with a parent or caregiver who died?

Source: <https://nppcaces.org/faqs/>

## Social Complexity Factors by Race



Source: Oregon Pediatric Improvement Partnership, Department of Human Services, & Oregon Health Authority. (2018, November). [Health Complexity in Children - Statewide Summary Report]. Unpublished raw data.

# The cost of inaction in childhood: Health and behavioral issues



- 
- Growth delay
  - Cognitive delay
  - Sleep disruption

- 
- Asthma
  - Infection
  - Learning difficulties
  - Behavioral problems

- 
- Obesity
  - Violence
  - Bullying
  - Smoking
  - Teen pregnancy

## Children Who Experience 4 or more ACEs:

**32x**

Learning and  
Behavioral  
Problems

**4.5x**

Depression

**2-3x**

Asthma,  
Heart Disease  
and Cancer

**3.5x**

Pulmonary  
Disease

**7** out  
of **10**

Leading Causes of Death in the  
U.S. correlate with exposure to  
4 or more ACE's

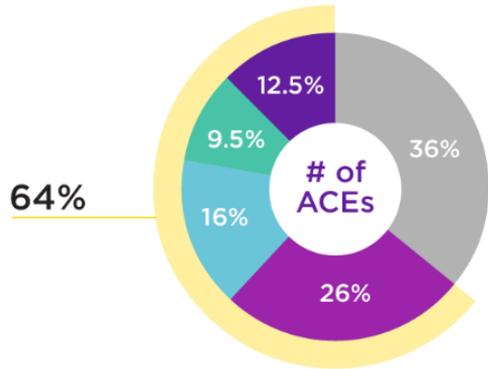
**10-12x**

greater risk for  
Intravenous Drug Use  
and Attempted Suicide



# ACEs are more common than people think

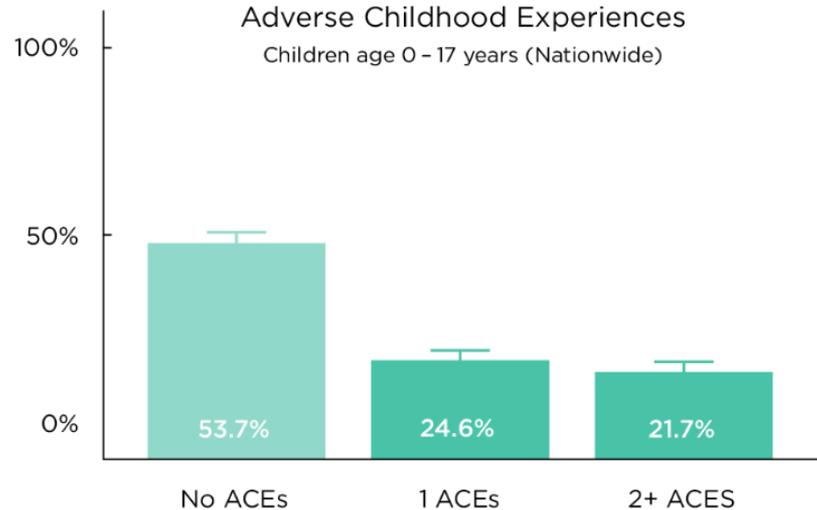
- Nearly 2 out of 3 adults have at least one ACE



- No Adverse Childhood Experiences
- 1 Adverse Childhood Experiences
- 2 Adverse Childhood Experiences
- 3 Adverse Childhood Experiences
- 4 or more Adverse Childhood Experiences

Source: CDC-Kaiser ACE Study (1998)

- Nearly half of children\*(34.8 million) have at least one ACE



***\*The National Survey on Children's Health leaves out child abuse and neglect--it's likely a higher number***

[http://www.cahmi.org/wp-content/uploads/2017/10/aces\\_fact\\_sheet.pdf](http://www.cahmi.org/wp-content/uploads/2017/10/aces_fact_sheet.pdf)

# Understanding Stress

## Positive Stress

- Our body's response to normal everyday stress, like starting a new daycare or taking a test at school.
- Stress hormones help us focus and succeed in the moment, but once the event passes, our body goes back to its normal state.

## Tolerable Stress

- Our body's response to more serious stress like a significant injury, immigration, or living through a natural disaster.
- A flood of powerful stress hormones help us rise to the occasion and prepare to heal. A safe, stable, nurturing adult can offset this rush and calm the child's stress response, building resilience and ensuring recovery.

## Toxic Stress

- Our body's response to severe and/or lasting stress, such as emotional or physical abuse, neglect, or separation from a parent.
- **Without support** from a caring and trusted adult, stress hormones overwhelm a child's developing body and brain, leading to lifelong physical, mental, and behavioral health problems, including relationships, *beginning in childhood.*

# Biological mechanism: Toxic Stress

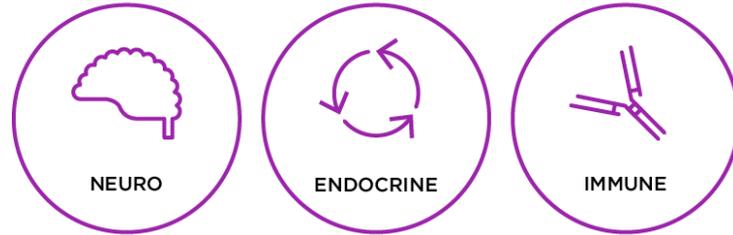
Adverse Childhood Experiences

+

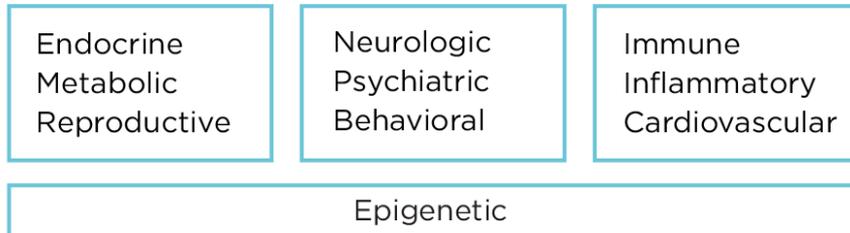


Toxic Stress

Chronic Dysregulation



Clinical Implications



# Clinical Symptoms Associated with Toxic Stress

## Inflammatory Cascade Responses

- Frequent asthma exacerbations
- Frequent eczema flaring
- Frequent colds
- Frequent infections such as ear infections or pneumonia

## Endocrine System Responses

- Diabetes
- Difficulty keeping weight on
- Frequent abdominal pain
- Obesity
- Poor growth
- Constipation
- Weight gain or loss/inability to gain weight
- Difficult/irregular menses
- Early or late onset of menses/puberty

## Neurologic System Responses

- New onset or recent increase in anxiety
- New onset or recent increase in depression
- Enuresis and encopresis
- Behavior: impulsivity, oppositional defiance, aggression, violence
- Learning: ADHD-like symptoms (may or may not be ADHD!)
- School problems: school avoidance, frequent absence, poor/failing grades
- Frequent headaches/migraines
- Inconsolable crying
- Difficulty sleeping or nightmares
- Disassociation/apathy
- Regular drug, alcohol, tobacco use
- Risky sexual behavior: frequent sexual activity, multiple partners, no condoms/contraception
- Self-Harm: cutting, suicidal ideation or attempt



# Economic Impact of ACEs in CA

Previous report: National  
lifetime cost of *child  
maltreatment*: **\$124B**  
(*Fang et al*)

New report: California annual  
cost of ACEs: **\$112.5B**  
(*Miller et al, under review*)



## Why now?

- **2018** - AB340 workgroup recommends universal ACEs screening as a form of trauma screening using the PEARLS or the Whole Child Assessment
- **2019** - Governor Newsom proposed 45M budget for ACEs screening
- **2019** - DHCS submits request for comment on aces screening implementation and value-based purchasing.

# Key Drivers for addressing ACEs and Toxic Stress



Prevention Efforts



Community and Ecological Action



Universal Screening



Effective Referral System



Comprehensive and Available Service Array



Payment for Services



Robust Research Agenda



Biomedical Advances



**Over 400,000 infants are born to mothers who are depressed each year**

Comorbid with all other ACEs, insecure attachment, and other relationships

Parental ACEs and maternal depression screenings are key to preventing child risk.

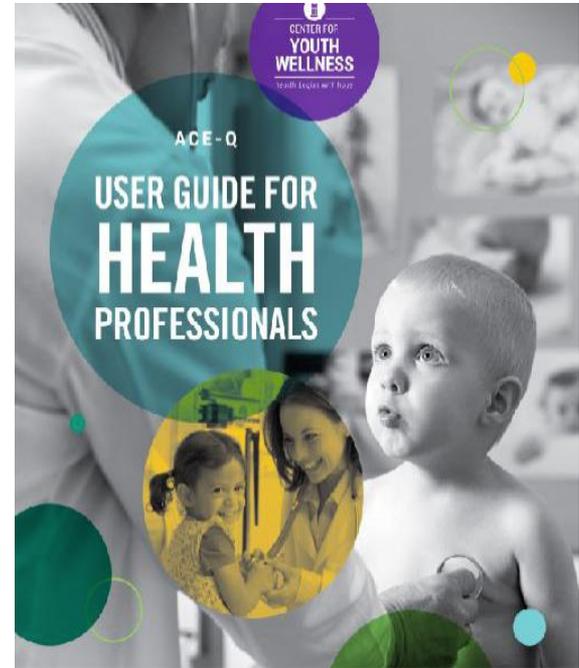
# Provider challenges to universal ACEs screening

- Lack of time
- Questions about scientific foundation for screening and tools
- Lack of comfort and training, fear giving families incorrect information
- Perceived negative parent/caregiver reaction
- Concerns regarding strength of referral system
- Fear of clinic or provider liability and increased mandated reporting
- Perception that ACEs only occur in certain populations, not core to primary care

**Source: CYW Insights Research with pediatricians, unpublished; Kecker et al., 2016**

# NPPC: making ACEs screening a reality in practice

- Gain provider buy-in with the science
- Implement a PDSA/CQI-like process
- Start with a smaller pilot population
- Incorporate screening into annual well-child visits
- Utilize existing coaching, tools, and resources
- Build upon shared lessons of other providers screening (and intervening!)



# Universal Screening & Parent Education: Anticipatory Guidance, Tools, and Materials




## Adverse Childhood Experiences (ACEs)

**Did you know that Adverse Childhood Experiences can be harmful to your child's health?**

- Adverse Childhood Experiences (ACEs) can cause harm to a child's developing brain and body, influence behavior and learning, and lead to overall health problems.
- These long term changes, in the absence of a supportive caregiver, are called **TOXIC STRESS**.
- Everyone is built differently. Some need more support than others.

**Adverse Childhood Experiences as identified in the ACEs study are listed below:**

- Parental separation or divorce
- Incarcerated household member
- Domestic violence
- Living with someone who is chronically depressed, institutionalized, or suicidal
- Alcohol/drug abuser in the home
- Sexual abuse
- Emotional abuse
- Physical abuse
- Physical neglect
- Emotional neglect

**In addition we believe these things can lead to toxic stress:**

- Life threatening illness/injury
- Guardian death
- Community violence
- Homelessness, foster care/CPS involvement

**Health begins with hope!**

People can cope with challenging events in their lives by creating a circle of wellness that includes caring support systems, exercise, good nutrition and regular medical care.

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 nppcacas.org





## Toxic Stress

**Positive Stress:**  
Brief increases in heart rate, mild elevations in stress hormone levels.

**Tolerable Stress:**  
Serious, temporary stress responses, buffered by supportive relationships.

**Toxic Stress:**  
Prolonged activation of stress response systems in the absence of protective relationships. Serious, temporary stress responses, buffered by supportive relationships.

→ Intense, prolonged, repeated & unaddressed  
← Social-emotional buffering, caregiver resilience, early detection, and a effective intervention

**How stress affects the human body**

- Headaches, feelings of despair, lack of energy, jitters, nervousness, anger, irritability, trouble sleeping, mental health problems (such as panic attacks, anxiety disorders and depression), behavior younger than age
- Ache and other skin problems
- Faster heartbeat, rise in blood pressure, heart attack and heart disease
- Blood sugar increases, higher cholesterol, increased risk of diabetes
- Muscle aches and tension, increased risk of reduced bone density
- Grinding teeth, tension in jaw, increased or decreased eating
- Stress hormones increase, increased inflammation, lowered ability to fight or recover from illness, frequent colds
- Increased risk of asthma and flare ups
- Diarrhea, constipation, nausea, stomach pain, heart burn, other digestive problems
- Irregular or more painful periods, reduced or increased sexual desire, backsteering
- Weight gain & obesity



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**FUTURES WITHOUT VIOLENCE**

**Connected Parents, Connected Kids**



## Are You Ready for ACEs Screening? 15 Key Questions to Ask Yourself – and Your Practice

NPPC

POSTED ON: Dec 17, 2017

Determining if your practice is ready to implement adverse childhood experiences (ACEs) screening should be a thoughtful, strategic and collaborative process. **First**, it's important that you, as the one leading the charge, can clearly demonstrate the importance of ACEs screening and why your practice should implement it. **Second**, take time with your team to consider if your practice has all the necessary staffing, support and resources in place – and/or what you need to put in place – to successfully implement ACEs screening to improve patient outcomes.

Following is a list of exploratory questions to help guide your thought process and research efforts. Once you feel you have satisfactory answers to these basic, foundational questions, you may want to move on to more specific decision-making, using the [ACEs Screening Decision Making Inputs Worksheet](#).

### Am I ready?

1. Do I personally have a strong understanding of the background and scientific rationale for screening for ACEs and how this pertains to my practice? [Read about the science of ACEs and toxic stress.](#)
2. Have I practiced explaining ACEs and Toxic Stress to patients?
3. Do I have a practice of self care established?

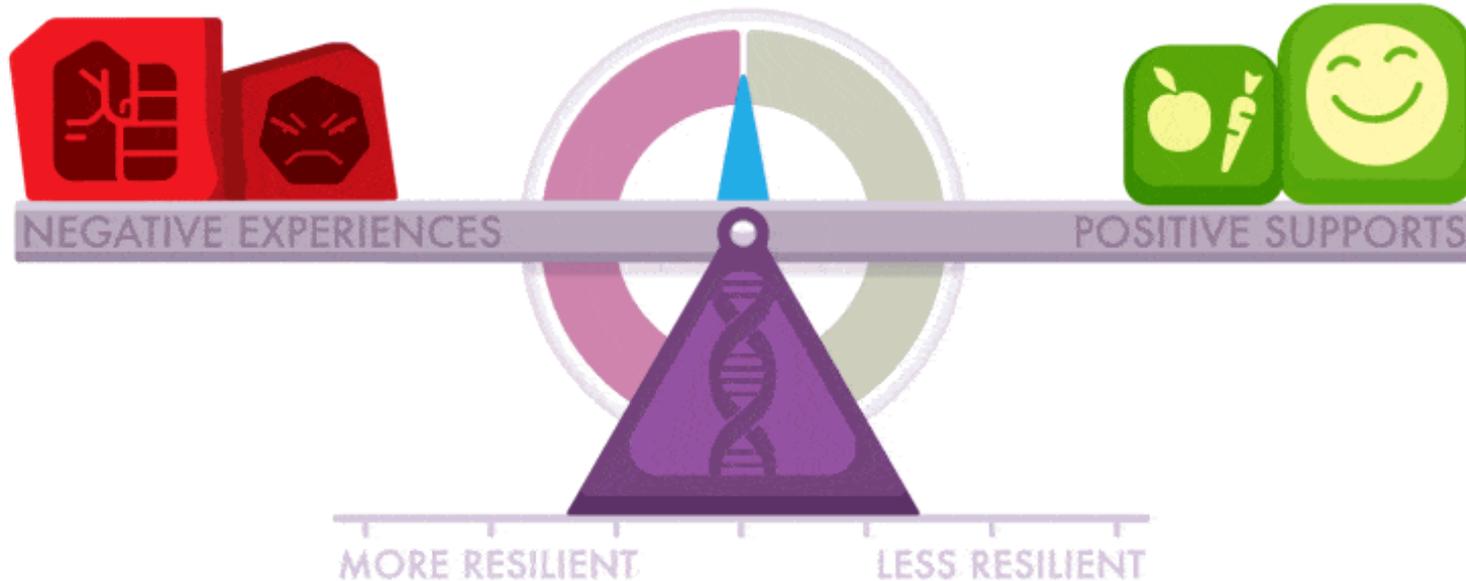


# General Intervention: buffering the Toxic Stress response through 6 evidence-based domains



Sources: Miller 2007, Vakili 2014, Tye 2014

# Not all individuals experience toxic stress as a result of adversity



## Targeted Intervention: considering toxic stress physiology to manage ACEs-attributable disease (e.g. asthma)

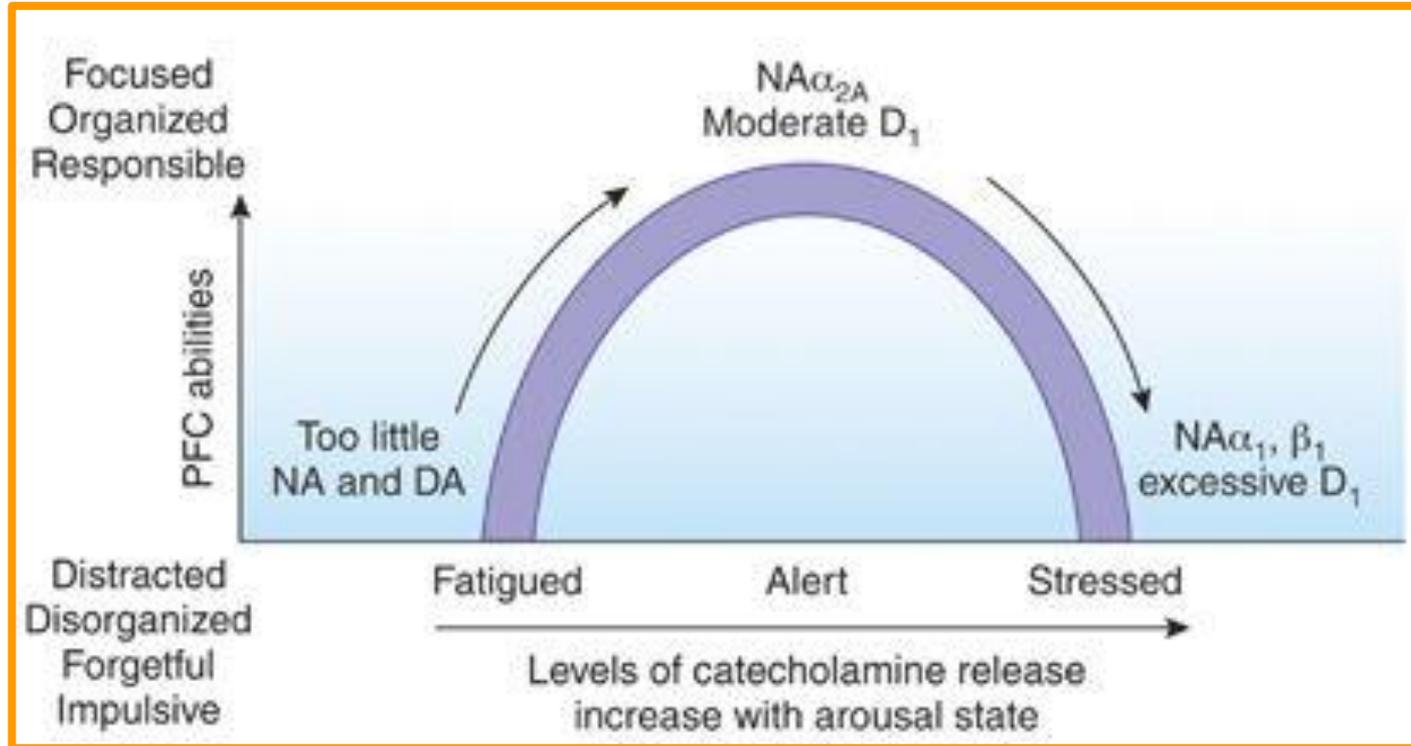
“Has anything really scary or upsetting happened to your child or anyone in your family recently?”

During an acute asthma attack providers should consider...

- Acute psychosocial stressors can increase asthma symptoms
- Helping families avoid the same stressor and empowering caregivers to be a buffer for future stressful situations can improve asthma outcomes for that child
- Educating kids on asthma management itself may cut down on acute healthcare utilization



# Targeted Intervention: new ADHD management based on neurochemistry and pharmacology of toxic stress



# Keys to improve kids' resilience to ACEs through pediatric medical homes

- Trauma-informed care training for staff
- Screen children and mothers for ACEs, protective factors, mental health, resilience
- Create a medical home emphasizing strong relationships
- Integrate behavioral health care into the pediatric office
- Offer group-based parenting and trauma education and support
- Be cognizant of engagement barriers families with ACEs face

# Last and not least, strengthen provider self-care to address vicarious trauma and self-ACEs

- **Awareness:** ensure providers make time to check in on their own mind and body
- **Balance:** personal, family, and work-life balance, while difficult, are critical
- **Connection:** support relationships with community, friends, family, and work to help find balance and provide a safe place to process feelings
- **Debrief:** enable reflection and discussion of challenging cases with colleagues to support learning that will help providers help patients more
- **EAP:** long term provider stress, anxiety, or symptoms of burnout should be addressed through Employee Assistance and other similar programs

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