



# Adverse Childhood Events and Trauma

## Public Health Implications For Mental Health and Child Development

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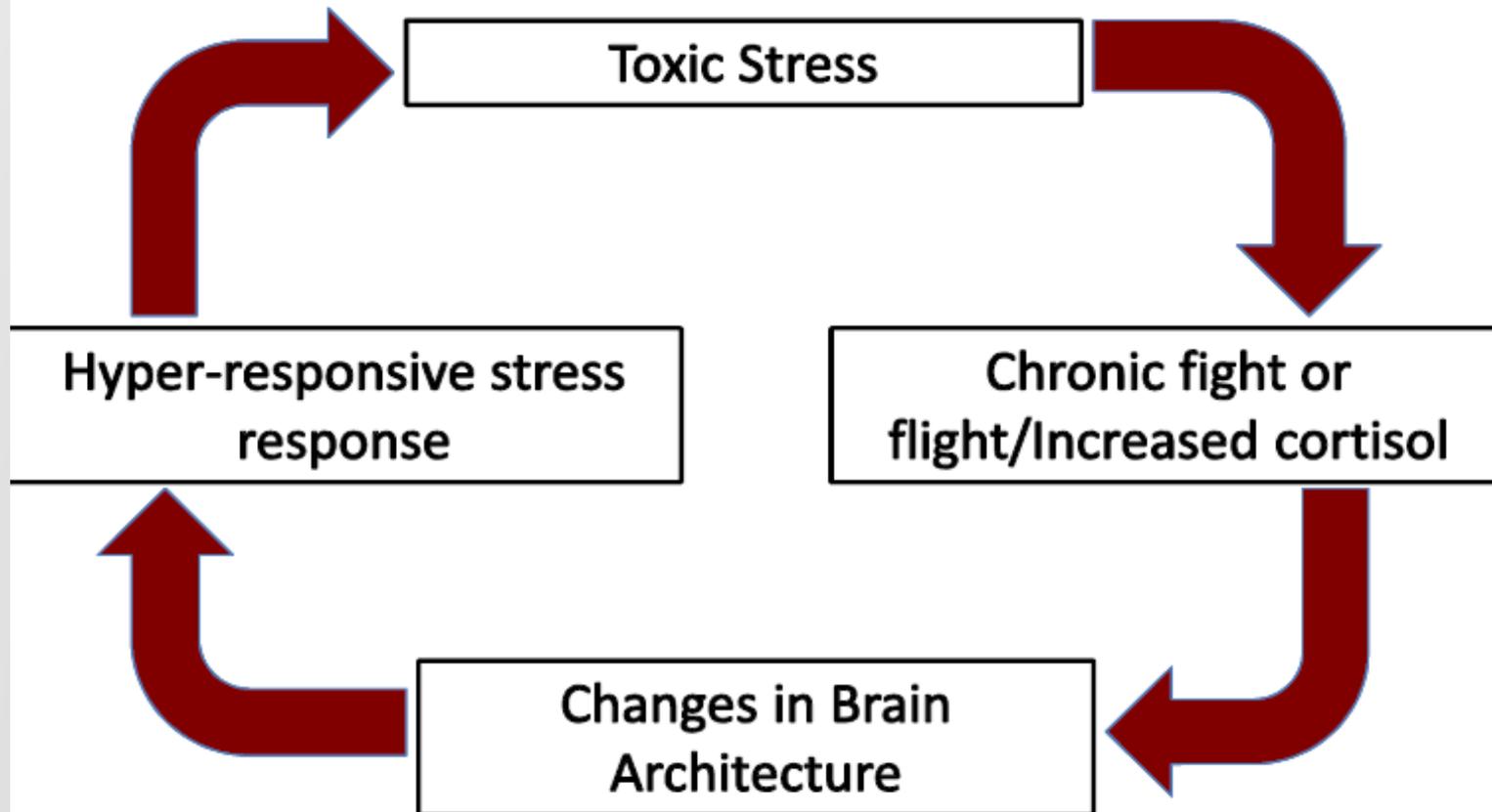


“Biology gives you a brain.  
Life turns it into a mind.”

— Jeffrey Eugenides, *Middlesex*

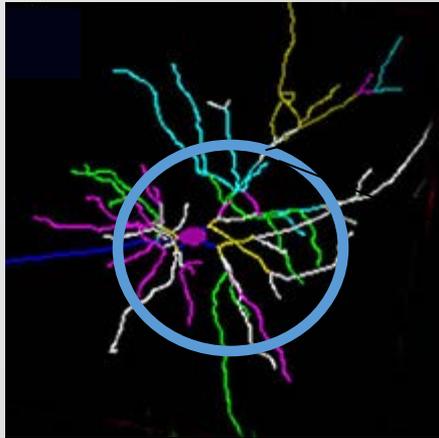


## Impact of Toxic Stress



## Persistent Stress Changes Brain Architecture

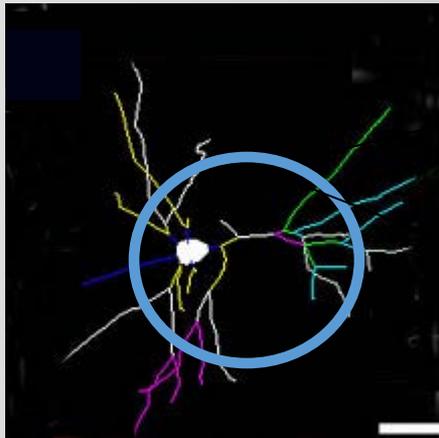
Normal



Typical -  
neuron with many  
connections



Chronic  
stress



Neuron damaged by  
toxic stress – fewer  
connections



Prefrontal Cortex and  
Hippocampus



# Childhood Adverse Events

- Adverse Childhood Experiences 1995, N = 18,000
- Assess associations between childhood maltreatment and later-life health and well-being.
- Certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life in the United States
  - >50% had 1 or more of ACE
  - 25% had 2 ACE categories
  - 1/16 had 4 ACE categories



# Adverse Childhood Experiences



# Other ACE-like Events

- Exposure / community violence
- Serious injury / accident
- School violence
- Severe illness / medical trauma
- Natural disaster
- Kidnapping
- Forced displacement
- War / terrorism / political violence

National Child Traumatic Stress Network



# ACEs and Childhood Trauma

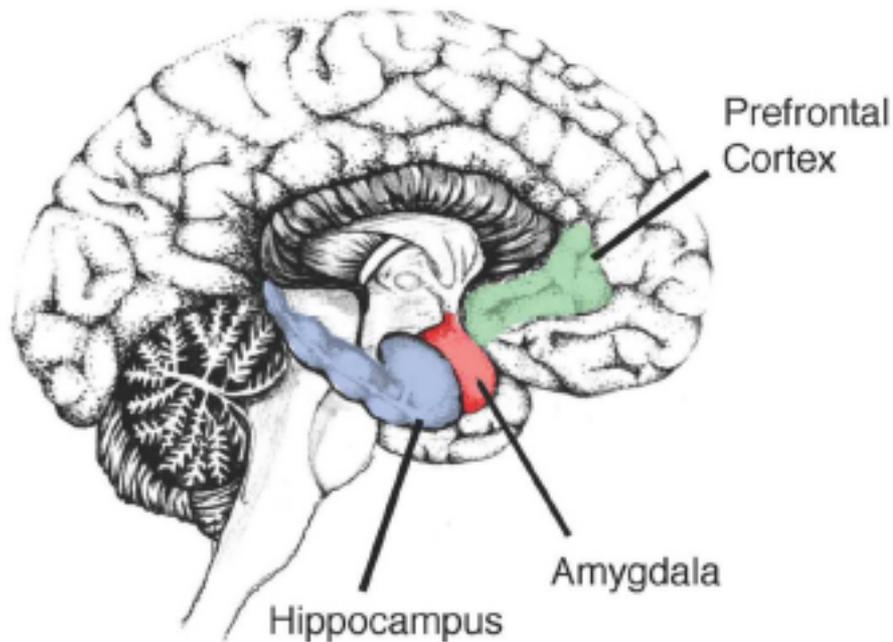
- Very common
- Hidden by time, shame, social taboos
- Strong predictors of later health risks and diseases
- Leading determinants of the health and social well-being of nation





As the number of ACEs increases, the risk for health problems increases in a strong & graded fashion

# Key Areas of Brain Impacted by Adverse Childhood Experiences



- Prefrontal Cortex
  - Center of executive functioning
  - Regulates thoughts, emotions, and actions
- Hippocampus
  - Center of short term memory
  - Connects emotion to fear
- Amygdala
  - Triggers emotional responses



# With Chronic ACEs

- No turning off of HPA axis
- Cortisol stays elevated chronically:
  - Delayed myelination
  - Delayed brain maturation
  - Reduced synaptic connections and dendritic proliferations
  - Pruning of neurons

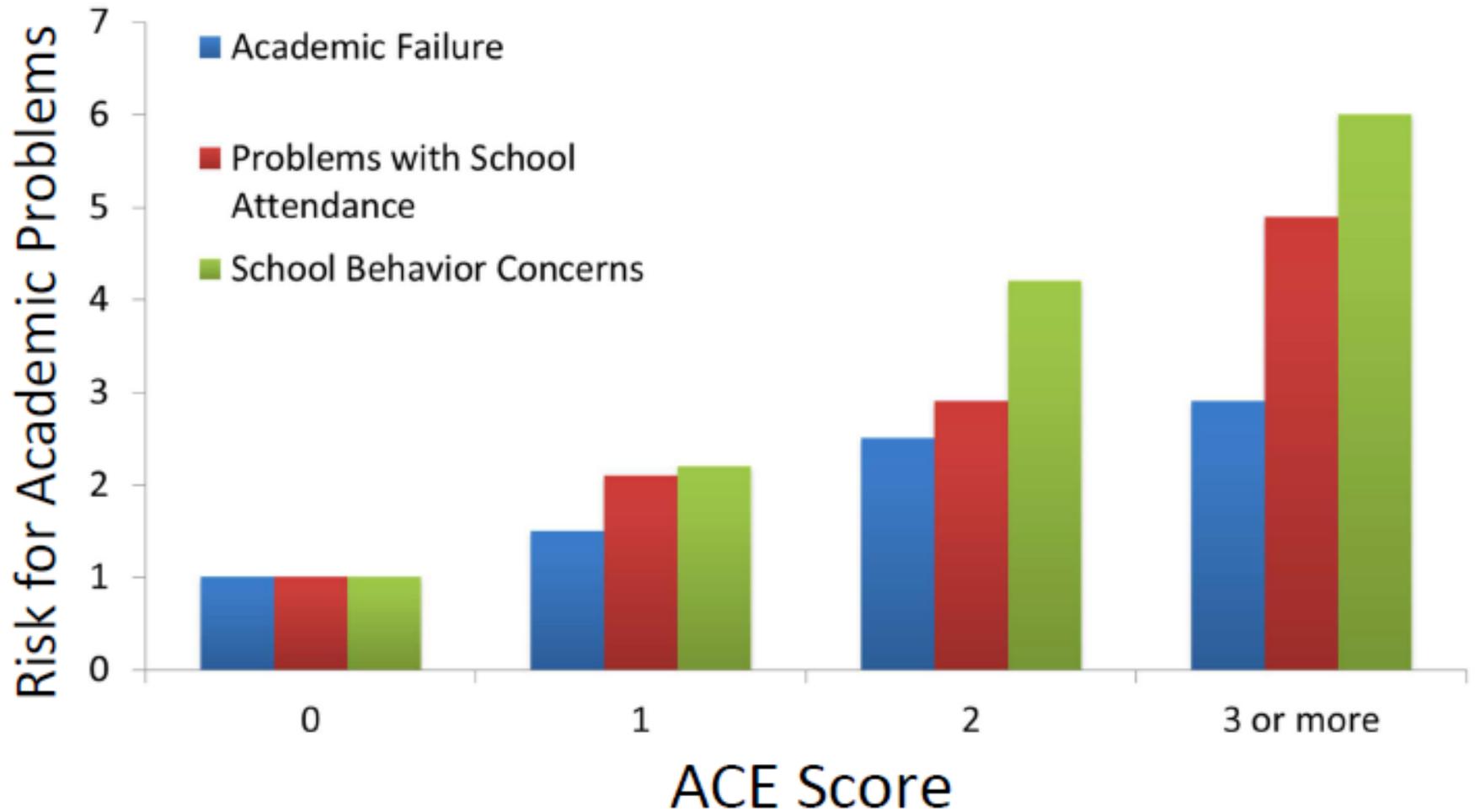


# Compared to Subjects with No ACEs

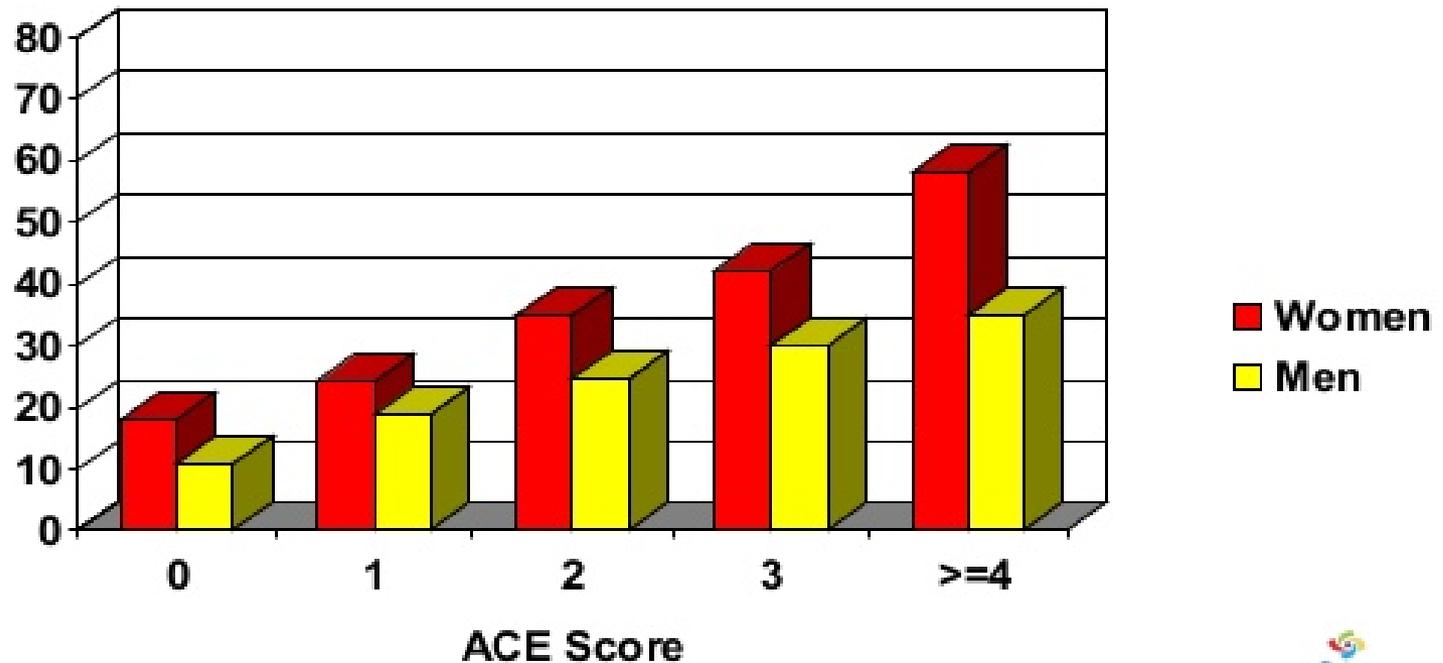
THOSE INDIVIDUALS WITH 4 or MORE ACEs WERE:

- Twice as likely to smoke
- Seven times as likely to be alcoholics
- Six times as likely to have had sex before age 15
- Twice as likely to have cancer or heart disease
- Four times more likely to experience depression
- Twelve times more likely to have attempted suicide
- Men with six or more ACEs were **46** times more likely to have injected drugs than men with no history of adverse childhood experiences

# ACE Exposure Associated with Academic Problems



# Childhood Experiences Underlie Chronic Depression

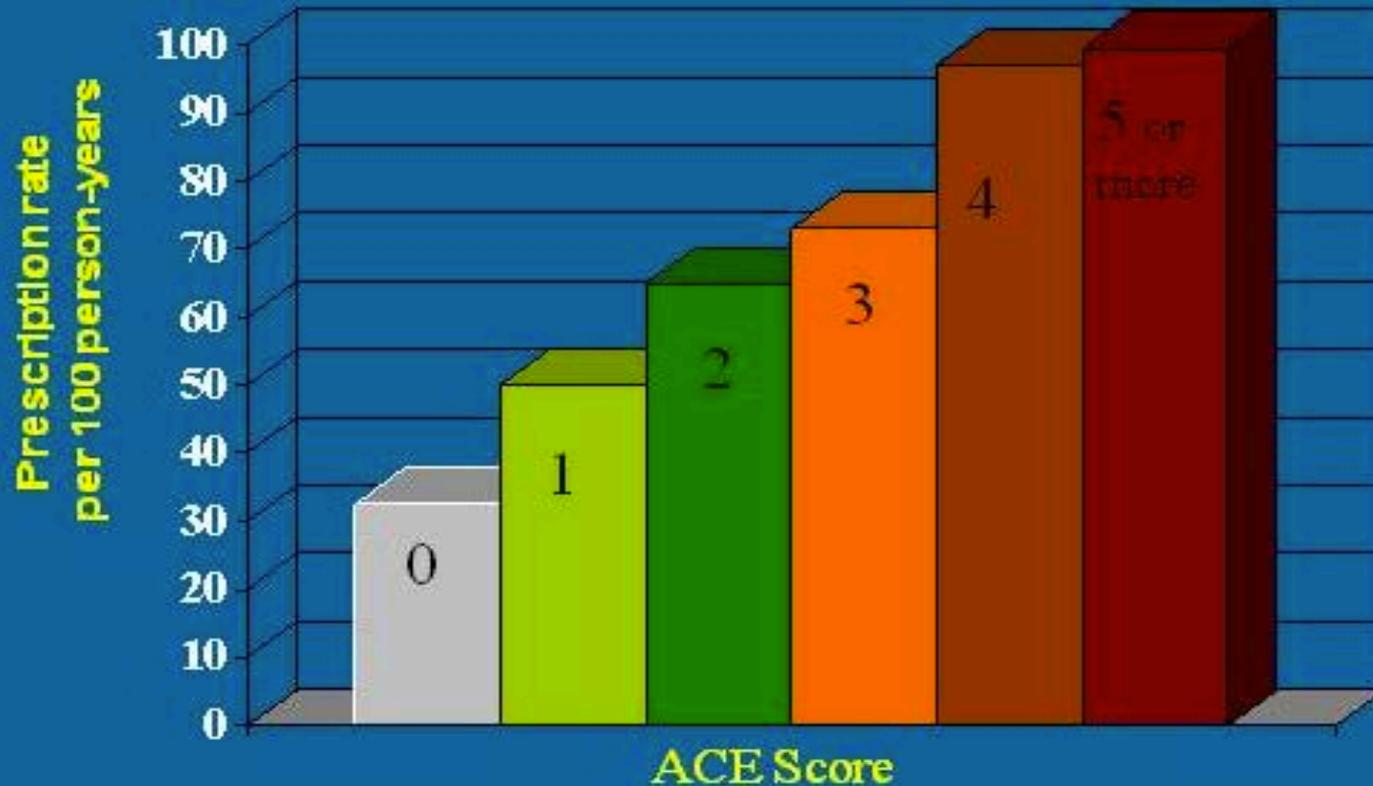




# ACEs and Mental Health

Mental Health Costs

## ACE Score and Rates of Antidepressant Prescriptions approximately 50 years later

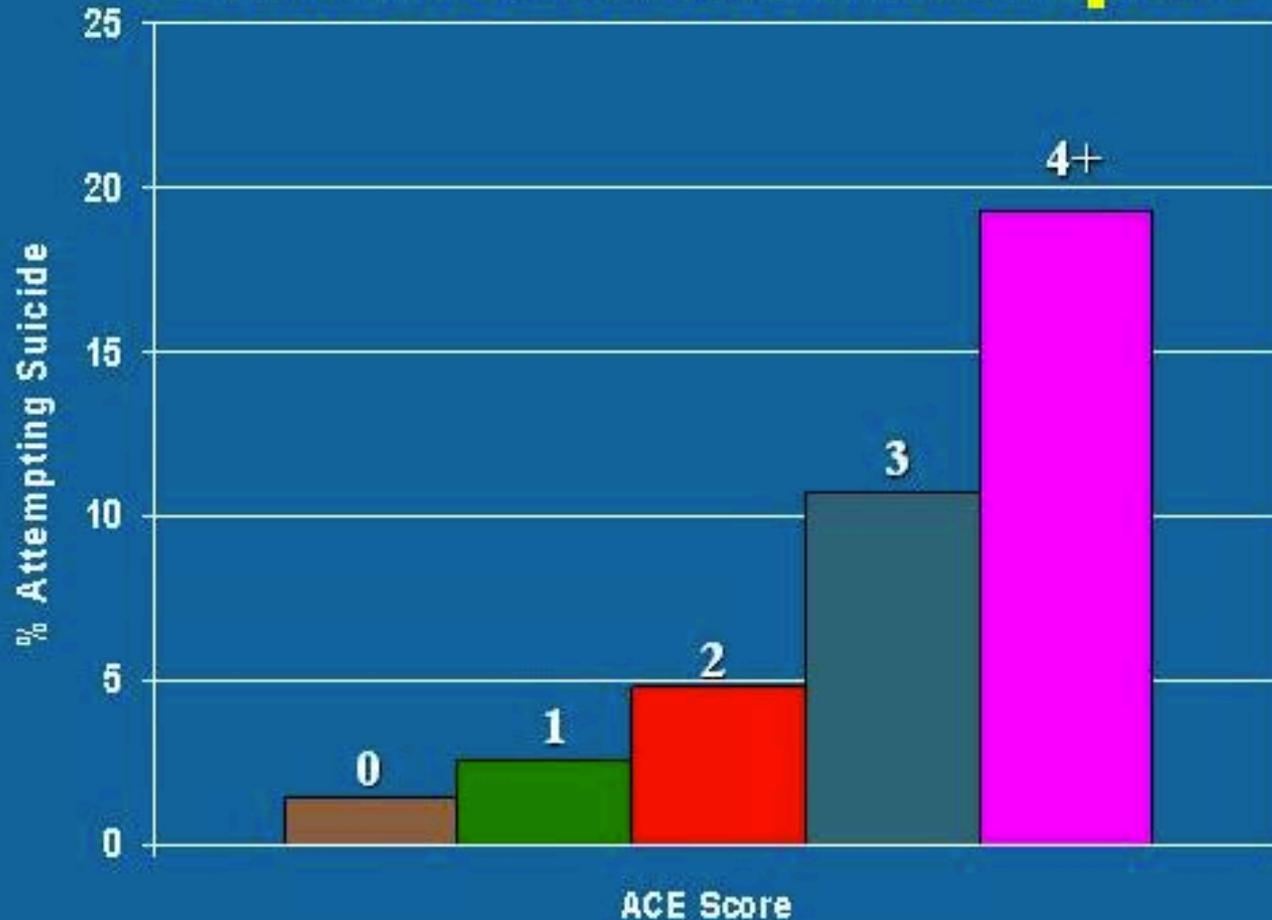




# ACEs and Mental Health

Mental Health

## Childhood Experiences Underlie Suicide Attempts

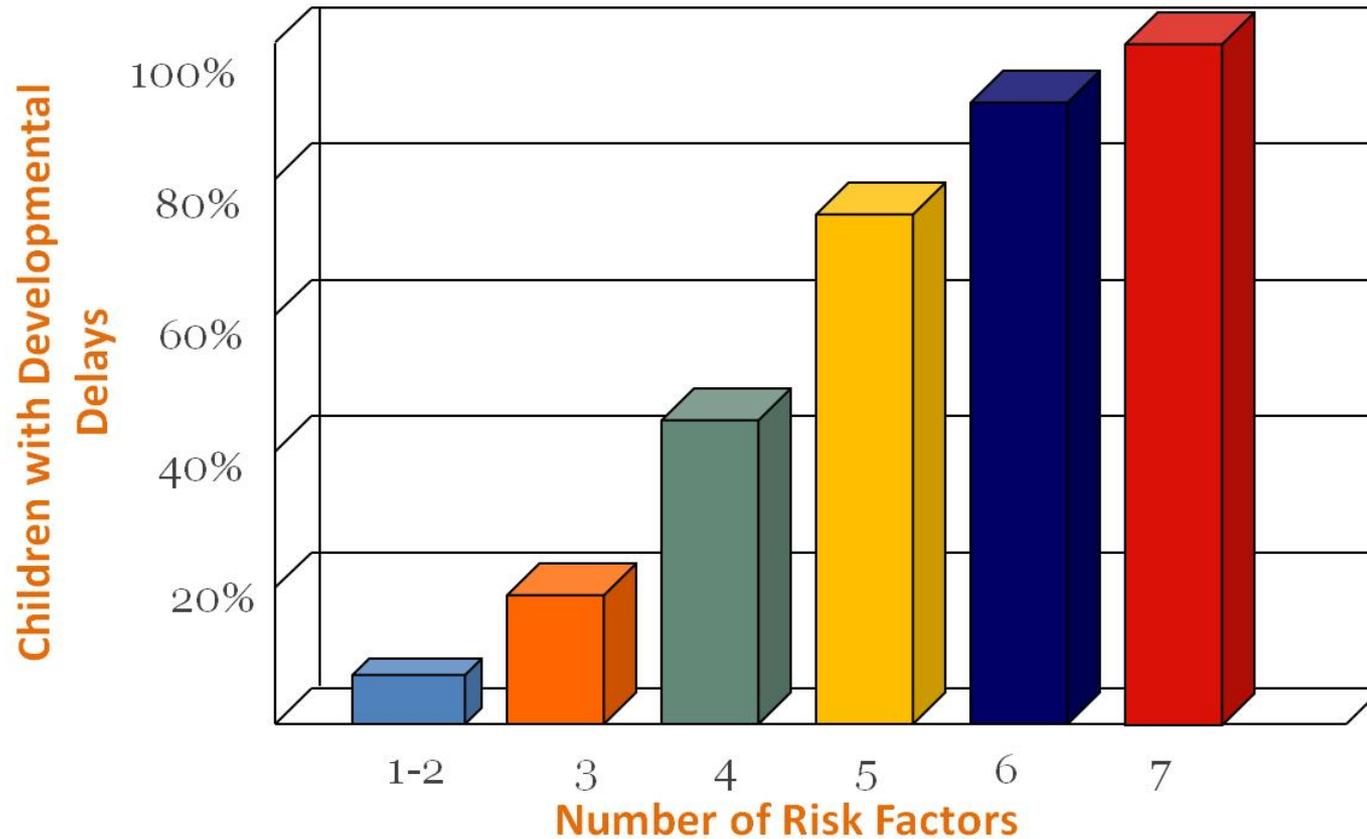




# Child maltreatment over the lifespan

- Improper brain development
- Impaired cognitive (learning ability) and socio-emotional (social and emotional skills), hyperarousal in chronic toxic stress
- Lower language development
- Blindness, cerebral palsy from head trauma
- Higher risk for heart, lung and liver diseases, obesity, cancer, high blood pressure and cholesterol
- Anxiety
- Smoking, alcoholism and drug abuse

# 90-100% Chance of Developmental Delays When Children Experience 6-7 Risk Factors



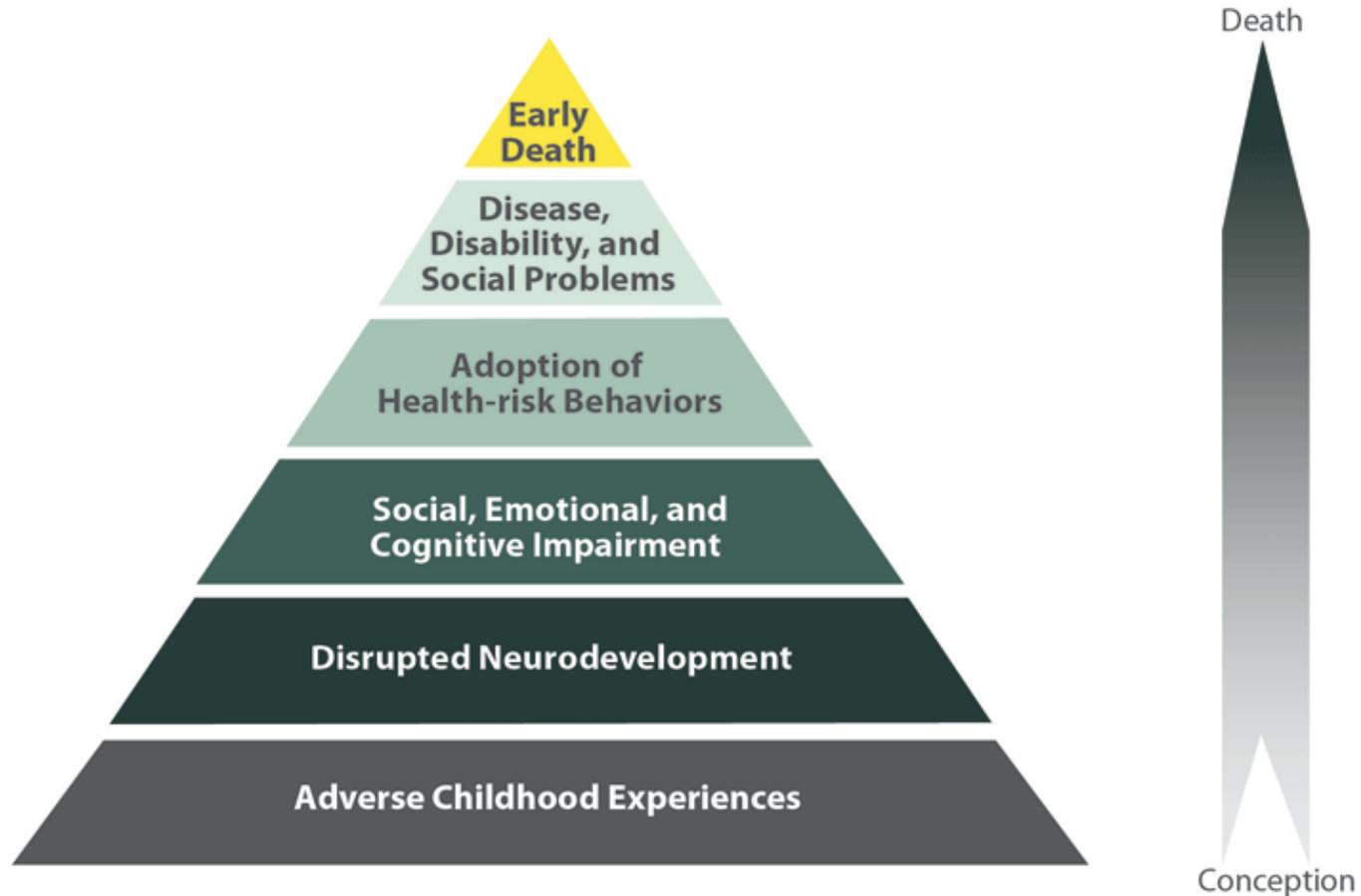
Data Source: Barth, et al. (2008)

Graphic adapted from 2011, Center on the Developing Child at Harvard University

Full slide courtesy and copyright of Marc Lerner, MD OCDE



# Impact of Adverse Childhood Experiences



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

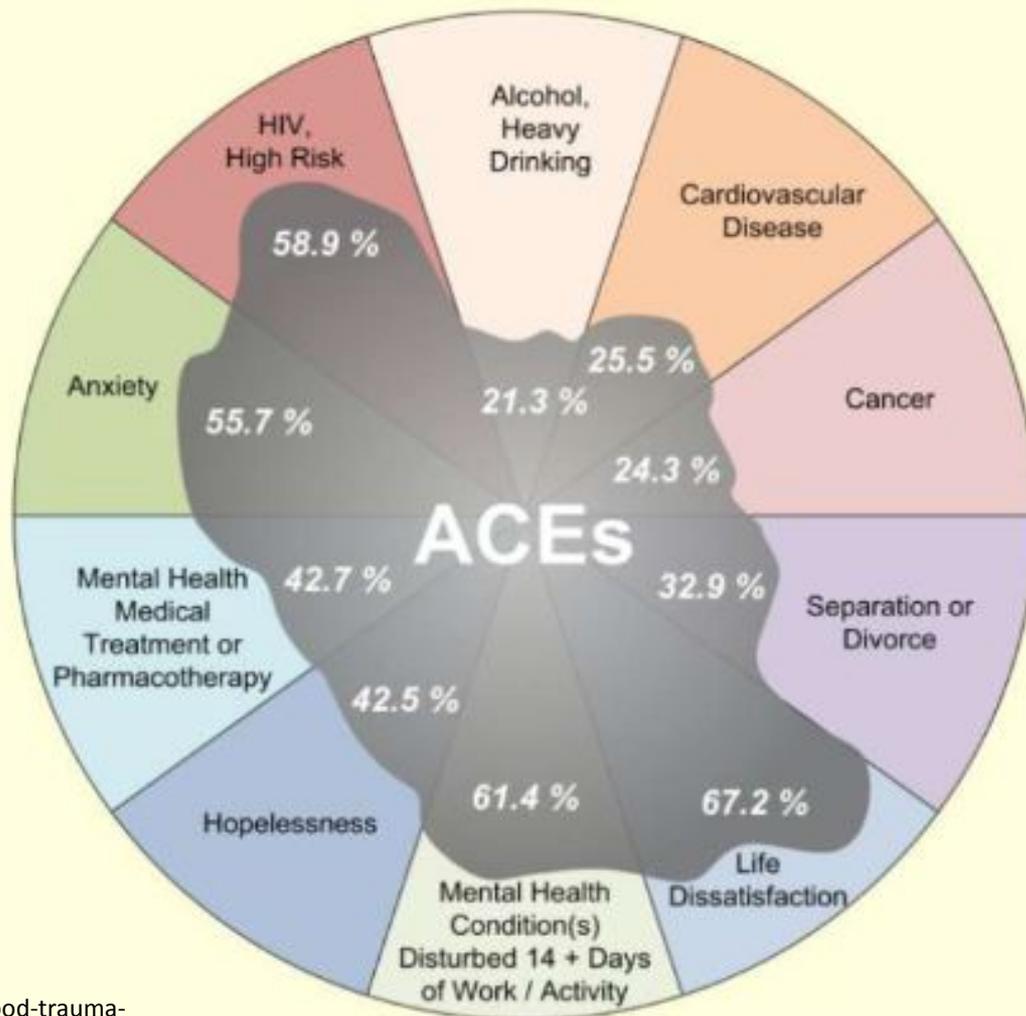


# Mental Health and ACEs

## MAGNITUDE OF THE SOLUTION

ACE reduction reliably predicts simultaneous decrease in all of these conditions.

Population attributable risk





# Screening of and referral for ACEs: Informal vs. Formal

## Informal

- Traditional method
- Allows patient to focus on areas of greatest need
- May not capture all problems
- Difficult to measure and track risks and outcomes

## Formal

- ACE-Q, SWYC, SEEK
- Allow for complete capture and tracking
- Built systems can reduce barriers to referral
- Increased staff time and effort



# Screening Questions for Toxic Stress

- Since the last time I saw you, has anything really scary or upsetting happened to you or anyone in your family?
- Just as a fever is an indication that the body is dealing with an infection, behavior changes in eating, sleeping or bathroom habits may show that the body is responding to stress or threat. Do you have any concerns that these are a threat response?



# ACES Screening Questionnaire (CYW ACE-Q)

## Pros:

- Free, fast screening modified for parents
- Calculates modified ACE score
- <5 minutes to complete

## Cons:

- No validation
- Additional work for staff
- Requires internal follow up

2015 [www.theswyc.org](http://www.theswyc.org); additional references at end



# CYW ACE-Q (Burke-Harris)

1) Of the statements in Section 1, **HOW MANY** apply to your child? Write the total number in the box.

**Section 1.** *At any point since your child was born...*

- Your child's parents or guardians were separated or divorced
- Your child lived with a household member who served time in jail or prison
- Your child lived with a household member who was depressed, mentally ill or attempted suicide
- Your child saw or heard household members hurt or threaten to hurt each other
- A household member swore at, insulted, humiliated, or put down your child in a way that scared your child OR a household member acted in a way that made your child afraid that s/he might be physically hurt
- Someone touched your child's private parts or asked your child to touch their private parts in a sexual way
- More than once, your child went without food, clothing, a place to live, or had no one to protect her/him
- Someone pushed, grabbed, slapped or threw something at your child OR your child was hit so hard that your child was injured or had marks
- Your child lived with someone who had a problem with drinking or using drugs
- Your child often felt unsupported, unloved and/or unprotected



# Survey of Wellbeing of Young Children (SWYC)

- Free, comprehensive, validated screening <15 minutes to complete
- Cuts office time spent on screening by 3/4
- **9 questions screen for ACEs**
- Validation by comparison to separate screening tools that were current proven 'gold standard' at time of development
- For ACEs compared to PHQ-2, TICS, WAST and single item screens

2015 [www.theswyc.org](http://www.theswyc.org); additional references at end



# SWYC: 1 year visit



## SWYC: 12 months

12 months, 0 days to 14 months, 31 days  
V1.02, 3/31/15

Child's Name:

Birth Date:

Today's Date:

### DEVELOPMENTAL MILESTONES

These questions are about your child's development. Please tell us how much your child is doing each of these things. If your child doesn't do something any more, choose the answer that describes how much he or she used to do it. Please be sure to answer ALL the questions.

	Not Yet	Somewhat	Very Much
Picks up food and eats it . . . . .	0	1	2
Pulls up to standing . . . . .	0	1	2
Plays games like "peek-a-boo" or "pat-a-cake" . . . . .	0	1	2
Calls you "mama" or "dada" or similar name . . . . .	0	1	2
Looks around when you say things like "Where's your bottle?" or "Where's your blanket?" . . . . .	0	1	2
Copies sounds that you make . . . . .	0	1	2
Walks across a room without help . . . . .	0	1	2
Follows directions - like "Come here" or "Give me the ball" . . . . .	0	1	2
Runs . . . . .	0	1	2
Walks up stairs with help . . . . .	0	1	2

### BABY PEDIATRIC SYMPTOM CHECKLIST (BPSC)

These questions are about your child's behavior. Think about what you would expect of other children the same age, and tell us how much each statement applies to your child.

	Not at all	Somewhat	Very Much
Does your child have a hard time being with new people? . . . . .	0	1	2
Does your child have a hard time in new places? . . . . .	0	1	2
Does your child have a hard time with change? . . . . .	0	1	2
Does your child mind being held by other people? . . . . .	0	1	2
Does your child cry a lot? . . . . .	0	1	2
Does your child have a hard time calming down? . . . . .	0	1	2
Is your child fussy or irritable? . . . . .	0	1	2
Is it hard to comfort your child? . . . . .	0	1	2
Is it hard to keep your child on a schedule or routine? . . . . .	0	1	2
Is it hard to put your child to sleep? . . . . .	0	1	2
Is it hard to get enough sleep because of your child? . . . . .	0	1	2
Does your child have trouble staying asleep? . . . . .	0	1	2

\*\*\*\*\* Please continue on the back \*\*\*\*\*

### PARENT'S CONCERNS

	Not At All	Somewhat	Very Much
Do you have any concerns about your child's learning or development?	0	1	2
Do you have any concerns about your child's behavior?	0	1	2

### FAMILY QUESTIONS

Because family members can have a big impact on your child's development, please answer a few questions about your family below:

	Yes	No
1 Does anyone smoke tobacco at home?	Y	N
2 In the last year, have you ever drunk alcohol or used drugs more than you meant to?	Y	N
3 Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?	Y	N
4 Has a family member's drinking or drug use ever had a bad effect on your child?	Y	N
5 In the past month was there any day when you or anyone in your family went hungry because you did not have enough money for food?	Y	N

Over the past two weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
6 Having little interest or pleasure in doing things?	0	1	2	3
7 Feeling down, depressed, or hopeless?	0	1	2	3
8 In general, how would you describe your relationship with your spouse/partner?	No tension 0	Some tension 1	A lot of tension 2	Not applicable 3
9 Do you and your partner work out arguments with:	No difficulty 0	Some difficulty 1	Great difficulty 2	Not applicable 3

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# SWYC pros and cons

## Pros

- Complete package for all screening needs
- Proven to work as well as separate 'gold standard' screening tools
- Tailored to age ranges
- Free

## Cons

- No formal mechanism for follow-up after screening
- Workload change dependent upon current screening procedures



# Safe Environment for Every Kid (SEEK)

- Screen for social risk factors at specific well visits
  - English, **Spanish, Vietnamese, Chinese**
- Discuss responses
- Refer
  - Premade handouts with general information and national resources
  - Local tailoring: blank space in patient handouts
    - **Providers add list of local resources**

2015, <https://theinstitute.umaryland.edu/SEEK/>; additional references at end.



# SEEK: 1 year visit



## Parent Questionnaire (PQ)

**Dear Parent or Caregiver:** Being a parent is not always easy. We want to help families have a safe environment for kids. So, we're asking everyone these questions. They are about problems that affect many families. If there's a problem, we'll try to help.

Please answer the questions about your child being seen today for a checkup. If there's more than one child, please answer "yes" if it applies to any one of them. This is voluntary. You don't have to answer any question you prefer not to.

Today's Date: \_\_\_/\_\_\_/\_\_\_ Child's Name: \_\_\_\_\_

Child's Date of Birth: \_\_\_/\_\_\_/\_\_\_

### PLEASE CHECK

- Yes  No Do you need the phone number for Poison Control?
- Yes  No Do you need a smoke detector for your home?
- Yes  No Does anyone smoke tobacco at home?
- Yes  No In the last year, did you worry that your food would run out before you got money or Food Stamps to buy more?
- Yes  No In the last year, did the food you bought just not last and you didn't have money to get more?
- Yes  No Do you often feel your child is difficult to take care of?
- Yes  No Do you sometimes find you need to hit/spank your child?
- Yes  No Do you wish you had more help with your child?
- Yes  No Do you often feel under extreme stress?
- Yes  No In the past month, have you often felt down, depressed, or hopeless?
- Yes  No In the past month, have you felt very little interest or pleasure in things you used to enjoy?
- Yes  No In the past year, have you been afraid of your partner?
- Yes  No In the past year, have you had a problem with drugs or alcohol?
- Yes  No In the past year, have you felt the need to cut back on drinking or drug use?
- Yes  No Are there any other problems you'd like help with today?

Please give this form to the doctor or nurse you're seeing today. Thank you!

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## DEPRESSION

*Depression can affect anyone  
Everybody feels sad sometimes  
When someone feels sad a lot, he or she may need help  
It's not your fault. There is help*

A person who is depressed may experience some or all of these symptoms:

- Feels sad most of the time
- Has trouble sleeping too much or not enough
- Does not feel like eating, or eats more than normal
- Feels tired all the time
- Gets stressed out and angry easily
- Loses interest in things they used to like
- Has hard time thinking, concentrating or making decisions
- Thinks about hurting oneself, or wants to die



**Please, talk to your doctor now if you feel sad or like hurting yourself.**

It is very important for you to take care of yourself.  
And, it's hard to be a good parent if you're feeling bad.

© 2012, University of Maryland School of Medicine

**Here are some other things you can do to take care of yourself:**

- Get some exercise
- Avoid extra stress
- Ask for help from someone you trust

**There is good treatment for depression. You can feel better again.**

If you'd like to talk to someone about getting help, please talk to your child's doctor or nurse.

### Helpful Resources

**National Alliance for Mental Illness (NAMI)** | [www.nami.org](http://www.nami.org)

The National HelpLine, 1-800-950-6264, Monday - Friday, 10 am - 6 pm for:

- Information on depression and other issues affecting children and families
- Referrals to local resources and support groups throughout the country
- Support from trained volunteers who know what it's like and who have "been there"

**National Suicide Prevention Lifeline** | [www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

If you're in crisis or suicidal, call 1-800-273-8255, 24 hours a day, 7 days a week. You can call for yourself or for someone you know. You'll be connected to a trained counselor at a suicide crisis center nearest you. For a Spanish language line, call 1-888-628-9454. Many local crisis centers have interpreters.

**Depression and Bipolar Support Alliance (DBSA)** | [www.dbsalliance.org](http://www.dbsalliance.org)

If you're looking for information, referrals and Internet support groups for mood disorders.

**ADD INFO ON LOCAL RESOURCES**

**AND/OR ON PRACTICE SITE**



# SEEK Efficacy

- 2 randomized controlled studies, one in high-risk and one in low-risk community
- High risk population: intervention group
  - **Fewer reports to Child Protective Services (CPS)**
  - Decreased self-reported parent assaults
  - Less evidence of neglect on medical chart review
    - non-adherence to medical care
  - **Parents in the SEEK group were more positive about their child's doctor than were controls**



# SEEK Efficacy

- **Low risk population: intervention group**
  - Fewer maternal reports of minor physical assault
    - ✓ “harsh parenting” vs. maltreatment
  - Less psychological aggression towards children
  - CPS reports and neglect on chart review uncommon, no statistical difference b/w intervention and control groups



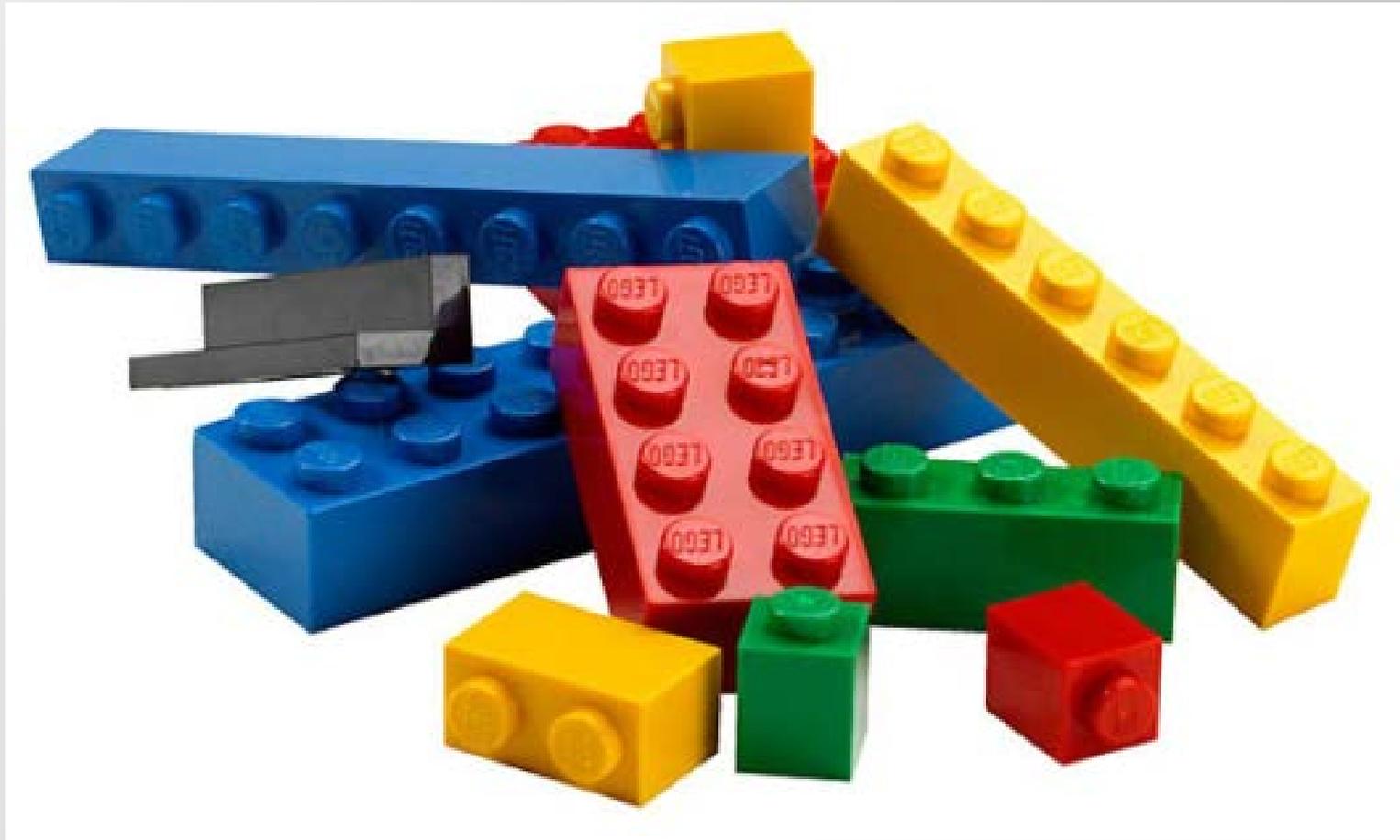
# SEEK Health Professionals

- Reported significant improvement in:
  - level of comfort
  - perceived competence
  - practice behavior

\*regarding the targeted risk factors\*
- Some improvements sustained 36 months beyond initial training
- SEEK MOC 2 and MOC 4 modules available



# Building Systems to Assist Families





# Evidence Based Prevention / Interventions

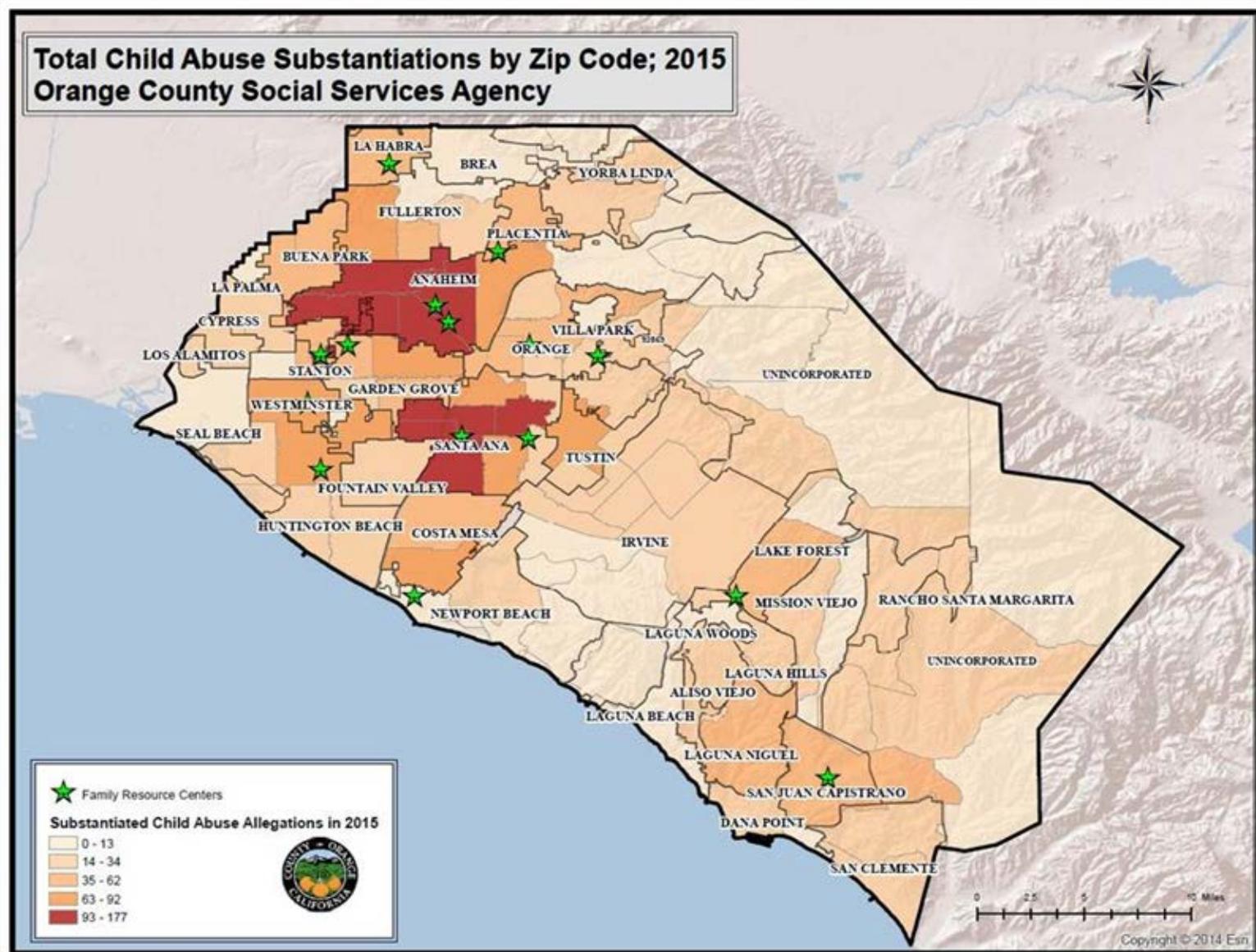
- Home visiting programs
  - Nurse Family Partnership
    - 50% reduction in domestic violence
    - 50% reduction in reported abuse/neglect
- Early Head Start
- Pre-K: Builds confidence / resilience
  - Perry: Increases HS graduation, earnings at 27 and reduces crime

[www.boldapproach.org](http://www.boldapproach.org)

<https://www.childwelfare.gov/pubPDFs/braindevtrauma.pdf>



# Mapping the problem

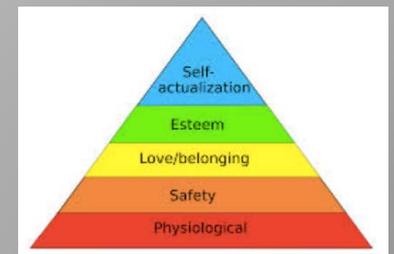




# Orange County Programs

## Family Resource Centers

- Co-located in highest need communities as mapped by GIS
- Provide services most needed as determined by community and state
  - food, referrals to assistance, child care, counseling, legal aid, basic medical care, and more
- **Special focus on reducing violence and increasing availability of basic needs**



**\$\$ 26:1 return on investment \$\$**



# Orange County Programs

## Prevention and Early Intervention Program

- Combined study by CFCOC and SSA, local groups
- **40%** of CA children <1 yr old called into registry and screened out will re-present **by age 5**
- Idea is to catch and support families before their distress becomes severe
- All families with children <6 yr old randomized to voluntary family support vs. no intervention



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And so many more...



# Questions?

