

## THE ADVERSE CHILDHOOD EXPERIENCES (ACE) STUDY & MARYLAND'S ACE PREVALENCE

### What are ACEs?

Adverse childhood experiences (ACEs) are traumatic events that can dramatically upset a child's sense of safety and well-being. In the mid-1990s, more than 17,000 adult members of the Kaiser Permanente health plan in San Diego, California, were surveyed about exposure to 10 types of childhood trauma:

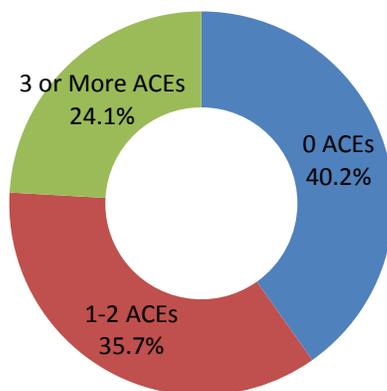
CHILD MALTREATMENT	FAMILY DYSFUNCTION
Physical Abuse	Substance Abuse
Sexual Abuse	Mental Illness
Emotional Abuse	Domestic Violence
Physical Neglect	Divorce/Separation
Emotional Neglect	Incarceration

### What did the ACE Study find?

- ▶ ACEs are common.
- ▶ ACEs frequently occur together.
- ▶ ACEs have a strong and cumulative impact on the health and functioning of adults:

BEHAVIORS	HEALTH
Smoking Alcohol Abuse Drug Use (Illicit & Prescription)	Severe Obesity Diabetes
Absenteeism & Poor Work Performance	Depression Suicide Anxiety
Lack of Physical Activity	HIV & STDs Liver Disease
Risky Sexual Behavior Teen Pregnancy	Heart Disease Cancer Stroke
Instability of Relationships Revictimization Risk	Chronic Lung Disease Autoimmune Diseases
	Broken Bones & Other Injuries Early Death

Maryland's 2015 ACE Data had similar findings. [See Attached Prevalence of ACEs](#)



**ACEs are Common:  
Percentage of MD Adult Population Reporting ACEs**

For more information about how MD Essentials for Childhood is addressing ACEs statewide, to see the documentary on ACEs *Resilience: The Biology of Stress & The Science of Hope*, and/or to arrange an ACE Interface Presentation, please contact [Claudia.Remington@Maryland.gov](mailto:Claudia.Remington@Maryland.gov) at The Maryland State Council on Child Abuse & Neglect.

## Why Does this Matter?

- In Maryland, we take seriously our role as stewards of the next generation, and know that our ability to raise healthy children who will lead tomorrow's communities requires smart and innovative thinking today. The good news is that the science of the developing brain and the Adverse Childhood Experience (ACE) Study are clear about what children need to thrive.

## What is the Challenge?

- We now know that the brain's architecture is built over time and from the bottom up, much like a house. Sturdy architecture is built when children have stable, positive experiences and relationships with caring adults at home and in the community.
- However, when children don't have these experiences, because of exposure to child abuse and neglect, untreated parental mental illness, or other ACEs that produce what is now known as "toxic stress," children are vulnerable to a range of health, learning and behavior problems across their lifespan —and we put our future well being as a state at risk.
- Fortunately, research also suggests that there are things caring and innovative adults, including policy makers, can do to prevent ACEs and buffer toxic stress, preventing or reversing their effects.

## What can YOU do to meet this challenge? Legislative Priorities

- That's why passing three important pieces of legislation-- the Fostering Health in Foster Care Act and Child Sexual Abuse Prevention-Training and Child Sexual Abuse Prevention-Screening bills-- is so important. When we prioritize health outcomes for children in child welfare and strengthen youth serving organizations' abilities to put training, policies and practices in place to prevent child sexual abuse, we are taking significant steps as a state to prevent ACEs.
- As, child abuse and neglect costs Maryland taxpayers an estimated \$1.5 billion each year, reducing children's exposure to ACEs makes good economic sense. For every \$1 invested in prevention, it is estimated that the state would save \$15 on treating its long-term effects.
- We know what to do. The question is whether we will approach our challenges with a "can do", not a "can't do" attitude. Safe, stable, nurturing relationships and environments serve as protective factors that are essential for the health and well-being of our children – and we believe every child in Maryland should have equal opportunity to thrive.

**PLEASE SUPPORT LEGISLATION THAT PROTECTS CHILDREN  
AND SAFEGUARDS FUTURE GENERATIONS**

**Adverse Childhood Experience (ACE) Questionnaire**  
**Finding your ACE Score**

**While you were growing up, prior to your 18th birthday:**

1. Did a parent or other adult in the household **often**...  
Swear at you, insult you, put you down, or humiliate you?  
**or**  
Act in a way that made you afraid that you might be physically hurt?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
2. Did a parent or other adult in the household **often**...  
Push, grab, slap, or throw something at you?  
**or**  
Ever hit you so hard that you had marks or were injured?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
3. Did an adult or person at least 5 years older than you **ever**...  
Touch or fondle you or have you touch their body in a sexual way?  
**or**  
Try to or actually have oral, anal, or vaginal sex with you?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
4. Did you **often** feel that...  
No one in your family loved you or thought you were important or special?  
**or**  
Your family didn't look out for each other, feel close to each other, or support each other?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
5. Did you **often** feel that ...  
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?  
**or**  
Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
6. Were your parents **ever** separated or divorced?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
7. Was your mother or stepmother:  
**Often** pushed, grabbed, slapped, or had something thrown at her?  
**or**  
**Sometimes or often** kicked, bitten, hit with a fist, or hit with something hard?  
**or**  
**Ever** repeatedly hit over at least a few minutes or threatened with a gun or knife?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
9. Was a household member depressed or mentally ill or did a household member attempt suicide?  
 Yes  No If yes enter 1 \_\_\_\_\_
  
10. Did a household member go to prison?  
 Yes  No If yes enter 1 \_\_\_\_\_

**Now add up your "Yes" answers: \_\_\_\_\_ This is your ACE Score**

**“The ACE Score is Not!**

**-A diagnostic tool**

**-A screening tool**

**-A predictor at the individual level**

**Or**

**-A fun quiz”**

Dr. Robert Anda, Co-Principal Investigator, The ACE Study



**“The ACE Score is....**

**A History tool**

**A communication tool to comfortably talk about life experiences**

**Becoming part of a common language**

**A gateway to empathy, compassion, and healing”**

Dr. Robert Anda, Co-Principal Investigator, The ACE Study



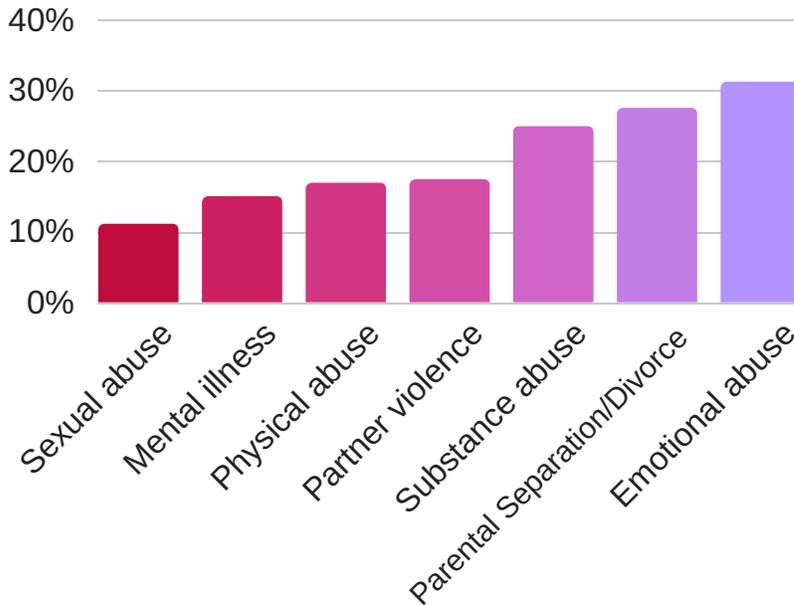
# ADVERSE CHILDHOOD EXPERIENCES



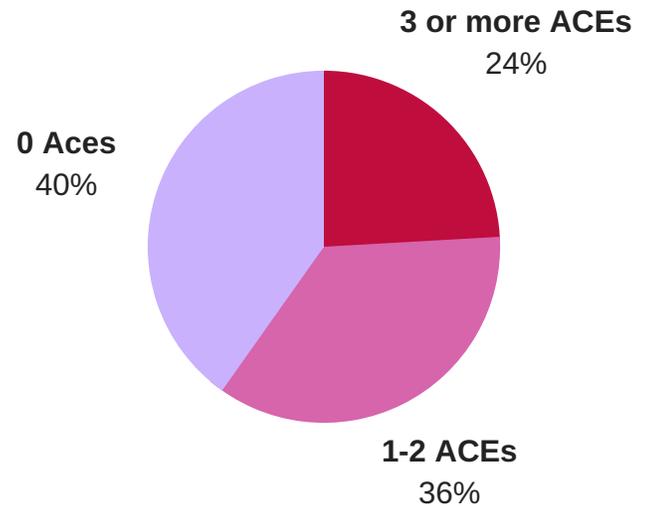
Looking at the prevalence and damaging health effects of ACEs in Maryland

Source: 2015 Maryland BRFSS Data

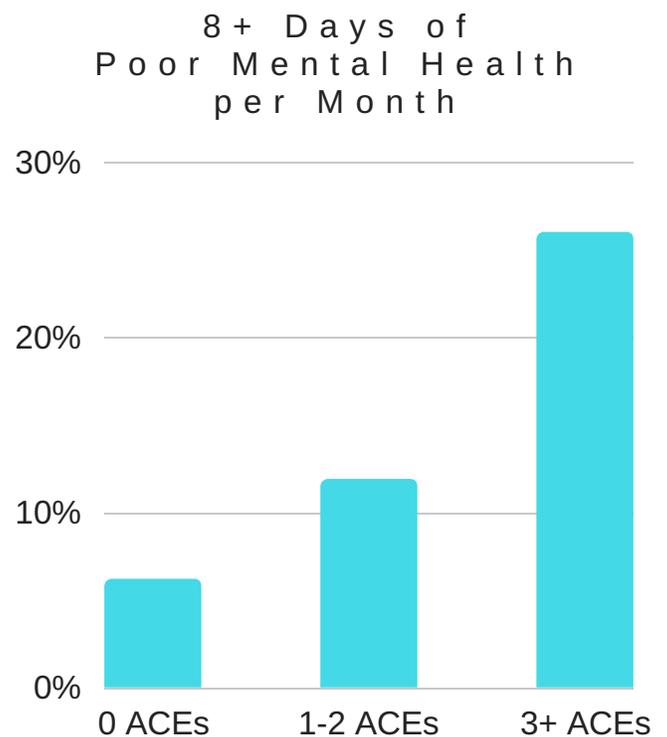
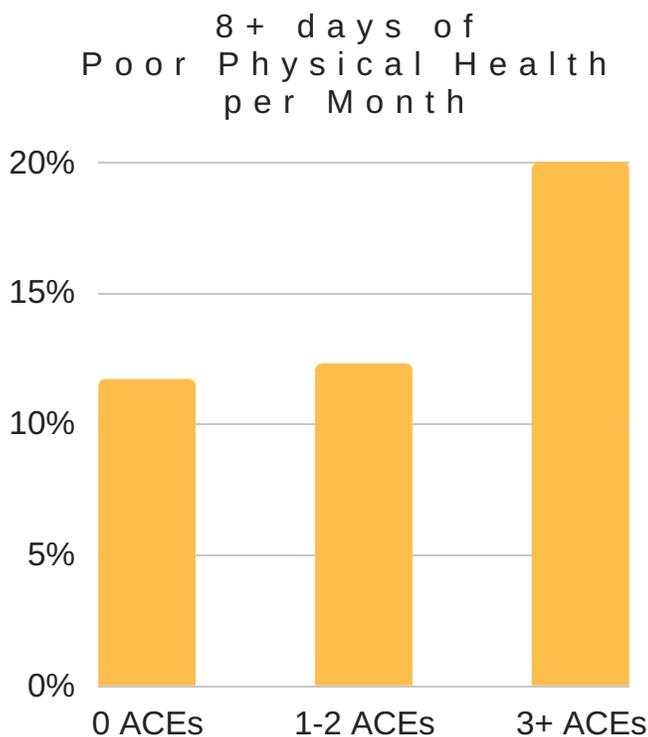
## PREVALENCE OF ACEs BY TYPE



## NUMBER OF ACEs REPORTED



## QUALITY OF LIFE MEASURES BY NUMBER OF ACEs



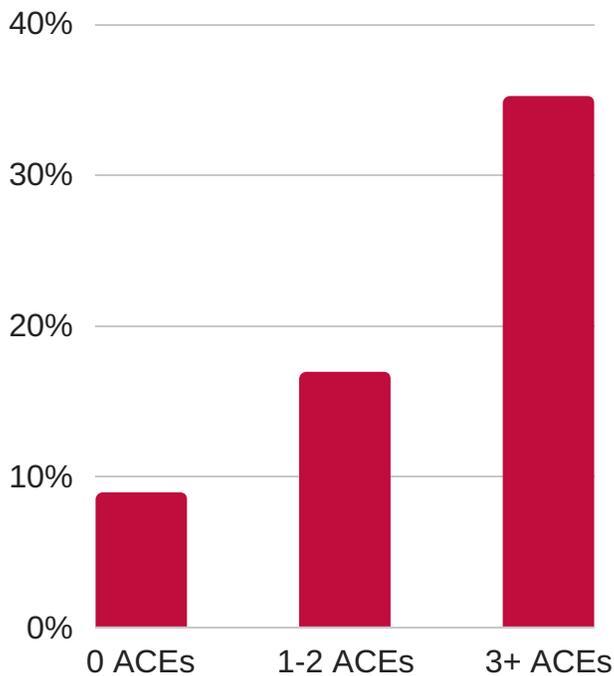
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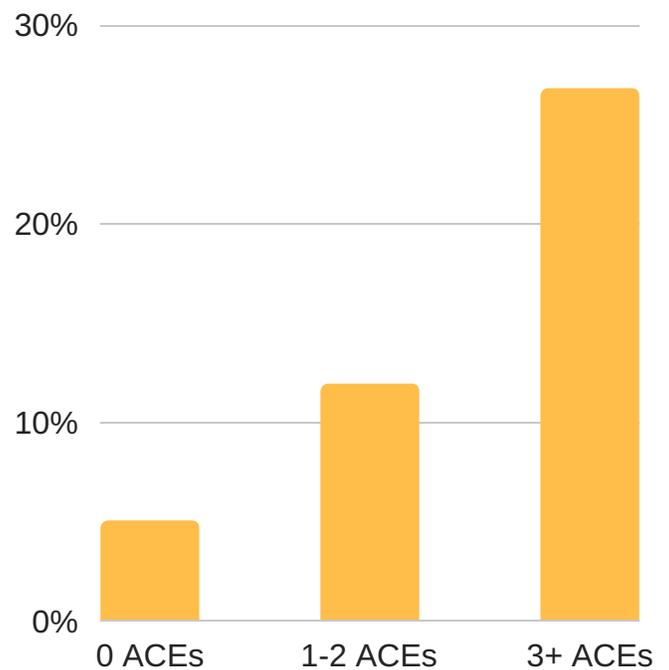
*Looking at the prevalence and damaging health effects of ACEs in Maryland*

Source: 2015 Maryland BRFSS Data

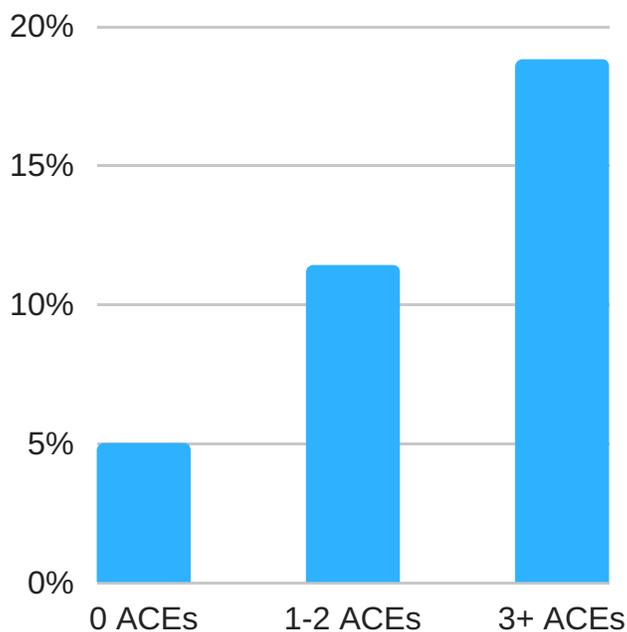
## DEPRESSION



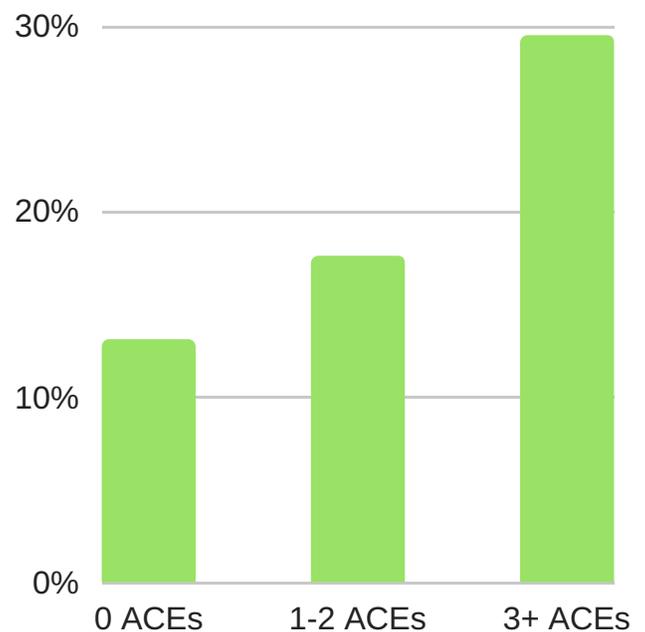
## ANXIETY



## COGNITIVE DECLINE



## DISABILITY STATUS



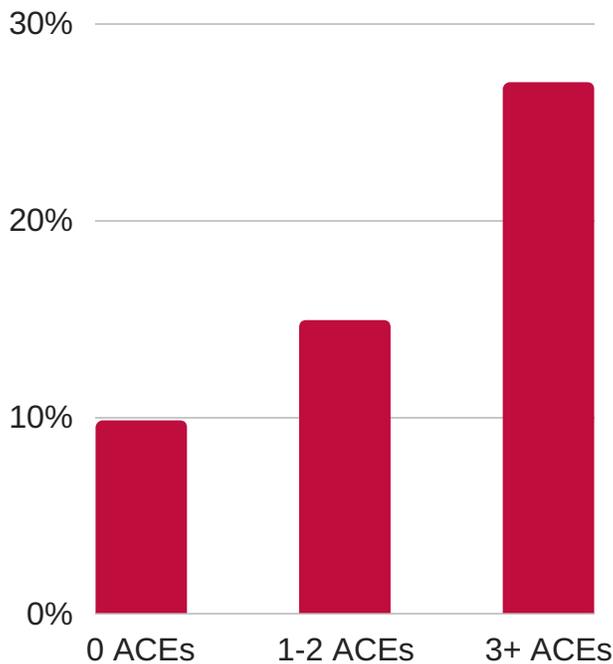
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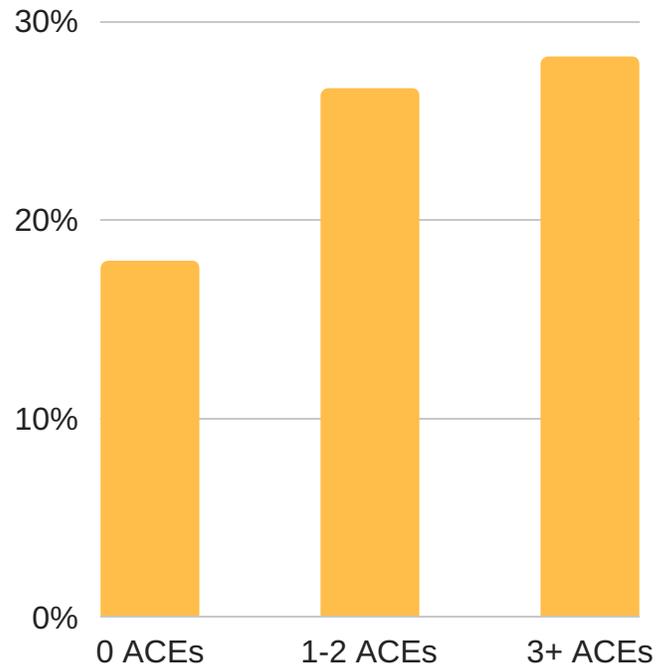
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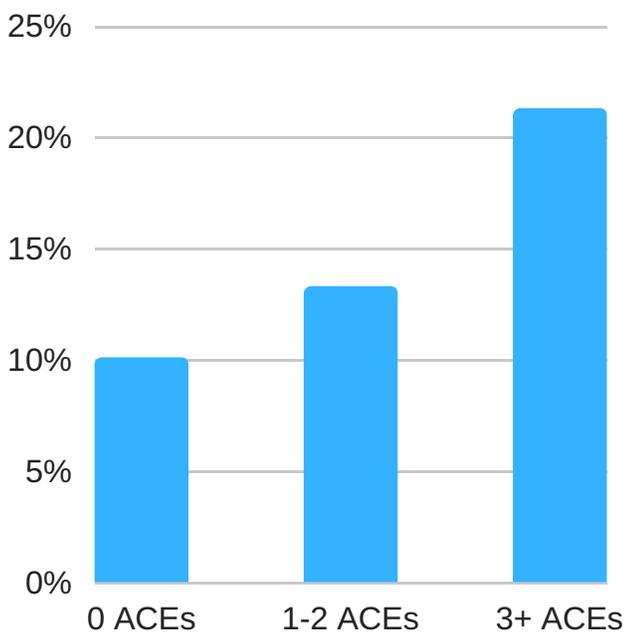
## CURRENT SMOKERS



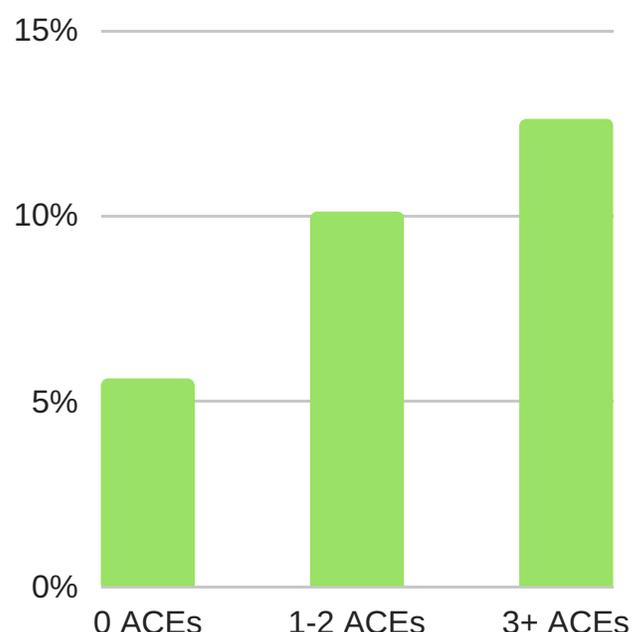
## BINGE DRINKING



## ASTHMA



## LACK OF SEAT BELT USE



## Adverse Childhood Experiences (ACEs) Additional Resource List

Use your phone's camera/scanner app below

For PDF copies of handout(s):



To complete the ACE presentation evaluation online:



Or visit:

[https://drive.google.com/open?id=1MYF4kibz5\\_iNGpDCoqI9cN-oaOtNjy9o](https://drive.google.com/open?id=1MYF4kibz5_iNGpDCoqI9cN-oaOtNjy9o)

Lt. Veto Mentzell  
Harford County Sheriff's Office  
CID – CAC, DVU, VSU  
410-638-4976

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23 North Main Street  
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410-638-3294  
[www.harfordcac.org](http://www.harfordcac.org)



To join the Harford County ACEs Steering Committee, please email [mentzellv@harfordsheriff.org](mailto:mentzellv@harfordsheriff.org)

Adverse Childhood Experience or ACEs are traumatic events that occur in a child's life. These events can include physical or sexual abuse, neglect, household dysfunction or even witnessing violence. Science has shown that these types of events have a direct impact on children's developing brains which can have negative health and well-being outcomes as an adult, including everything from heart disease, diabetes and cancer to opioid abuse, depression and early death. By learning more about ACEs and bringing that knowledge into our work with the community we can help invent wise actions that address childhood adversity across all sectors, thereby reducing the risk for poor health and social outcomes in adulthood.

### **Maryland ACEs Resources**

- Maryland Adverse Childhood Experiences Initiative  
<https://www.familytreemd.org/trainings/>
- ACEs Training Request  
<https://www.cognitofrms.com/TheFamilyTree1/ACEsTrainingRequest>
- Maryland ACEs Action (An ACEs Connection Community Page)  
<http://www.acesconnection.com/g/maryland-state-aces>
- Adverse Childhood Experiences (ACEs) in Maryland: Data from the 2015 Maryland BRFSS  
[https://phpa.health.maryland.gov/ccdpc/Reports/Documents/MD-BRFSS/2015\\_MD\\_BRFSS\\_ACEs\\_Data\\_Tables.pdf](https://phpa.health.maryland.gov/ccdpc/Reports/Documents/MD-BRFSS/2015_MD_BRFSS_ACEs_Data_Tables.pdf)
- Handle With Care MD - GOCCP  
<https://handlewithcaremd.org/>

### **General ACEs Resources**

- CDC Adverse Childhood Experiences (ACEs)  
<https://www.cdc.gov/violenceprevention/acestudy/index.html>
- ACEs Connection  
<http://www.acesconnection.com/>
- ACES Too High  
<https://acestoohigh.com/>
- The Truth About ACEs Infographic  
<https://www.rwjf.org/en/library/infographics/the-truth-about-aces.html>

## Adverse Childhood Experiences (ACEs) Additional Resource List

### General ACEs Resources continued

- ACEs Primer - bonus content from *Resilience* (running time 4:59m)  
<https://player.vimeo.com/video/139998006?autoplay=1>
- Resilience: The Biology of Stress & The Science of Hope (running time 60:00m)  
<http://kpjrfilms.co/resilience/>
- Paper Tigers: One High School's Unlikely Success Story (running time 102:00m)  
<https://kpjrfilms.co/paper-tigers/>
- #OneCaringAdult  
<http://onecaringadult.co/>
- Blackburn with Darwen Council – Adverse Childhood Experiences (running time 5:43m)  
<https://vimeo.com/189604325>
- How childhood trauma affects health across a lifetime (running time 16:02m)  
<https://www.youtube.com/watch?v=95ovIJ3dsNk&list=PLOUvAqnuSbQmC-ch5QJ1cOGrGuX24mTSj&index=1>
- Building Adult Capabilities to Improve Child Outcomes: A Theory of Change (running time 5:18m)  
<https://developingchild.harvard.edu/resources/building-adult-capabilities-to-improve-child-outcomes-a-theory-of-change/>
- Health Connections Special: ACEs – Adverse Childhood Experiences (running time 28:30m)  
<https://www.youtube.com/watch?v=sWzwp-f36iA>
- Got Your ACE Score?  
<https://acestoohigh.com/got-your-ace-score/>
- Take The ACE Quiz – And Learn What It Does And Doesn't Mean  
<https://www.npr.org/sections/health-shots/2015/03/02/387007941/take-the-ace-quiz-and-learn-what-it-does-and-doesnt-mean>
- Treating Childhood Trauma – *Oprah Winfrey reports on how trauma plays a role in childhood development and what new methods are being used to help kids who have experienced it*  
<https://www.cbsnews.com/news/oprah-winfrey-treating-childhood-trauma/>
- Parenting with ACEs (An ACEs Connection Community Page)  
<https://www.acesconnection.com/g/Parenting-with-ACEs>
- The Pair of ACEs – Adverse Community Environments  
<https://publichealth.gwu.edu/departments/redstone-center/resilient-communities>
- Handle With Care Program  
<http://www.handlewithcarewv.org/handle-with-care.php>

### Notes:

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- The Pair of ACEs – Adverse Community Environments  
<https://publichealth.gwu.edu/departments/redstone-center/resilient-communities>
- Handle With Care Program WV – Center for Children's Justice  
<http://www.handlewithcarewv.org/handle-with-care.php>

### **Law Enforcement ACEs Resources**

- Safeguarding Children of Arrested Parents Toolkit  
International Association of Chiefs of Police (IACP)  
<https://www.theiacp.org/resources/safeguarding-children-of-arrested-parents-toolkit>
- Enhancing Law Enforcement Response to Children Exposed to Violence and Childhood Trauma  
Yale Medicine – Child Study Center, IACP, and the Office of Juvenile Justice and Delinquency Prevention (OJJDP)  
<https://www.theiacp.org/projects/enhancing-law-enforcement-response-to-children-exposed-to-violence-and-childhood-trauma>
- Cops, Kids, and Domestic Violence: Law Enforcement Training Video and Support Materials  
<https://www.youtube.com/watch?v=o2-LZBtXlxg>  
<https://www.nctsn.org/resources/cops-kids-and-domestic-violence-law-enforcement-training-video-support-materials>



## Understanding Adverse Childhood Experiences

### *Building Self-Healing Communities*

The ACE Study confirms, with scientific evidence that adversity during development increases the risk of physical, mental and behavioral problems later in life. The ACE Study and other research using the study's framework have taught us that ACEs are the leading cause of health and social problems in our nation and the most powerful determinant of the public's health.

#### **Brain Development is Experience-Dependent and Sequential**

The wiring of the brain – the making of complex neural networks – is experience dependent. What gets experienced the most tends to lead to more robust connections between nerve cells. Over time, these connections form robust networks. The least “experienced” connections tend to withdraw at about the time of puberty.

Experiences that cause stress chemicals to be continuously produced have a big impact on development of brain cells and the connections among cells. When stress hormones, like cortisol, are at high levels in the body for long periods of time they can be toxic to developing brain cells. This toxicity impacts the functioning of brain regions, hinders development of healthy neural networks, and can cause brain cells to die. When danger is episodic or long lasting during childhood, developing brains prepare and adapt to respond to the experiences of an unpredictable and dangerous world. The people whose brains adapt to a dangerous or stressful world are more likely to survive when life is tough; those whose brains adapt to a safe world are more likely to be prepared to meet society's expectations in tranquil times.

As the brain develops, there are sensitive periods for each brain region when the size and functional abilities of the region are most affected by experience and are most vulnerable to toxic stress. Stress may be interpreted by the brain as something we can tolerate and work through or as something that is overwhelming and requires an immediate response. In the latter case, a small amount of stress may be perceived as crisis. Our set-points for that interpretation are largely in place by early adulthood.

Toxic stress during childhood can effect processing of sound, development of verbal language, perception of social cues and facial expressions, ability to coordinate movement or to integrate rational ideas when in a highly emotional state. Toxic stress can effect brain interaction with body systems and lead to disease, disability and social/relational problems throughout the life course. *But childhood times are also windows of opportunity for building resilience – after all, the developing brain is sensitive to all kinds of experience.*



Human development is a magnificent dance of experience and adaptation generating age-appropriate capacities for feeling, thinking and responding to the world around us.

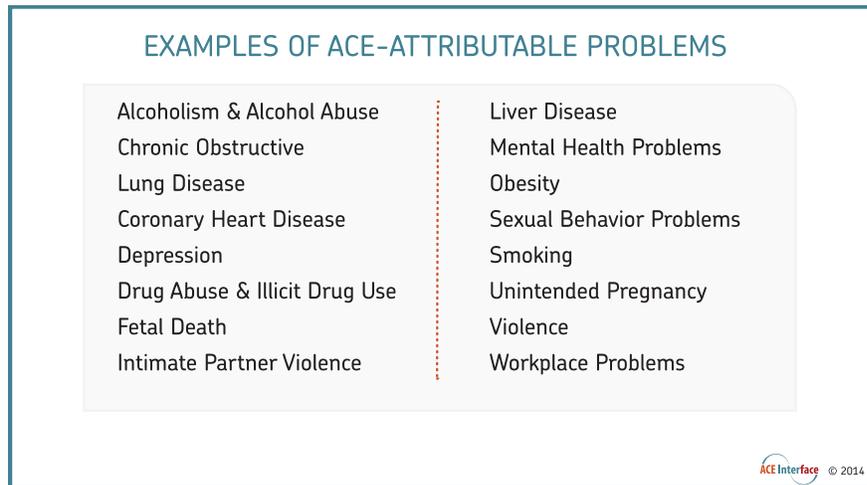
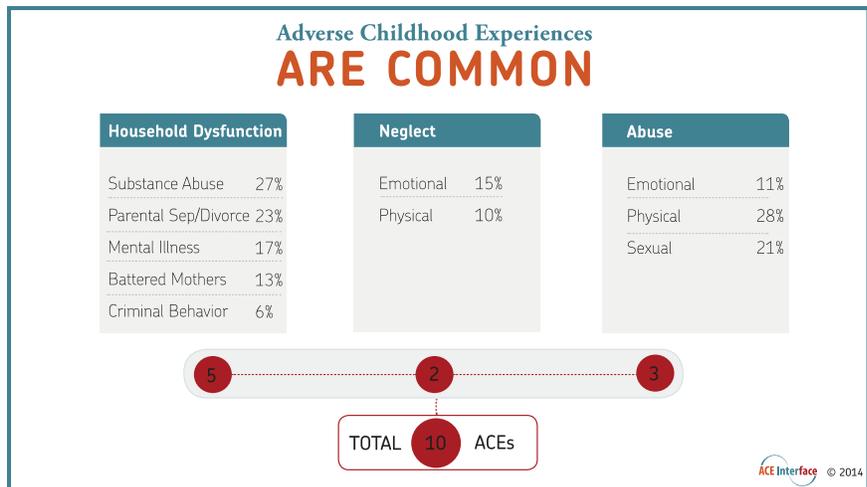
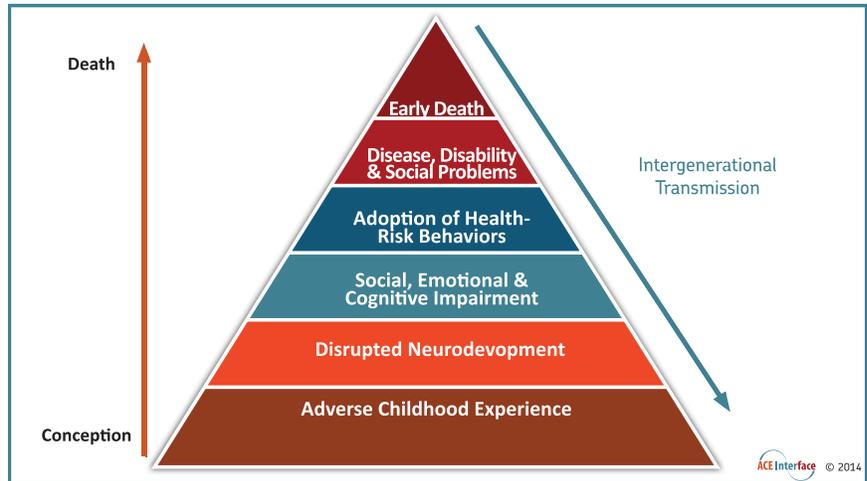
### The ACE Study

The ACE Study considers the effects of childhood adversity on population health and wellbeing. A partnership between Kaiser Permanente in San Diego and the Centers for Disease Control and Prevention in Atlanta, The ACE Study takes a broad public health perspective of the effects of multiple forms of childhood adversity on population health. The ACE Study is the largest of its kind, with over 17,000 participants.

The ACE Pyramid (top right) represents the life course model of the ACE Study: ACEs disrupt neurodevelopment, which in turn leads to social-emotional and cognitive adaptations that can then lead to risk factors for major causes of disease, disability, social problems, and early death. The ACE Study is designed to help us understand how Adverse Childhood Experiences influence human development and life course health in predictable ways.

The ACE Study considers ten categories of childhood adversity (middle right). Study findings include:

- 1. ACEs are common across all socio-economic and culture/ethnicity lines.**
- 2. ACEs are interrelated.**
- 3. ACE accumulation has a powerful impact on public health.**
- 4. ACEs tend to be held in the body, leading to mental, physical, and behavioral health problems throughout the life course.** (lower right)



As the ACE Score goes up the risk of many health and social problems goes up in a “dose-response” fashion. As a result, as the ACE Score goes up in a population, the percent of people with these problems also goes up. It is also important to understand that some of those problems become ACEs for the next generation—thereby perpetuating the cycle of adversity and their attendant problems.

### ACE Prevention: Our Powerful Legacy

ACE Prevention is the greatest opportunity for improving the well-being of human populations. ACEs are considered the most powerful determinant of the public's health because of the breadth of impacts – from heart disease to homelessness, from depression to violence – and because of the large percent of each of these problems that are attributable to ACEs.

Epidemiologists use a standard statistical calculation to estimate the amount of a disease or condition that is caused by a disease agent – called the Population Attributable Risk. The dark area in the center of the graphic (upper right) represents the portion of each condition that is attributable to ACEs – from 22% of asthma to 67% of life dissatisfaction. As we are successful preventing accumulation of ACEs in the next generation, we will reduce all ACE-attributable problems accordingly.

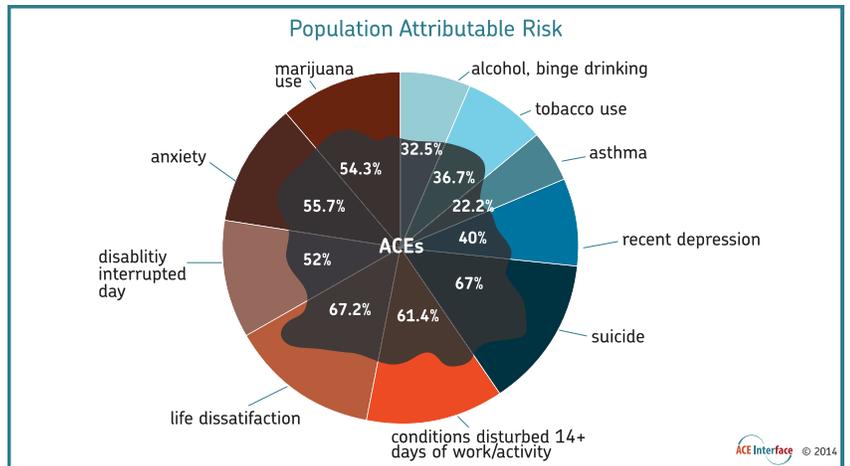
### Protective Systems Promote Resilience

Three protective systems interact and guide positive adaptation: 1) individual capabilities, 2) attachment and belonging, and 3) community, faith, and cultural processes. These three systems are nested: people do best when they are living in flourishing families and communities.

People most affected by ACEs are leading formation of *Self-Healing Communities* that have a rhythm of engagement that includes:

1. **Safe and regularly scheduled ways of coming together for belonging and cooperative action,**
2. **Networked social and inter-organizational processes characterized by learning, reciprocity, social bridging, and efficacy,**
3. **Shared times and venues for critical reflection and decision making about hope-filled action,**
4. **Continuous expansion of opportunities for informal and formal leadership.**

*Building Self-Healing Communities* is about investing in the people who have the most at stake—especially people affected by ACEs-- so they can be expert leaders of their own community's change. We live at a time of great hope and promise – the greatest public health discovery of our time is about us. The ACE Study provides a discovery – a common framework and language – that we can use to profoundly improve the health and well-being of our society now and for future generations to come



### Core Protective Systems

- Capabilities
- Attachment & Belonging
- Community Culture Spirituality

*“Nurturing the healthy development of these protective systems affords the most important preparation or ‘inoculation’ for overcoming potential threats and adversities in human development. Similarly, damage or destruction of these systems has dire consequences for the positive adaptive capacity of individuals.”*

*Ann Masten, 2009*

