

# Adverse Childhood Experiences

## Nebraska PRAMS

### What are Adverse Childhood Experiences (ACEs)?

ACEs are stressful or traumatic experiences that research has shown affect the neurobiological and psychosocial capacity of children. There are 10 ACEs identified in research<sup>1</sup>. ACEs cover a range of experiences that can occur throughout a child's life up to 18 years old<sup>1</sup>. Here are examples of ACEs that children may experience on one or more occasions:

#### Abuse:

Physical—Pushed, grabbed, slapped, or hit so hard it left marks or injury

Emotional—Sworn at, insulted, put down or felt would be physically hurt

Sexual—Touched, fondled, or made to touch another's body in a sexual way, such as oral, anal, or vaginal intercourse

#### Neglect:

Physical—Did not have enough to eat, wore dirty clothes, or had no one to take care of them

Emotional—Felt no or low levels of love, family protection, or support

#### Trauma in Household:

Mental Illness—Household member was depressed, mentally ill, or attempted suicide

Domestic Violence—Parents grabbed, punched, beat, hit, or threatened each other

Substance Abuse—Lived with someone who was an alcoholic or used street drugs

Incarcerated Relative—Household member went to prison/jail

Divorce or Separation—Parents were separated or divorced

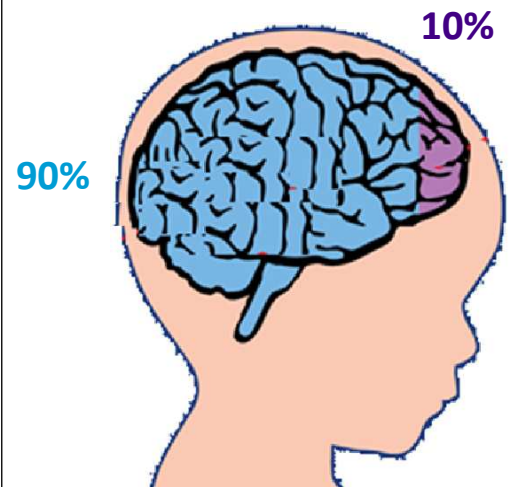
### How Do ACEs affect Neurobiology?

Early adverse childhood experiences like trauma, abuse or maltreatment can alter brain structure, brain function, and the neurobiological stress response system. **The more ACEs experienced**, the greater the likelihood of developmental delays and later health problems, including heart disease, diabetes, substance abuse, and depression<sup>2</sup>.

**Not all ACEs are bad or damaging to a child's development.** Only the ACEs that result in Toxic Stress are bad. **A toxic stress response** can occur when a child experiences strong, frequent, and/or prolonged adversity<sup>3,4</sup>—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship—**without adequate adult support**. This kind of prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, across the lifespan<sup>3</sup>. When toxic stress response occurs continually, it can have a cumulative toll on an individual's physical and mental health—for a lifetime. But research also indicates that **supportive, responsive relationships** with caring adults early in life can prevent or reverse the damaging effects of the toxic stress response<sup>4</sup>.

90% of a child's brain develops before the age of 5. Experiencing ACEs can affect that development.

Only 10% develops after age 5.



### LEVELS OF STRESS<sup>4</sup>

#### Positive Stress

Brief Increases in heart rate, mild elevations in stress

#### Tolerable Stress

Serious, temporary stress responses, buffered by supportive relationships

#### Toxic Stress

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

## What else should you know about ACEs?

### How are ACEs Linked to Poor Outcomes?

The original 1995-1997 ACE Study found that ACEs have a direct relationship with poor outcomes across lifespan health. If not addressed, certain although not all ACEs are significant risk factors for illness, unhealthy behavior, poor quality of life, and early death, through causes such as the following<sup>1</sup>:

- Adolescent/Unintended Pregnancy
- Substance Abuse
- Chronic Diseases (Obesity, Liver, and Heart)
- Depression
- Mental Health Problems
- Illicit Drug Use
- Fetal Death
- Incarceration
- School Dropout
- Early Initiation of Smoking or Sexual Activity
- Health Related Quality (Homelessness and Poverty)
- Risk of Sexual Assault
- Intimate Partner or Domestic Violence
- Sexually Transmitted Diseases

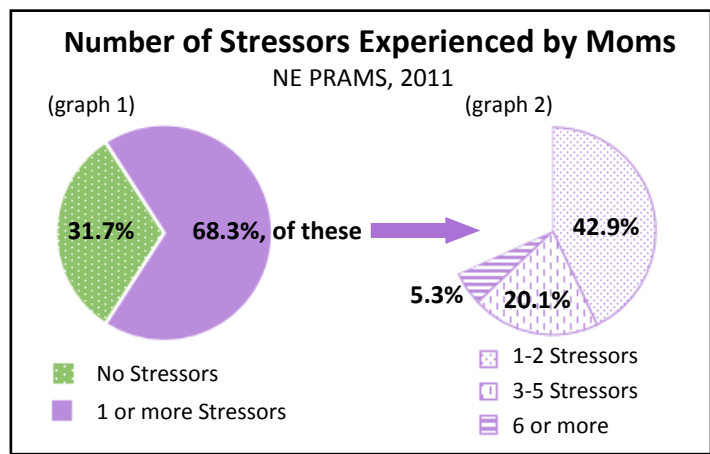
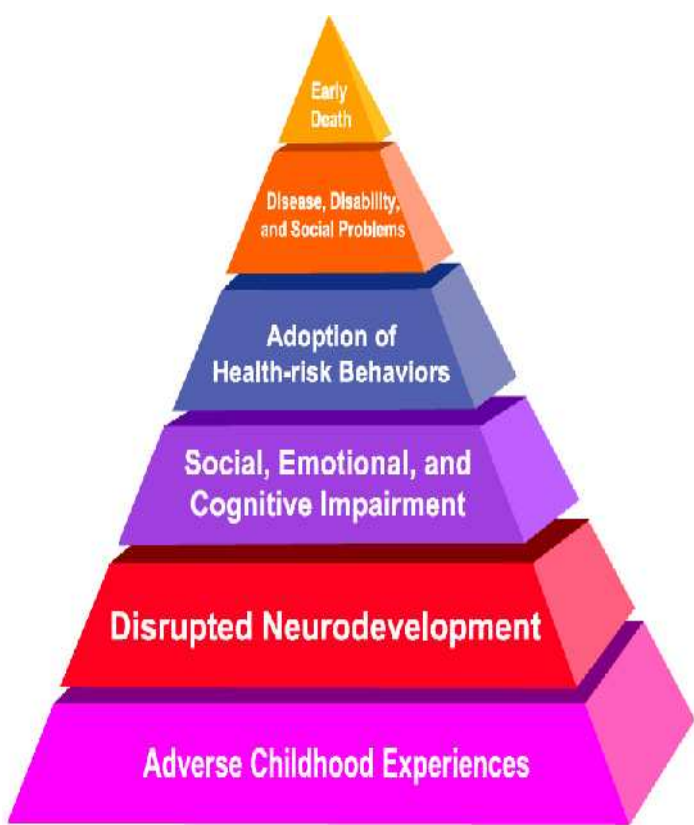
### How Common are ACEs?

In 2010, the Centers for Disease Control & Prevention published data from a representative study of adults in five states, reporting that 60% of participants had at least one ACE, while 9% of participants had 5 or more<sup>5</sup>. Similar results were reported by the Nebraska Department of Health and Human Services (NDHHS) based on data collected in 2011 through the Behavioral Risk Factor Surveillance System (BRFSS)<sup>6</sup>.

### Mothers and Children

Significant maternal stress can affect the developing stress system in young children and make them more vulnerable to the effects of ACEs<sup>4</sup>. Nebraska's Pregnancy Risk Assessment Monitoring System (PRAMS) provides information on experiences women have before, during and after pregnancy, including stress. In 2011, 1 in 10 Nebraska mothers reported feeling depressed or sadness after giving birth. Postpartum depression in mothers is a significant risk factor in child neglect.

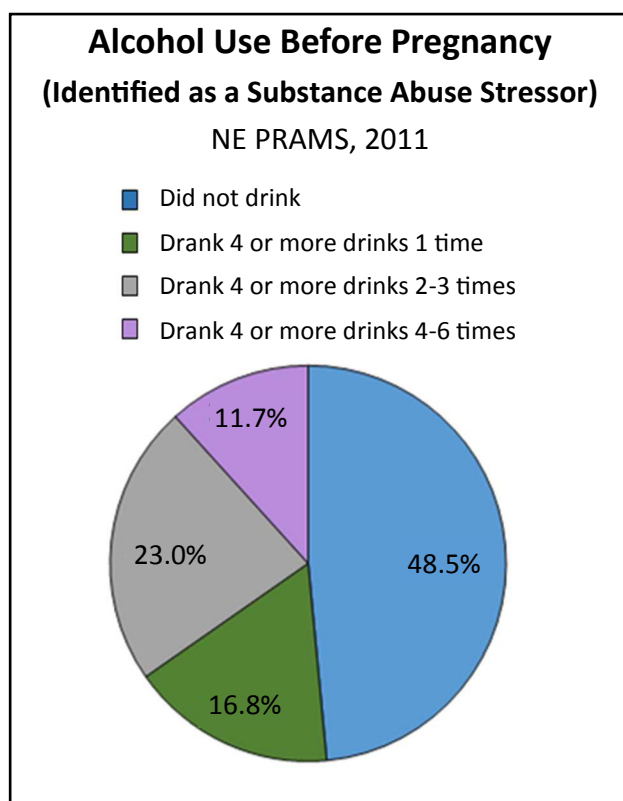
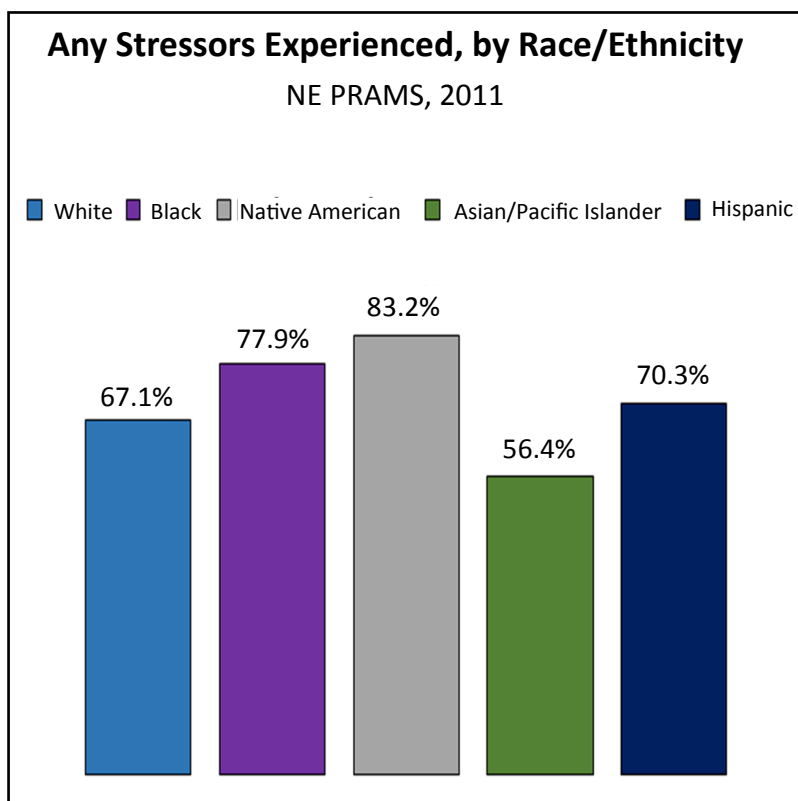
### The ACE Pyramid<sup>1</sup>



More than two thirds (68.3%) of PRAMS mothers report experiencing one or more stressors (graph 1). Of those with one or more, 20% reported experiencing three to five stressors (graph 2). These include:

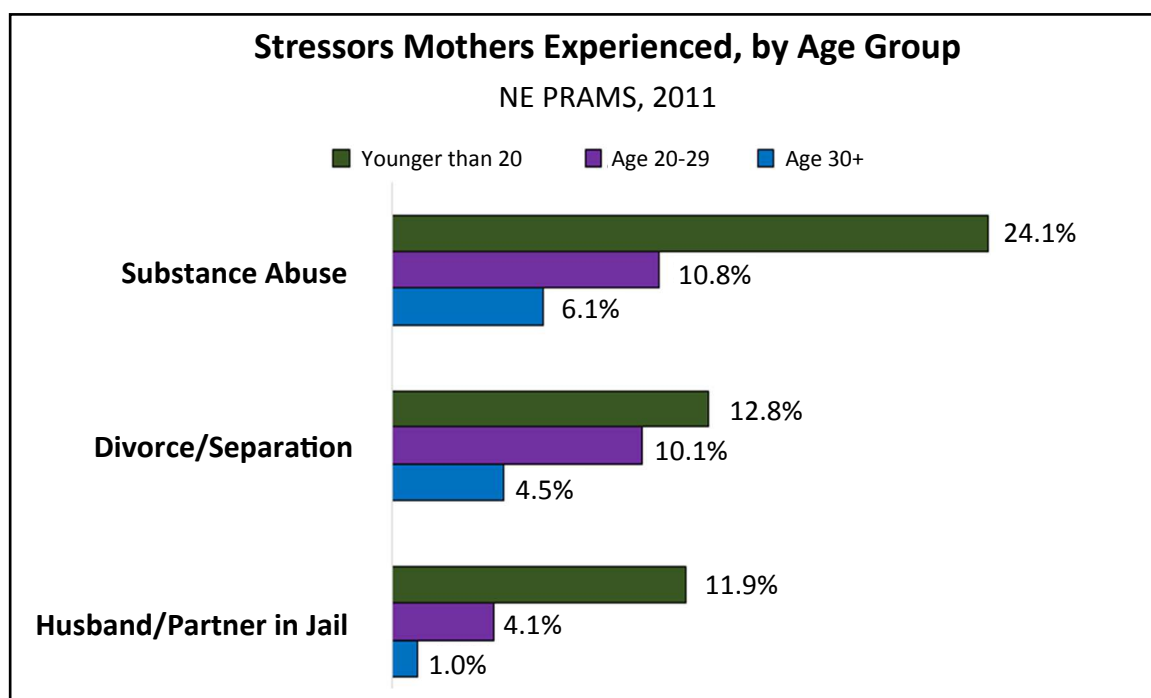
- Family member was seriously ill
- Someone close died
- Losing a job
- Being homeless
- Having to move
- Being in a physical fight
- Having someone close with an alcohol/drug problem
- Having a lot of bills that can't pay
- Self or husband/partner going to jail
- Arguing with husband/partner more than usual
- Being separated from husband/partner
- Husband/partner losing a job
- Husband/partner did not want pregnancy

## PRAMS asked Mothers “What stressors happened before baby was born?”



Native American (83.2%), Black (77.9%), and Hispanic (70.3%) mothers reported the highest prevalence of stressors experienced.

Heavy and frequent alcohol consumption before pregnancy can result in birth defects, and developmental disorders like fetal alcohol syndrome<sup>7</sup>.



Experiencing a divorce/separation, going to jail, or having someone close being incarcerated, or have a problem with substance abuse are among the stressors identified in the ACE Study, and that can be monitored by PRAMS Data.

## Resources

**Centers for Disease Control & Prevention**

[www.cdc.gov/ace/about.htm](http://www.cdc.gov/ace/about.htm)

**Center on the Developing Child at Harvard University**

[www.developingchild.harvard.edu](http://www.developingchild.harvard.edu)

**The National Council for Behavioral Health**

[www.thenationalcouncil.org/topics/trauma-informed-care/](http://www.thenationalcouncil.org/topics/trauma-informed-care/)

**Robert Wood Johnson Foundation**

[www.rwjf.org/en/search-results.html?u=&k=ACES](http://www.rwjf.org/en/search-results.html?u=&k=ACES)

**American Academy of Pediatrics**

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

**Child Trauma Academy**

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

**National Child Traumatic Stress Network**

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

**Substance Abuse and Mental Health Services**

[www.Samhsa.gov](http://www.Samhsa.gov)

**ACEs 360**

[www.iowaaces360.org/home.html](http://www.iowaaces360.org/home.html)

**ACEs Connection**

[www.acesconnection.com/](http://www.acesconnection.com/)

### References

1. U.S. Centers for Disease Control & Prevention. 2014. Adverse Childhood Experience (ACE) Study. [www.cdc.gov/violenceprevention/cestudy/](http://www.cdc.gov/violenceprevention/cestudy/)
2. Anda, R. 2010. Adverse Childhood Experiences: Connecting a Developmental Lens to the Health of Society. [www.iowaaces360.org/uploads/1/0/9/2/10925571/dr.\\_robert\\_anda\\_presentation.pdf](http://www.iowaaces360.org/uploads/1/0/9/2/10925571/dr._robert_anda_presentation.pdf).
3. Prevent Child Abuse Iowa. 2014. The Neurobiology of Stress— Research Brief. [www.pcaiowa.org/downloads/library/neurobiology-of-stress-report.pdf](http://www.pcaiowa.org/downloads/library/neurobiology-of-stress-report.pdf)
4. National Scientific Council on the Developing Child. 2005. Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper #3. [www.developingchild.net](http://www.developingchild.net).
5. U.S. Centers for Disease Control and Prevention. 2010. Adverse childhood experiences reported by adults --Five states, 2009. *MMWR Morb Mortal Wkly Rep* 59(49):1609-13. [www.ncbi.nlm.nih.gov/pubmed/21160456](http://www.ncbi.nlm.nih.gov/pubmed/21160456).
6. Yeoman K, et al. 2013. Adverse childhood experiences and adult smoking, Nebraska, 2011. *Prev Chronic Dis* 10:130009. [www.ncbi.nlm.nih.gov/pmc/articles/PMC3780713/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3780713/).
7. Chung EK, et al. 2010. Risky health behaviors among mothers-to-be: the impact of adverse childhood experiences. *Acad Pediatr* 10(4):245-51. [www.ncbi.nlm.nih.gov/pubmed/20599179](http://www.ncbi.nlm.nih.gov/pubmed/20599179).
8. Substance Abuse and Mental Health Services Administration (SAMHSA) (2012). Part Two: A Trauma-Informed Approach. [www.samhsa.gov/traumajustice/traumadefinition/approach.aspx](http://www.samhsa.gov/traumajustice/traumadefinition/approach.aspx).

### What is Nebraska PRAMS?

The Nebraska Pregnancy Risk Assessment Monitoring System is an ongoing population-based surveillance system of maternal behaviors and experiences before, during, and after pregnancy. Nebraska PRAMS is a joint research project between the Nebraska Department of Health and Human Services and the United States Centers for Disease Control and Prevention (CDC). The data presented in this publication are based on 1,721 completed surveys representing Nebraska mothers who gave birth to live infants during 2011.

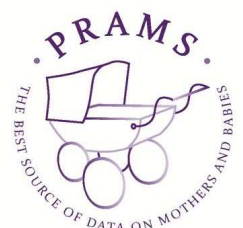
[www.dhhs.ne.gov/prams](http://www.dhhs.ne.gov/prams)

### Completed in collaboration with

Nebraska Children and Families Foundation; St. Monica’s Behavioral Health Services for Women; Center on Children, Families, and the Law University of Nebraska Lincoln; Nebraska Domestic Violence Sexual Assault Coalition; Nebraska Department of Education; Nebraska Division of Behavioral Health; Nebraska Division of Public Health; Nebraska Division of Children and Family Services; and the U.S. Centers for Disease Prevention and Control.

### Special Acknowledgement to Kyle Gardner

Supported in part through funding from the Health Resources and Services Administration (HRSA) Graduate Student Epidemiology Program (GSEP).



August 2015

## Knowing that ACEs and/or Maternal Stressors are Traumatic Experiences and are Relatively Common, WHAT CAN YOU DO?



### Trauma Informed Care

Shifting from “What’s Wrong with You” to “What Happened to You”<sup>8</sup>

Trauma Informed Care is an organizational structure and treatment framework that involves understanding, recognizing, and responding to the effects of all types of trauma. Trauma Informed Care also emphasizes physical, psychological and emotional safety for both consumers and providers, and helps survivors rebuild a sense of control and empowerment.

Becoming “Trauma-Informed” means recognizing that people often have many different types of trauma in their lives. People who have been traumatized need support and understanding from those around them.

### Substance Abuse and Mental Health Service Administration (SAMHSA)

#### Six Key Principles of Trauma Informed Approach<sup>8</sup>

1. **Safety**—Ensure physical and emotional safety of patients.
2. **Trustworthiness/Transparency**—Provide enough information about what patients and employees need to know.
3. **Peer Support**—Integral to the organizational and service delivery approach and are understood as a key vehicle for building trust, establishing safety, and empowerment.
4. **Collaboration and Mutuality**—Maximize collaboration and sharing of power with patients and employees.
5. **Empowerment, Voice, and Choice**—Recognize patient and employee strengths and skills. Prioritize patient and employee experience of choice and control. Listen to office staff and support their ideas and concerns.
6. **Cultural, Historical, and Gender Issues**—Organization addresses cultural, historical, gender issues, and stereotypes.

**Health professionals play a critical role** in the lives of children, mothers, and their families. By integrating **Trauma Informed Care into your practice** you can improve how children and mothers respond to and cope with illness and injury. This results in **Improvement of Quality of Care** and strengthens **Family Centered Care**.

