



Adverse Childhood Experiences in Iowa: A New Way of Understanding Lifelong Health

Findings From the 2012 Behavioral Risk Factor Surveillance System

Commissioned by the
Central Iowa ACEs Steering Committee



Why the Central Iowa ACEs Steering Committee Commissioned This Study

Most people intuitively know that childhood experiences shape the quality of adult lives. The ACE (Adverse Childhood Experience) Study greatly expanded the understanding of this life-course perspective for a group of central Iowa health planners. The ACE study provides evidence for how negative experiences can derail developmental processes, leading to a host of risk behaviors and health problems in adulthood.

The Central Iowa ACEs Steering Committee, a public/private partnership, added questions to the 2012 Iowa Behavioral Risk Factor Surveillance System (BRFSS) to understand and document ACEs in the Iowa population. The BRFSS is an annual state health survey conducted by the Iowa Department of Public Health in partnership with the CDC; it is a timely and accurate source of state data on health risk behaviors, preventive-health practices, and health-care access, primarily related to chronic disease and injury. The questions selected for inclusion to assess ACEs in Iowa were developed by the CDC and were similar to those used in the original ACE study published in 1998.

With grant funding from Mid-Iowa Health Foundation, the Central Iowa ACEs Steering Committee commissioned the analysis of Iowa-specific ACEs data from the 2012 state BRFSS with the intention of increasing awareness and understanding among the general public, policy makers, and professionals on the prevalence of ACEs, related chronic conditions, and health risk behaviors in Iowa.

The Central Iowa ACEs Steering Committee believes access to the Iowa ACEs data is essential to inform policy and practice changes. Integration of this information can lead to improvement of service delivery across systems which would result in better health for Iowans.

Many Iowa communities are already implementing strategies informed by the implications of the original ACE Study. Throughout the state there is great interest in using Iowa data to set the stage for potentially powerful local and statewide responses. We are pleased to offer, for the first time, the 2012 Iowa ACEs data analysis and hope this and subsequent issue briefs will be instrumental to moving these efforts forward.

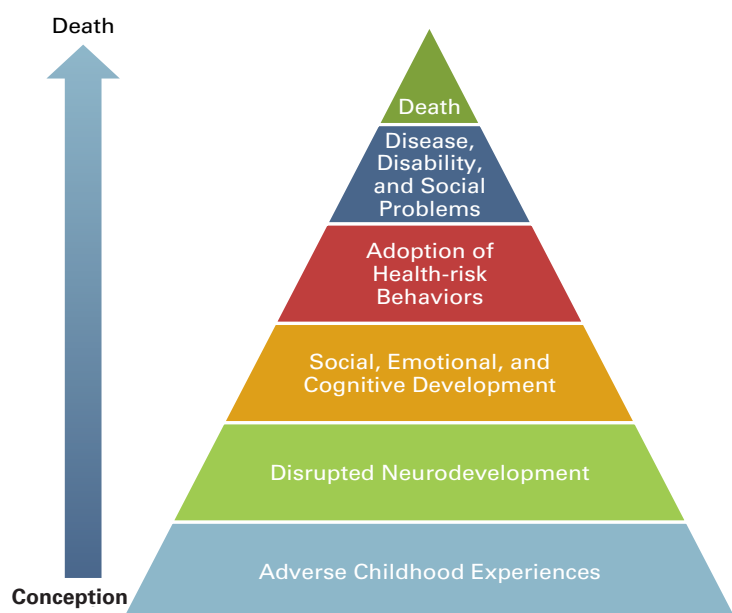
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Why ACEs Matter

What are Adverse Childhood Experiences?

Adverse Childhood Experiences, or “ACEs” are incidents that harm social, cognitive and emotional functioning and dramatically upset the safe, nurturing environments children need to thrive.



The ACEs Study is a large-scale, ongoing evaluation of the link between negative childhood experiences and the origins of risk behaviors that evolve into the leading causes of disease and disability in adulthood. The ACEs Study was conducted from 1995 to 1997 by investigators Dr. Robert Anda and Dr. Vincent Felitti, who surveyed more than 17,000 Kaiser Permanente HMO members about any childhood exposure to nine different adverse experiences. Those results, combined with the findings of physical exams and ongoing tracking of members’ health experiences, showed a powerful and compelling correlation between harmful experiences in childhood and poor adult health status decades later. ACEs were found to be vastly more common among the general population than typically recognized, with almost 70% of participants reported having experienced at least one ACE.

Calculating the ACE Score:

Adverse childhood experiences fall into two general categories—experiences of childhood abuse and experiences of household dysfunction. Cases of childhood abuse refer to the child as the target of the abuse, whereas household dysfunction refers to events among adults living in the household. A person’s ACE score is based on a count of the number of different types of events experienced and does not distinguish between reoccurring events or the duration of events.

For Iowa’s ACEs study a person’s ACE score could range from 0-8 based on the events listed below. Adults were asked to recall whether they experienced any of the following events as a child prior to age 18:

Childhood Abuse:

- Physical abuse
- Psychological abuse
- Sexual abuse

Household Dysfunction:

- Substance abuse
- Member imprisoned
- Mental illness
- Adult violence
- Parental separation or divorce

Why ACEs Matter

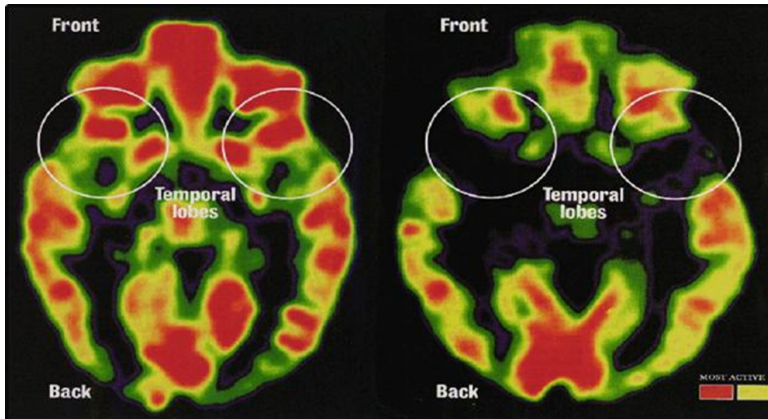
Why Are ACEs So Damaging? Toxic Stress

A Healthy Brain:

Has more activity in the temporal lobes

An Abused Brain:

Has less overall activity, especially in the temporal lobes



The brain scan on the left shows the brain activity of a healthy child. The scan on the right shows the brain activity of a child who was raised in an orphanage with minimal to no caring interaction. The image shows decreased activity in the temporal lobes which can result in a limited ability to relate socially and emotionally with others.

Harvard Center for the Developing Child,
http://developingchild.harvard.edu/topics/science_of_early_childhood/toxic_stress_response/

Extensive research on the biology of stress shows that healthy development can be derailed by excessive or prolonged activation of the body's stress response systems, with damaging effects on learning, behavior and health. Learning to cope with stress is an important part of child development. In response to a perceived threat our bodies help us respond physiologically by increasing our heart rate, blood pressure and stress hormones, such as cortisol. When a young child's stress response systems are activated within an environment of supportive adult relationships, these physiological effects are buffered and brought back down to normal levels. The result is the development of healthy stress response systems.

Toxic stress refers to strong, frequent or prolonged activation of the body's stress management system. Stressful events that are chronic, uncontrollable, and/or experienced without a child having access to support from caring adults tend to provoke a toxic stress response in the body. Examples of stressful events include physical, sexual or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence and/or the accumulated burdens of family economic hardship. The prolonged activation of stress response

systems disrupts the development of brain architecture and increases the risk for stress-related disease and cognitive impairment. The more adverse experiences in childhood, the greater the likelihood of developmental delays and later health problems, including heart disease, diabetes, substance abuse and depression.

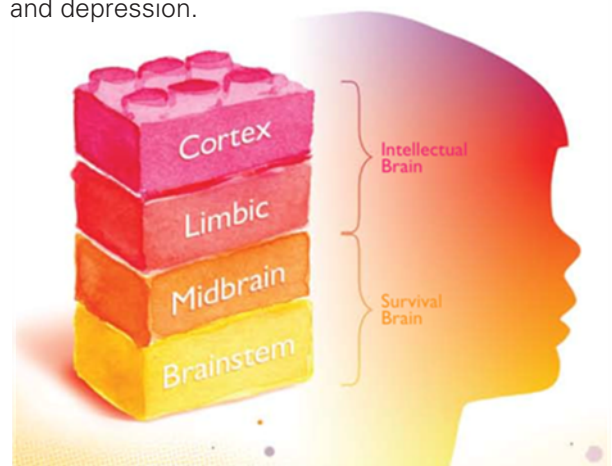


Image provided by the Institute for Safe Families and artist, Peter Camburn.

The brain develops in stages over time. The building blocks in the image show how brain development begins with the brainstem and develops outward. Subsequent healthy development depends on a strong foundation early on. The experience of toxic stress in childhood may result in a weak foundation and disrupted development in later developmental stages.

2012 Iowa ACEs Findings

In 2012, for the first time, the Iowa Behavioral Risk Factor Surveillance System (BRFSS) included the ACE questions to assess the effects of adverse childhood experiences on the health and well-being of Iowa's adult population. ACEs are vastly more common among the general population than typically recognized. Fifty five percent of Iowa adults reported having experienced at least one ACE. One in five Iowa adults reported three or more ACEs, indicating that adverse experiences in childhood rarely occur in isolation. Iowa's data were remarkably similar to an average of six other states: WI, AR, LA, NM, TN, WA which have also measured ACEs among their adult populations.

Prevalence and Co-Occurrence of ACEs

Figure 1. Prevalence of Individual ACEs in Iowa

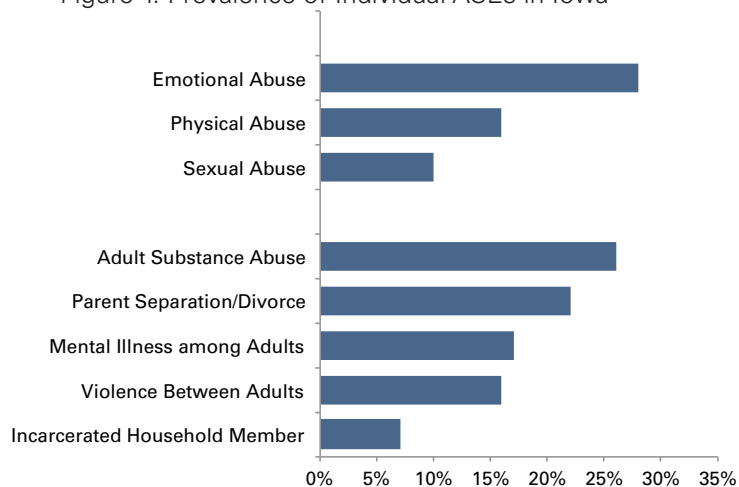


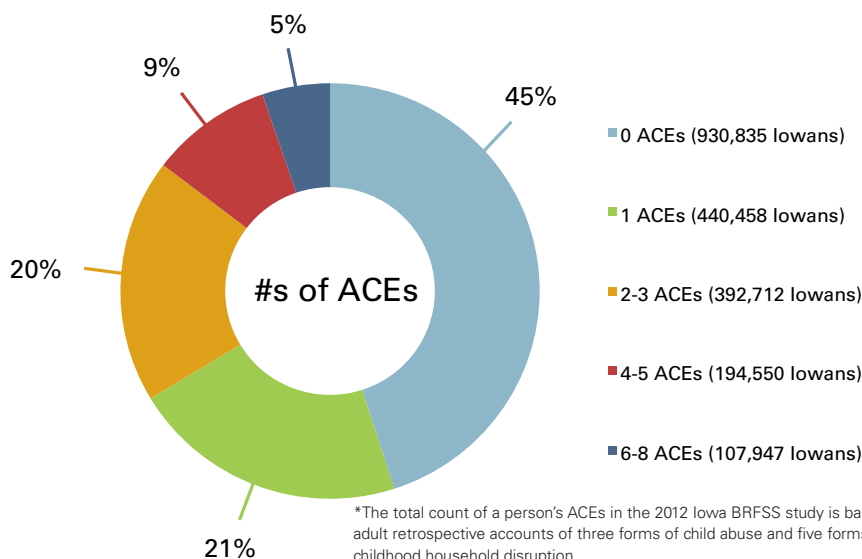
Figure 1: 15% of Iowa Adults have experienced 4 or more ACEs – an ACE score that has been shown in many studies to be tied to a wide range of poor health outcomes. Childhood Emotional Abuse indicated that adults had been, “sworn at, insulted, or put down” on more than one occasion as a child. Adult Substance Abuse indicated that as a child, they lived in a household where there was problem drinking, such as alcoholism, or abuse of illegal drugs or prescription medication.

ACEs fall into two general categories: experiences of childhood abuse (including physical abuse, emotional/psychological abuse and sexual abuse) and experiences of household dysfunction (including substance abuse, mental illness, incarceration, adult violence and parent separation or divorce). Figure 1 shows the prevalence of individual ACEs reported by Iowa adults. Childhood emotional abuse was the most common ACE, reported by 28% of adults, followed by adult substance abuse (26%) and parent separation or divorce (22%). The least common ACEs were childhood sexual abuse (10%) and incarceration of an adult household member (7%).

At **28%** Childhood emotional abuse was the most common ACE.
55% of Iowa Adult experienced at least one ACE.

Figure 2 shows Iowa population estimates of the co-occurrence of ACEs by using representative sampling to estimate the number of ACEs experienced by Iowa adults. The percentages of the adult population experiencing specific numbers of ACEs were grouped to represent the percent of adults reporting zero ACEs (45%), one ACE (21%), two or three ACEs (20%), four or five ACEs (9%) and between six and eight ACEs (5%). Overall 34% of adults experienced two or more ACEs, or 1 in 3.

Figure 2. Iowa Population Estimates of ACEs Co-Occurrence



2012 Iowa ACEs Findings

Where Do Iowans with ACEs Live Now?

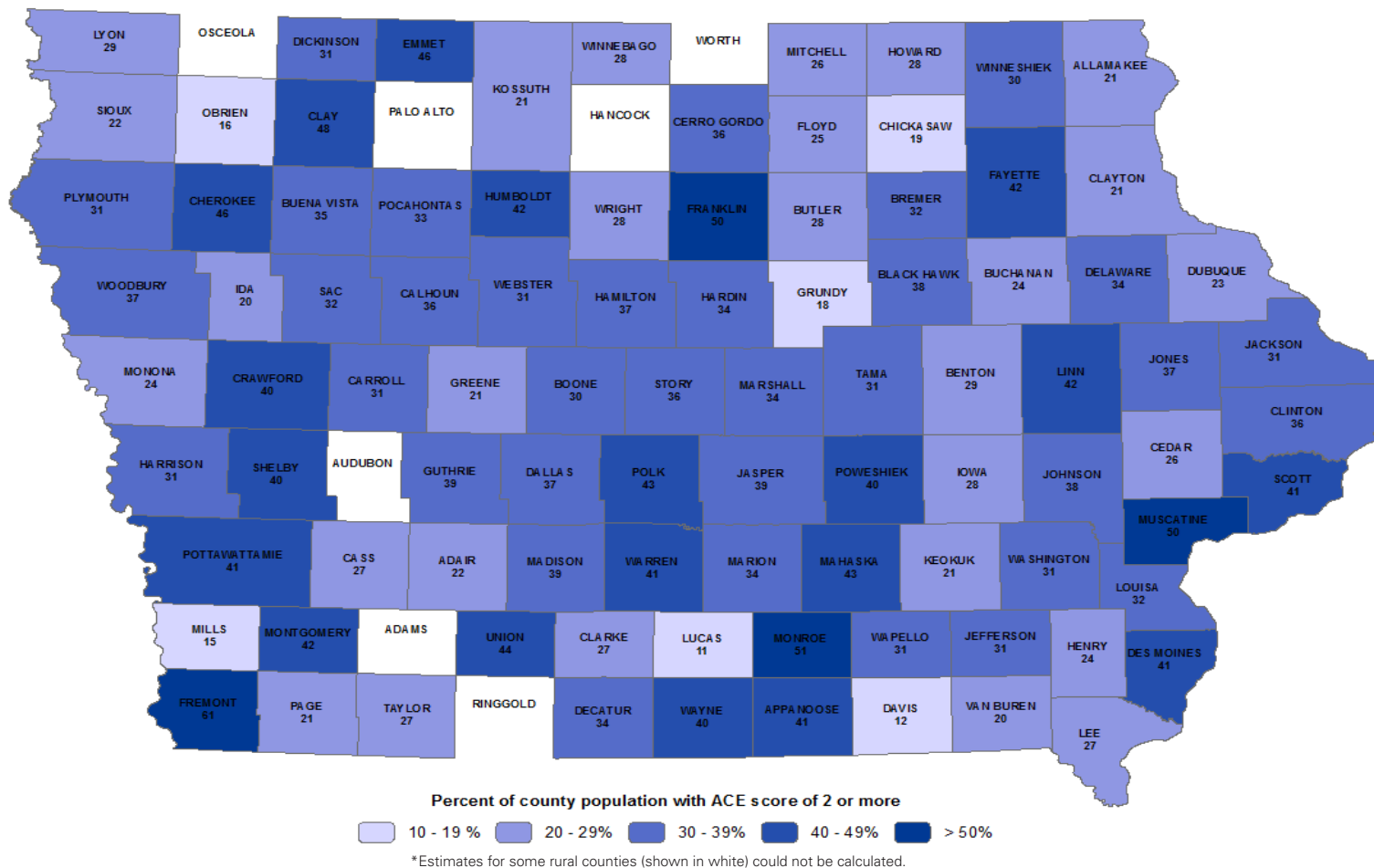


Figure 3. Prevalence of High ACE Scores among those who experienced specific ACEs

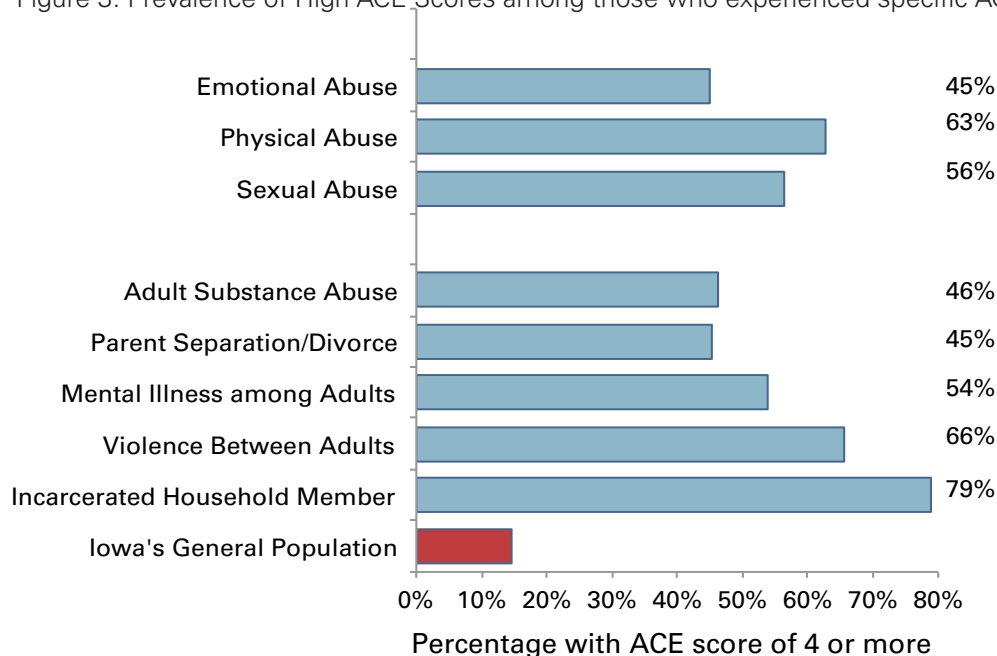


Figure 3 shows the prevalence of those with 4 or more ACEs who experienced each ACE category. Among those who experienced physical abuse, 63% experienced 4 or more ACEs overall. More strikingly, of those who experienced the incarceration of a household member, 79% experienced 4 or more ACEs.

2012 Iowa ACEs Findings

Childhood Experiences Contribute to Lifelong Health

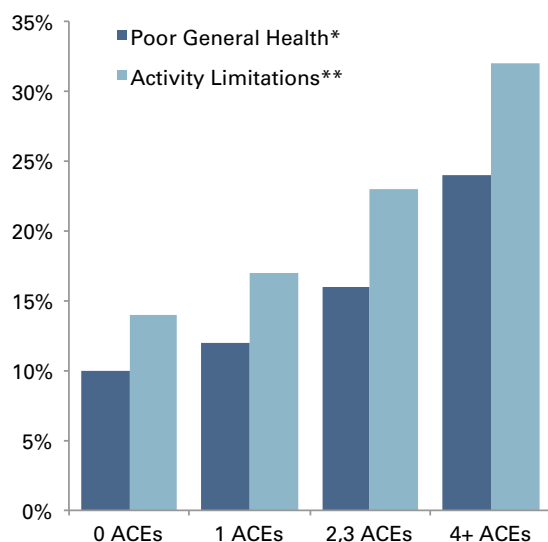
The experiences children have early in life, and the environments in which they have them, shape their developing brain architecture and strongly affect whether they grow up to be healthy, productive members of society.

Past studies have shown that self-rated health plays a large role in overall quality of life. Figure 4 shows a broad perspective on how ACEs are associated with overall health, indicating the percentage of Iowa adults who assess their own general health as “fair” or “poor.” The evidence suggests a steady increase in poorer self-rated health is associated with higher numbers of ACEs.

"There are more than twice the number of adults with four or more ACEs who rate their health poorly (23%) compared to adults with zero ACEs who rate their health poorly (10%)."

What is even more striking are the numbers of adults who reported facing limitations in activity due to their perceived poor health status. These findings cannot be attributed to differences in age, gender, race/ethnicity, or education as there were still significant differences associated with ACEs between groups when these factors were controlled for.

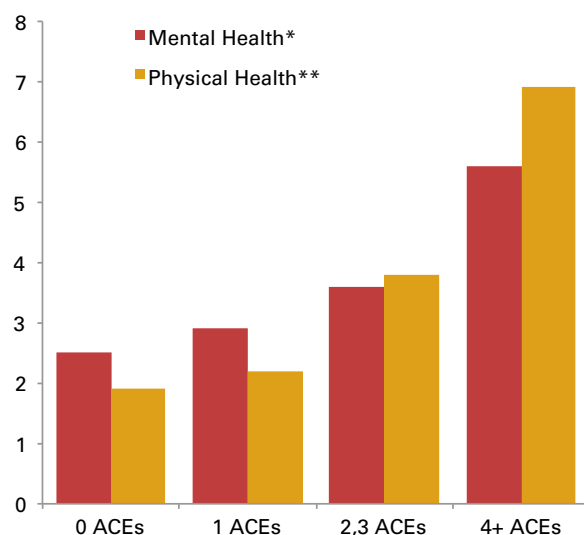
Figure 4. ACEs and Poor Overall Health



*General health is a self-rated assessment of health as “poor” or “fair.”

**Activity limitations is based on a positive response to the question, “Are you limited in any way in any activities because of physical, mental, or emotional problems?”

Figure 5. ACE-Related Number of Bad Health Days in Last Month



*Mental health is the count of days in response to this question, “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?”

**Physical health is the count of days in response to this question, “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?”

Poor physical and mental health can jeopardize a person’s normal everyday functioning, impairing activities such as employment, parenting, attending school, housekeeping, recreation and self-care. Figure 5 shows the association between the number of ACEs and the number of “bad health days in the previous month” reported by Iowa adults. The number of bad health days reported by adults with zero ACEs was between 1-3 days, whereas the adults with the highest number of ACEs reported between 5-7 days each month. The impact of these differences is meaningful; it could be much easier for an individual to accommodate one lost weekend per month versus the average loss of an entire week each month.

2012 Iowa ACEs Findings

"Science tells us that interventions that strengthen the capacity of families and communities to protect young children from the disruptive effects of toxic stress are likely to promote healthier brain development and enhanced physical and mental wellbeing."

(The American Academy of Pediatrics, www.pediatrics.aappublications.org)



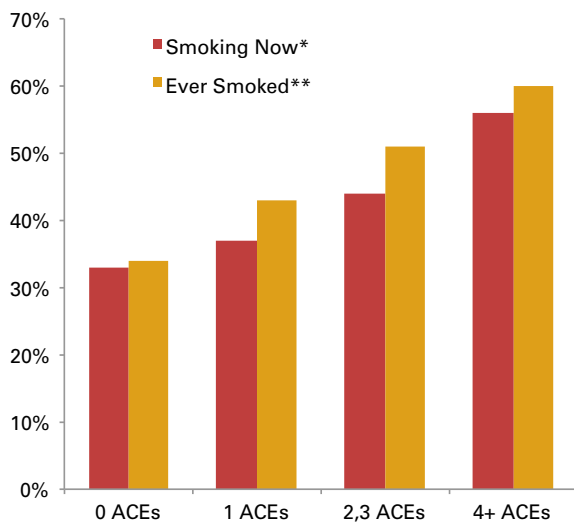
Coping with ACEs... Adoption of Health Risk Behaviors

Up to 40% of early deaths have been estimated to be the result of behavioral or lifestyle patterns. Health risk behaviors are an important part of understanding the lifetime effects of ACEs. Behaviors such as smoking, substance use and risky sexual behavior are not only health outcomes in their own right, but also are powerful predictors of other serious health conditions that can develop and persist over a lifetime. Health risk behaviors are of special interest to health care providers and human services agencies because they represent a potential point of intervention, and the opportunity to prevent further disease and disability. When risky behaviors occur, it is not uncommon for parents, spouses, coworkers, teachers, and other caregivers to try and "treat the symptoms" of the individual behaviors, rather than try to understand the underlying issues that may be promoting the behavior.

2012 Iowa ACEs Findings

"The odds of having a high risk factor were quadrupled for Iowa adults having three or more ACEs."

Figure 6. ACEs and Smoking



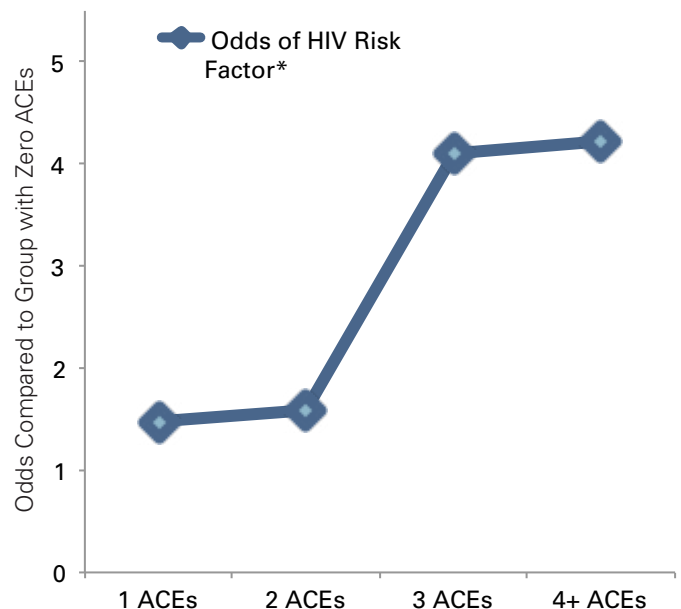
*Past smoking is based on a positive response to the question, "Have you smoked at least 100 cigarettes in your entire life?"

**Currently smoking is based on responses of "every day" or "some days" to the question, "Do you now smoke cigarettes every day, some days, or not at all?"

Figure 6 shows ACE-related differences in past and present smoking behavior. The findings show increases in the rates of smoking related to ACEs. The evidence shows much persistence in smoking over time since the percentages of adults still smoking now are only slightly less than adults that had a history of smoking.

Figure 7 is based on a single question that asks about high risk behaviors which included intravenous drug use, STDs, prostitution, and risky unprotected sex. The evidence presents one of the best illustrations of threshold effects with adults experiencing three or more ACEs having dramatically higher odds of a high risk factor. In fact, there were no significant differences in having one or two ACEs compared to having zero, but the odds of having an HIV-risk factor were quadrupled for adults having three or more ACEs.

Figure 7. ACE-Related Odds of Certain High Risk Behaviors: Any Intravenous Drug Use, STDs, Prostitution, or Risky Sex



*Based on a positive response to these instructions, "I am going to read you a list. When I am done, please tell me if any of the situations apply to you. You do not need to tell me which one. You have used intravenous drugs in the past year. You have been treated for a sexually transmitted or venereal disease in the past year. You have given or received money or drugs in exchange for sex in the past year. You had anal sex without a condom in the past year. Do any of these situations apply to you?"

Sandy's Experience

At age 5, Sandy Hatfield Clubb discovered you could wrap aluminum foil over cardboard and draw with a stick. She stenciled a picture of her family: mom, dad, older brother, younger sister and St. Bernard. But as she ran up the stairs to show her parents, she heard fighting in their bedroom. She tore up the drawing. This is her most vivid childhood memory.

Today Sandy is the athletics director at Drake University, the first woman in Iowa to become a division one athletic director. She is married and has two children, ages 14 and 12, whom she and her husband prioritize spending time with every day. "We just made a decision that our children are going to feel loved," Sandy said.

"Above anything else, no matter what happens, we're going to work hard to make sure every day they know how much we love them."

This decision stems from Sandy's childhood growing up with parents whose relationship Sandy describes as "toxic." They tried staying together for the family but avoided each other, leaving Sandy and her siblings alone often. "We would go and do things, go camping or go climbing or that kind of thing," Sandy said, "but as a family, being home and being a secure unit, it just feels like a void." By the time her parents divorced when Sandy was 14, she was drinking alcohol and experimenting with drugs. She worked hard to get Cs and Ds in school instead of As. At age 16, she moved in with her 23-year-old boyfriend, a drug dealer.

Yet people stepped in to help Sandy at key moments in her life. In 11th grade, when she tried dropping out of school, her teacher made a deal to help Sandy graduate a year early. Directionless at age 19, Sandy received support from her grandmother who paid off her car and first semester tuition and enrolled Sandy in college. After Sandy did well her first semester, her grandmother took Sandy to meet with an administrator who agreed to give her a scholarship if she got involved in campus life.

Today, Sandy uses her story at leadership trainings "to demonstrate how desperately you'll act to fulfill your basic needs in life whether that's turning to drugs, alcohol, bad relationships. You'll work very hard to fill your needs of belonging." But to teachers and anyone else who can reach out and help a child, she says, "You never know who you're touching. Even to this day, Mrs. Kempt (my 11th grade teacher) tells me I was just doing my job and I remind her that she changed my life."



2012 Iowa ACEs Findings

ACEs Link to Physical and Mental Health Outcomes

As referenced previously, toxic stress experienced early in life can have a cumulative toll on an individual's physical and mental health. Evidence shows that the more ACEs a person experiences, the more likely poor health outcomes become. Ongoing research by the Centers for Disease Control and Prevention finds that, worse case; trauma in childhood could take as many as 20 years off life expectancy. Not every adult with a history of ACEs will have poor health outcomes, but many will experience some problems, and some will experience serious difficulties.

Identifying the origins of adult disease and addressing them early in life are critical steps towards changing our current health care system from a "sick-care" to a "well-care" model. (The American Academy of Pediatrics, www.pediatrics.aappublications.org)

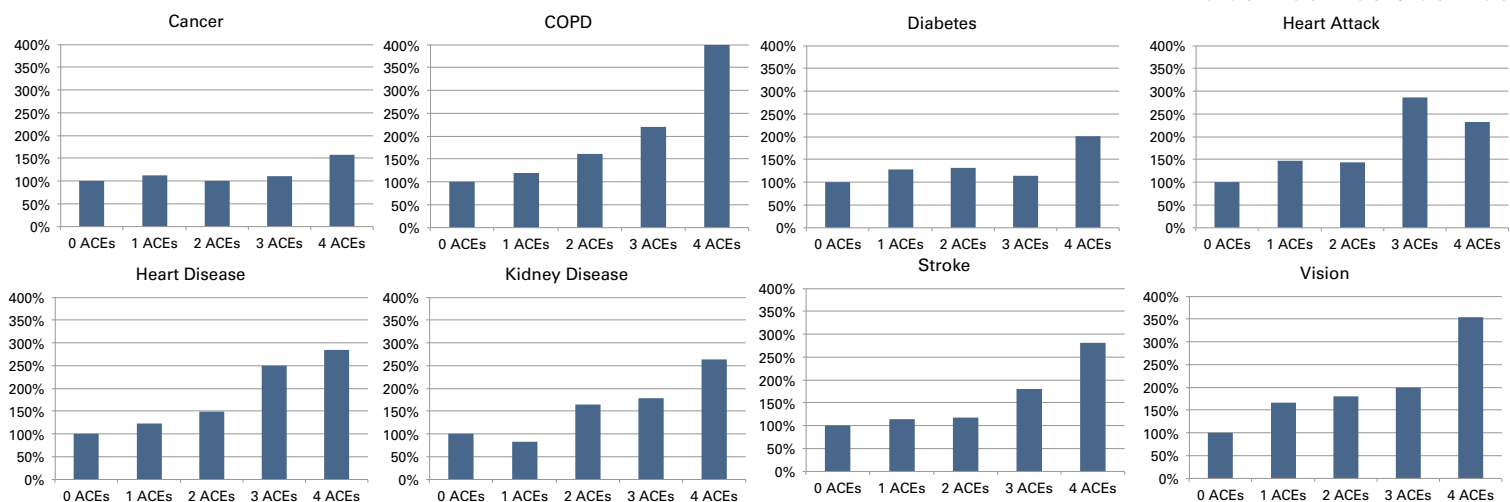
These tables show the increasing chances of having been diagnosed with a serious physical health condition that is associated with a greater number of ACEs. All groups having ACEs are compared to those that did not have ACEs. For example, compared to those with no ACEs an odds of 200% would indicate that an ACE group has double the chances of being diagnosed with the condition. Some conditions were more sensitive to increased ACEs than others.

Table 1. ACE-Related Odds of Having a Physical Health Condition*

Health Condition	0 ACEs	1 ACEs	2 ACEs	3 ACEs	4+ ACEs
Arthritis	100%	130%	145%	155%	236%
Asthma	100%	115%	118%	160%	231%
Cancer	100%	112%	101%	111%	157%
COPD	100%	120%	161%	220%	399%
Diabetes	100%	128%	132%	115%	201%
Heart Attack	100%	148%	144%	287%	232%
Heart Disease	100%	123%	149%	250%	285%
Kidney Disease	100%	83%	164%	179%	263%
Stroke	100%	114%	117%	180%	281%
Vision	100%	167%	181%	199%	354%

Note: the divide between white and red numbers represent ACE-related threshold relative to the group with zero ACEs. For example, at 200% a group has double the odds of having the condition compared to those with no ACEs.

*Survey questions about chronic health diagnoses were preceded with this question stem, "Has a doctor, nurse, or other health professional ever told you that you had any of the following?" Individual questions for each diagnosis was as follows: Arthritis, "some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?"; Diabetes, "diabetes?" [includes diabetic and pre-diabetic responses, but not include pregnancy-related diabetes]; Vision, "trouble seeing, even when wearing glasses or contact lenses?"; Asthma, "asthma?"; Cancer, "[Besides skin cancer] any other types of cancer?"; Heart Attack, "heart attack, also called a myocardial infarction?"; Heart Disease, "angina or coronary heart disease?"; COPD, "Chronic Obstructive Pulmonary Disease or COPD, emphysema or chronic bronchitis?"; Stroke, "stroke?"; and Kidney Disease, "kidney disease? Do NOT include kidney stones, bladder infection or incontinence."





Robert's Experience

Robert Jackson prayed harder than he'd ever prayed the night he walked into his mother's bedroom and found her with blood gushing from the wrist she'd cut. She died anyway.

"It would take him years to overcome the anger and feelings of failure for not having saved his mother."

Robert was 9, and that moment was neither the beginning nor the end of a series of events that marred what had been a happy childhood. Now, looking back at age 53, he says it was, however, the key moment when he really changed. "I instantly went from hope to rage," explained Robert. It would take him years to overcome the anger and feelings of failure for not having saved his mother. He believes those emotions influenced decisions he made well into adulthood including staying in unhealthy relationships and abusing drugs and alcohol. It's a struggle that he suspects may not be entirely over, but he's optimistic. "I've done a lot of work on those demons," said Robert, of Marion. Robert remembers his early years growing up in Pasadena, Calif., as "pretty decent" until his dad left when he was 5 or 6. This sent his mother into a downward spiral of abusing drugs and alcohol on an almost daily basis. Within six months, the family lost the big yellow house where Robert's happiest memories had taken place.

Around age 8, Robert, the oldest of six children, would put the baby and toddler in a stroller and walk his kindergarten and first-grade siblings to school (another sibling had died of SIDS by this time). For him, attending school wasn't an option many days; someone had to watch the youngest ones.

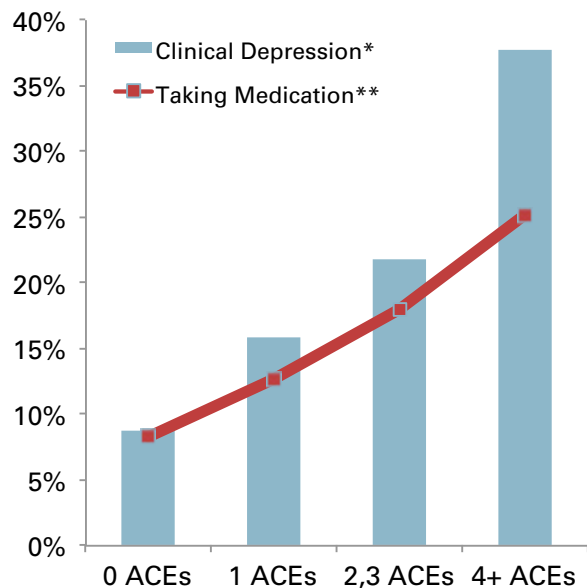
After his mother committed suicide, Robert and his siblings lived in a foster home until his grandmother gained custody. She raised her grandchildren through the remainder of their childhood, but was very physical in her discipline. He respects what his late grandmother did for him, but says he didn't feel loved, something he desperately needed at that time. A teacher and a religious leader gave him unconditional love as a boy, which he believes may have prevented him from going further astray in subsequent decades.

Today Robert suffers from kidney disease and undergoes dialysis several times a week. He says his renal failure was the result of not being aware that he had high blood pressure for what was likely many years. He works as a mentor for other parents, but hasn't been able to hold a full-time job because of his illness.

As he raises his youngest child, now age 3, Robert sees how his son's childhood can be different and he wants to help others reach the point he's at: vowing to do better with their own children. He said, "I believe God saved me and took me through all this turmoil to get me to this."

2012 Iowa ACEs Findings

Figure 8. ACEs and Depression



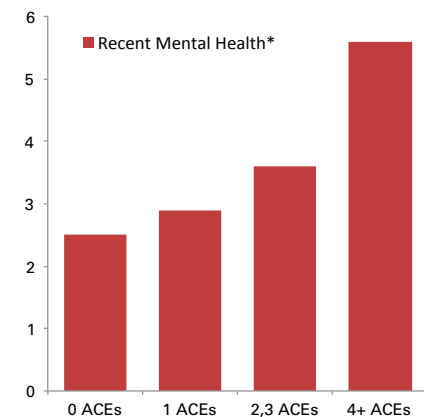
*Clinical depression is based on a positive response to the question, " [Has a doctor] ever told you that you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?"

**Taking medication is based on a positive response to the question, "Are you now taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem?"

Major depressive disorder is one of the most common mental disorders in the United States, with about 6.7% of adults experiencing a major depressive disorder in any given year. Figure 8 shows the relationship between Iowa adults reporting ACEs and the percentage diagnosed with clinical depression. The findings explicitly show that clinical depression is greater among adults reporting more ACEs.

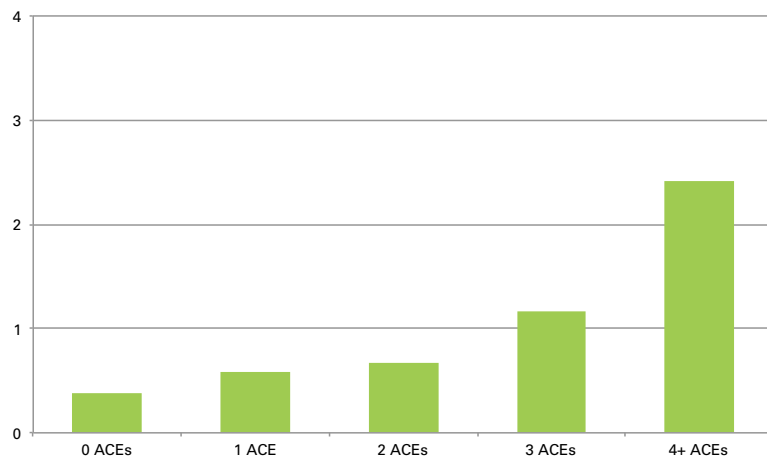
Figure 8 also shows the percentage of Iowa adults currently taking medication (or receiving treatment) for a mental health condition. In the group of adults experiencing four or more ACEs, it is important to note a startling 12.5% point gap in the rates of diagnosed clinical depression (38%) versus the rates currently taking medication/receiving treatment (only 26%). This indicates that more than 33% of the adults reporting four or more ACEs had received a diagnosis of clinical depression but were not currently taking any form of medication.

Figure 9. ACE-Related Number of Bad Mental Health Days in Last Month



*Mental health is the count of days in response to this question, "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"

Figure 10. Days of Dysfunction Because of Poor Mental Health



During the past 30 days, for about how many days did a mental health condition or emotional problem keep you from doing your work or other usual activities? (If asked, "usual activities" includes housework, self-care, caregiving, volunteer work, attending school, studies or recreation.)

Ebony's Experience

As a 20-year-old, Ebony Hawkins works full time as a manager at McDonald's, lives in her own apartment in Iowa City and cares for her three-year-old son Demarco. Life is much different than as a teenager living in Chicago. Those times she describes as "rebellious."

Through a teen parent support program, Ebony has received help in building a safe, stable and nurturing environment for her child. A family support worker visits her home once a week to talk about how to foster Demarco's healthy development and to connect Ebony with any resources she needs. She most values this individualized attention on Demarco's growth and her parenting skills, but also attends group sessions where she can talk with other teenage moms.

"If I ever needed something, I had someone I could ask."

The program has given her a support network she didn't have while pregnant and a strong model for parenting she didn't have growing up. During her early childhood, Ebony's father was addicted to drugs and went to prison for a short time before becoming clean. Her mother left Ebony (then age 10) and her sister with their grandmother, who drank heavily and was verbally abusive.

As a teenager, Ebony hung out with older friends, skipped curfew. When she became pregnant at 17, her family expressed their disappointment. Ebony moved to Iowa City and became connected with the parent support program three hours after Demarco was born.

"I just wanted to get some help from people that knew what they were doing and I knew it was a resource," she said. "If I ever need something, I had someone I could ask."

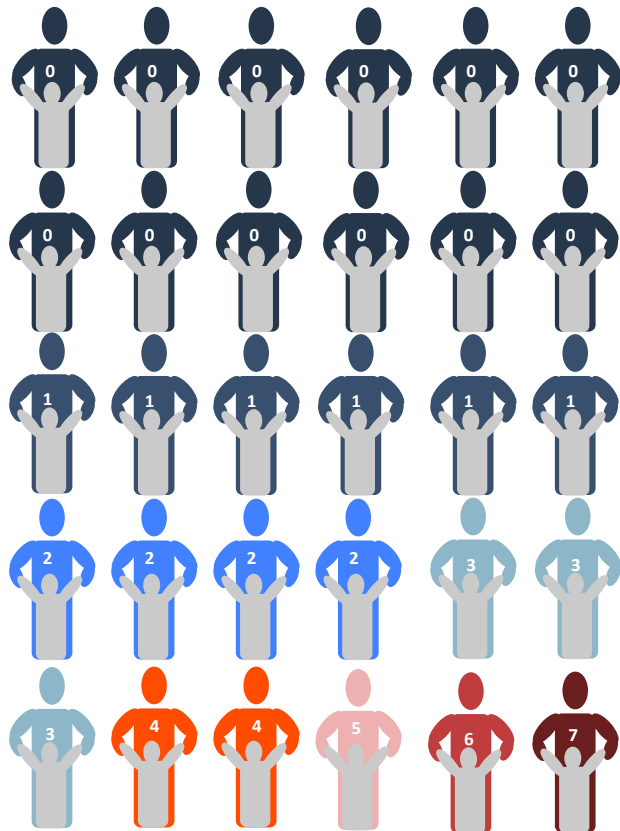
The program also pushed her to finish her senior year of high school and has supported her in other areas such as creating a budget and applying for jobs. Demarco's father lives in Coralville and has helped care for their son as well.

Ebony describes her child as a "happy baby," who laughs himself to sleep most nights and is into learning. "I don't want to disappoint him," Ebony said. "I want him to understand that he has to work for what he wants, but I also don't want him to fight for anything he absolutely needs."

Opportunities for Iowa's Future

Preventing ACEs in the Next Generation

Figure 11. Representative ACE Scores among Parents In Iowa



On average, 5 out of every 30 students in an Iowa school classroom will live with a parent that has a very high ACE score—a score of 4 or more.

The most effective prevention of ACEs is to reduce young children's exposure to extremely stressful conditions, such as recurrent abuse, chronic neglect, caregiver mental illness or substance abuse, or violence and/or repeated conflict. Research shows that providing stable, responsive, nurturing relationships as early in life as possible can prevent or even reverse the damaging effects of childhood adversity, with lifelong benefits for learning, behavior, and health. All of the environments in which children live and learn, and the quality of their relationships with adults and caregivers have a significant impact on cognitive, emotional and social development.

Rosenna's Experience

Poverty, single-parent household and overt racial prejudice signified by race riots and police brutality during protests against social injustice was the backdrop of many inner city black children's lives in the 1960s. But Rosenna had one more cross to bear. She was a victim of incest. So as a child she feared what people who hated her would do to her outside of her home and feared what people who "loved" her would do to her inside of her home. She grew up with only fantasies of what it would be like to feel safe in the world even as she carried her secret into adulthood. At the age of 45 a series of life events led her to speak publicly and become an advocate for adult survivors of childhood sexual abuse. However, Rosenna is much more than an advocate.



She is a model of resilience. She smiles wide, she laughs heartily, and she doesn't back down. Often mistaken for a college student instead of a professor, she looks and acts much younger than she is. She ran a marathon at 48 and earned her third degree black belt in taekwondo at 49 and, at 50 years of age can do more pull ups than most men. But she says her favorite activity right now is body jam at the YMCA. Her professional accomplishments are just as stellar, with an Ivy League degree from Cornell University and a PhD. in educational psychology. She has published journal articles, written a book and produced her own play. She also has a poetry collection of 150 poems, some of which she shares monthly at Say What. Rosenna homeschooled her two children, Jelani and Nailah, who now attend DMACC and Texas Christian University, respectively. She is currently adjusting to the empty nest life with her husband, Sentwali, who is the Dean of Students at Drake University while she teaches at DMACC and manages Talking Trees, her support organization for survivors of childhood sexual abuse.

Opportunities for Iowa's Future

Your Invitation to Respond

Without question, the findings of the original ACEs Study as well as Iowa's ACEs Study call for each of us to respond. The data, science and prevalence are clear, and the children and families of our communities are depending on us to take action. That response, however, is not singular or prescriptive - it is multi-faceted and rapidly evolving. The responsibility to prevent ACEs before they happen resides with each of us individually and collectively. When trauma does occur, it is imperative we respond with compassion, effective interventions and supports, and trauma-informed treatments.

Communities, Educators, Systems, Neighborhoods, Social Service Agencies, Religious Organizations, Medical Professionals, Police Officers, Social Workers, Cities, Clubs, Judges, Parents, Mentors, Business Leaders, Policy Makers, Counties, Philanthropists, Insurers, Grandparents are ALL invited to address ACEs in the following ways.

- ▶ Increase awareness of ACEs and their impact on health and well-being. Share this awareness with family, friends, neighbors, and colleagues.
- ▶ Use our knowledge of the relationship between past experiences and coping behaviors to respond to one another with better understanding in our daily lives.
- ▶ Remember as parents, caregivers, grandparents and neighbors, everyone can help provide safe, stable home environments and loving relationships to foster healthy brain development and prevent negative life-long health outcomes.
- ▶ Advocate for family based strategies that support parental resilience, social connections, parenting education and concrete support in times of need.
- ▶ Strive to build communities and neighborhoods in which people feel a sense of responsibility and care for each other.
- ▶ Enhance the capacity of communities to prevent ACEs by strengthening families and ensuring stable, safe, nurturing environments for children.
- ▶ Increase early identification of and response to ACEs across systems (including but not limited to: health care, education, justice, social service and public health).
- ▶ Integrate a trauma-informed approach across child and family serving systems and organizations.
- ▶ Designate funds to continue the collection, analysis, and dissemination of ACEs data from Iowans.

"We're going to change the world. Together we're creating a revolution. It's based in science, it's founded in data, and it's based on people's joint commitments to do something better for families."

Martha Davis, Executive Director, Institute for Safe Families

Opportunities for Iowa's Future

The Power of Resiliency

Learning how to cope with adversity is an important part of healthy child development. When a child is protected by supportive relationships with adults, the child learns to cope in positive ways with everyday challenges. Adversity can be buffered by the presence of caring adults who help the child adapt, which mitigates the potentially damaging effects of ACEs and toxic stress. What makes some people more resilient than others? Research has looked into the reasons why many people who have experienced adversity develop into healthy and competent adults. The presence of Protective Factors have been found to play a significant role in helping individuals, families and communities bounce back from, or thrive in spite of, adversity. Five Protective Factors serve as the foundation for strengthening families: parental resilience, social connections, concrete support in times of need, knowledge of parenting and child development and social and emotional competence of children. Research shows that these Protective Factors are also “promotive” factors that build family strengths and a family environment that promotes optimal child and youth development. Two of the Protective Factors are highlighted below.

Parental Resilience

No one can eliminate stress from parenting, but a parent's capacity for resilience can affect how they deal with stress. Resilience is the ability to manage and bounce back from all types of challenges that emerge in every family's life. It means finding ways to solve problems, building and sustaining trusting relationships including relationships with your own child, and knowing how to seek help when necessary. (The Protective Factors Framework, Center for the Study of Social Policy)

Social Connections

Friends, family members, neighbors and community members provide emotional support, help solve problems, offer parenting advice and give concrete assistance to parents. Networks of support are essential to parents and also offer opportunities for people to “give back,” an important part of self-esteem as well as a benefit for the community. Isolated families may need extra help in reaching out to build positive relationships. (The Protective Factors Framework, Center for the Study of Social Policy www.cssp.org)





Kirsten's Experience

Luke's fourth birthday consisted of a small gathering with a nice meal, birthday cake and a gift of a polar bear book. But by the end of the celebration, Luke was crying uncontrollably. Only after Spot, the family dog, licked Luke across the face and made him giggle, was he able to explain the reason: He didn't want the day to end. He'd never had a birthday celebration.

Kirsten and her husband adopted Luke and his brother, Paul, then age 2, ten days before the birthday party. The boys had been in seven placements, shuffling between their birth home and foster homes, and needed a stable place. Their files showed that the boys had been in a bad car accident and, when found, had not been bathed in days, wore soiled diapers, and had curdled milk in their bottles. Kirsten and her husband worked to gain the boys' trust, often through trial and error. When they took the boys to McDonalds for a happy meal, Luke panicked because that was where exchanges between foster homes took place. After that, Kirsten would explain where they were going before each outing, reiterating that they would return home.

"We finally had a mom and dad that loved us to the moon and back."

"We learned that a time out meant just a time out," Luke said in a written statement. "We were not going to be hit. We would always have food. And, we figured out that we finally had a mom and dad that loved us to the moon and back."

Kirsten also has had to advocate for the boys' special needs to help mitigate the effects of trauma on their development. Luke struggled with reading, so Kirsten had him read a book out loud while she cooked dinner every night. They worked with teachers to give him more time and assistance to complete his homework. Recently, through Community Circle of Care, they brought a group of health, education and other support professionals together to work through a problem. The findings in the Adverse Childhood Experiences Study "are all statistics that we have experienced on a personal level," Kirsten said. "I think the compelling thing is that we can intervene early. It's not just if, we must intervene early to put the proper protocols in place so these kids have a chance. It's not just changing an outcome, it's changing a life. It's breaking the cycle."

Luke, now age 13, reads at the 11th grade level and aspires to become an Eagle Scout and go to college. He likes playing outside with his brother and building things. He reads a book every day. Luke said, "I have confidence now, confidence in myself."

The Behavioral Risk Factor Surveillance System

Table 2. Demographic Characteristics of the 2012 Iowa ACEs study.

Characteristics	Actual Sample Size	Population Estimate	Percent of Population
Age group (years)			
18-24	314	278,817	13%
25-34	578	318,811	15%
35-44	777	317,633	15%
45-54	1,086	374,655	18%
55-64	1,362	351,209	17%
≥65	2,244	425,375	21%
Gender			
Men	2,541	984,733	48%
Women	3,820	1,081,768	52%
Race			
White	5,916	1,859,183	91%
Black	77	35,543	2%
Hispanic	198	85,636	4%
Other	84	45,599	2%
Multi-racial	47	28,191	1%
Education			
No HS diploma	411	198,578	10%
HS graduate	2,143	667,420	32%
Attended College	1,857	719,467	35%
Graduated College	1,942	481,035	23%
All participants	6,361	2,066,501	100%

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual survey conducted by the Centers for Disease Control and Prevention (CDC) in partnership with each of the 50 states, the District of Columbia, and a few territories. The survey contains a core set of questions that are asked in each state, and there is an option of funding other optional questions that are grouped by topic. States may also submit original questions to be included in the survey. In 2012, collaborators on the Central Iowa ACEs 360 Steering Committee provided funding to include ACE questions for the first time in Iowa.

The survey was administered via telephone interviews and covered questions about health conditions, health-related behaviors, attitudes, and awareness of residents age 18 and over. Participation by Iowans in the BRFSS survey is random, anonymous, voluntary and confidential. Survey participants are requested to provide such demographic information as age, sex, race, annual household income, educational level, and county of residence.

Sampling procedures were designed to ensure that minority populations would be included in adequate numbers to make comparisons, but a weighting system was also put into place so that researchers could make valid population estimates from the data. Furthermore, with the rise in cell-phone only households, procedures were put in place to contact cell phone users and to sort out place of residence. In essence, great effort was put forward to ensure that the findings from the study would be able to fairly represent the population of Iowa.

With Gratitude

It is with tremendous gratitude that we acknowledge the many individuals and organizations who shared their time, expertise, and passion for a healthier tomorrow, to make this report possible.

Thank you to the Central Iowa ACEs 360 Steering Committee for understanding the need for and commissioning the collection, analysis, and reporting of this critical research.

A Mid-Iowa Organizing Strategy (AMOS)
Blank Children's Hospital
Child and Family Policy Center
Every Child Counts
Iowa Department of Public Health
Mid-Iowa Health Foundation
Orchard Place/Child Guidance Center
Polk County Health Department
Primary Health Care, Inc.
Prevent Child Abuse Iowa
Project IOWA
United Way of Central Iowa
UnityPoint Health
University of Iowa Children's Hospital

Thank you to the courageous Iowans who shared their voices and experiences in this report. (Please note some of their names have been changed in this report to protect their identity.)

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