Adverse Childhood Experience Study

www.acestudy.org
The ACE Study is ongoing collaborative research between the Centers for Disease Control and Prevention in Atlanta, GA, and Kaiser Permanente in San Diego, CA.
The initial phase of the ACE Study was conducted from 1995 to 1997.

Each study participant completed a confidential survey that contained questions about childhood maltreatment and family dysfunction, as well as items detailing their current health status and behaviors. This information was combined with the results of their physical examination to form the baseline data for the study.
The Co-principal Investigators of The Study are Robert F. Anda, MD, MS, with the CDC; and Vincent J. Felitti, MD, with Kaiser Permanente.
“It was 1985, and Dr. Vincent Felitti was mystified. The physician, chief of Kaiser Permanente’s Department of Preventive Medicine in San Diego, CA, couldn’t figure out why, each year for the last five years, more than half of the people in his obesity clinic dropped out. Although people who wanted to shed as little as 30 pounds could participate, the clinic was designed for people who were 100 to 600 pounds overweight.

He decide to find out why people were dropping out and developed an interview format

The turning point in Felitti’s quest came by accident. The physician was running through yet another series of questions with yet another obesity program patient: How much did you weigh when you were born? How much did you weigh when you started first grade? How much did you weigh when you entered high school? How old were you when you became sexually active? How old were you when you married?”
“I misspoke,” he recalls, probably out of discomfort in asking about when she became sexually active – although physicians are given plenty of training in examining body parts without hesitation, they’re given little support in talking about what patients do with some of those body parts. “Instead of asking, “How old were you when you were first sexually active,” I asked, “How much did you weigh when you were first sexually active?’ The patient, a woman, answered, ‘Forty pounds.’

He didn’t understand what he was hearing. He misspoke the question again. She gave the same answer, burst into tears and added, “It was when I was four years old, with my father.”
“I remembered thinking, ‘This is only the second incest case I’ve had in 23 years of practice’,” Felitti recalls. “I didn’t know what to do with the information. About 10 days later, I ran into the same thing. It was very disturbing. Every other person was providing information about childhood sexual abuse. I thought, ‘This can’t be true. People would know if that were true. Someone would have told me in medical school.’”

Worried that he was injecting some unconscious bias into the questioning, he asked five of his colleagues to interview the next 100 patients in the weight program. “They turned up the same things,” he says.

Of the 286 people whom Felitti and his colleagues interviewed, most had been sexually abused as children. As startling as this was, it turned out to be less significant than another piece of the puzzle that dropped into place during an interview with a woman who had been raped when she was 23 years old. In the year after the attack, she told Felitti that she’d gained 105 pounds.
“As she was thanking me for asking the question,” says Felitti, “she looks down at the carpet, and mutters, ‘Overweight is overlooked, and that’s the way I need to be.’”

During that encounter, a realization struck Felitti. It’s a significant detail that many physicians, psychologists, public health experts and policymakers haven’t yet grasped: The obese people that Felitti was interviewing were 100, 200, 300, 400 overweight, but they didn’t see their weight as a problem. To them, eating was a fix, a solution. (There’s a reason an IV drug user calls a dose a “fix”.)

So...through a series of interactions with colleagues and friends of colleagues...
One of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being was initiated.
Over 17,000 Kaiser patients, participating in routine health screening, volunteered to participate in The Study.

Data resulting from their participation continues to be analyzed; it reveals staggering proof of the health, social, and economic risks that result from childhood trauma.
<table>
<thead>
<tr>
<th>Demographic Categories</th>
<th>Percent (N = 17,337)</th>
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<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>54%</td>
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<tr>
<td>Male</td>
<td>46%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>74.8%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>11.2%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>7.2%</td>
</tr>
<tr>
<td>African-American</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other</td>
<td>1.9%</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
</tr>
<tr>
<td>19-29</td>
<td>5.3%</td>
</tr>
<tr>
<td>30-39</td>
<td>9.8%</td>
</tr>
<tr>
<td>40-49</td>
<td>18.6%</td>
</tr>
<tr>
<td>50-59</td>
<td>19.9%</td>
</tr>
<tr>
<td>60 and over</td>
<td>46.4%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Not High School Graduate</td>
<td>7.2%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>17.6%</td>
</tr>
<tr>
<td>Some College</td>
<td>35.9%</td>
</tr>
<tr>
<td>College Graduate or</td>
<td>39.3%</td>
</tr>
<tr>
<td>Higher</td>
<td></td>
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Findings, which have been replicated in 21 states, suggest that 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.
These findings encourage us to understand how some of the worst health and social problems in our nation can arise as a consequence of adverse childhood experiences.
Realizing these connections is likely to improve efforts towards prevention of ACEs and recovery.
The results can also inform our work in MIHP… especially when addressing high risk domains
What do we mean by Adverse Childhood Experiences?

- Child abuse and neglect

- Growing up in a home with
  - domestic violence
  - parental substance abuse
  - parental mental illness
  - parental discord
  - criminal behavior
Questions
Adverse Childhood Experiences
First 18 years of life

Abuse

Emotional Abuse
- Often or very often a parent or other adult in the household swore at you, insulted you, or put you down and sometimes, often or very often acted in a way that made you think that you might be physically hurt.

Physical Abuse
- Sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at you or ever hit you so hard that you had marks or were injured.

Sexual Abuse
- An adult or person at least 5 years older ever touched or fondled you in a sexual way, or had you touch their body in a sexual way, or attempted oral, anal, or vaginal intercourse with you or actually had oral, anal, or vaginal intercourse with you.
Questions
Adverse Childhood Experiences
First 18 years of life

**Household Dysfunction**
- Mother Treated Violently
- Your mother or stepmother was sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her and/or sometimes often, or very often kicked, bitten, hit with a fist, or hit with something hard, or ever repeatedly hit over at least a few minutes or ever threatened or hurt by a knife or gun

**Household Substance Abuse**
- Lived with anyone who was a problem drinker or alcoholic or lived with anyone who used street drugs

**Household Mental Illness**
- A household member was depressed or mentally ill or a household member attempted suicide.

**Parental Separation or Divorce**
- Parents were ever separated or divorced.

**Incarcerated Household Member**
- A household member went to prison.
Questions
Adverse Childhood Experiences
First 18 years of life

Neglect

Emotional Neglect
- Respondents were asked whether their family made them feel special, loved, and if their family was a source of strength, support, and protection. Emotional neglect was defined using scale scores that represent moderate to extreme exposure on the Emotional Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form.

Physical Neglect
- Respondents were asked whether there was enough to eat, if their parents drinking interfered with their care, if they ever wore dirty clothes, and if there was someone to take them to the doctor. Physical neglect was defined using scale scores that represent moderate to extreme exposure on the Physical Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form constituted physical neglect.

\(^1\)Collected during the second survey wave only (N=8,667).
Now the activity!
ACE are not uncommon

| Household dysfunction: | | |
|------------------------|------------------|
| Substance abuse        | 27%              |
| Parental sep/divorce   | 23%              |
| Mental illness         | 17%              |
| Battered mother        | 13%              |
| Criminal behavior      | 6%               |
| Abuse:                 | | |
| Psychological          | 11%              |
| Physical               | 28%              |
| Sexual                 | 21%              |
| Neglect:               | | |
| Emotional              | 15%              |
| Physical               | 10%              |
Eye opener…

Our society has tended to treat the abuse, maltreatment, violence and chaotic experiences of our children as an oddity instead of commonplace, as the ACE Study revealed, noted Dr. Anda.

And our society believes that these experiences are adequately dealt with by *emergency* response systems such as child protective services, criminal justice, foster care, and alternative schools.

“These services are needed and are worthy of support — but they are a dressing on a greater wound,” he says.
“A hard look at the public health disaster calls for the both the prevention and treatment ACEs,” he continues. “This will require integration of educational, criminal justice, healthcare, mental health, public health, and corporate systems that involves sharing of knowledge and resources that will replace traditional fragmented approaches to burden of adverse childhood experiences in our society.”
As Williamson, the epidemiologist who also worked on the ACE Study, says: “It’s not just a social worker’s problem. It’s not just a psychologist’s problem. It’s not just a pediatrician’s problem. It’s not just a juvenile court judge’s problem.” In other words, this is everybody’s problem.
Resilience activity
Video
According to a CDC study, just one year of confirmed cases of child maltreatment costs $124 billion over the lifetime of the traumatized children.

The researchers based their calculations on only confirmed cases of physical, sexual and verbal abuse and neglect, which child maltreatment experts say is a small percentage of what actually occurs.

The breakdown per child is:

- $32,648 in childhood health care costs
- $10,530 in adult medical costs
- $144,360 in productivity losses
- $7,728 in child welfare costs
- $6,747 in criminal justice costs
- $7,999 in special education costs
Child maltreatment definition

Any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child.
Impact of Adverse Childhood Experience...The ACES pyramid
Addressing the pyramid

- Early Death
- Diabetes
- Overeating
- Depression
- Sexual Abuse

- Early Death Disease, Disability and Social Problems
- Adoption of Health-Risk Behaviors
- Social, Emotional, and Cognitive Impairment
- Disrupted Neurodevelopment
- Adverse Childhood Experience
Adverse Childhood Experiences as a Public Health Issue

- endemic
- highly interrelated
- cumulative stressor effect
- effects are biologically plausible
National Health Issue

With a strong influence on:

- adolescent health
- reproductive health
- smoking
- alcohol abuse
- illicit drug abuse
- sexual behavior
- mental health
- risk of re-victimization
- stability of relationships,
- homelessness
- performance in the workforce
National Health Issue

increase the risk of:

- Heart disease
- Chronic Lung disease
- Liver disease
- Suicide
- Injuries
- HIV and STDs
- and other risks for the leading causes of death
While some participants had no ACE

The majority had more than 1

Figure 2: Prevalence of adverse childhood events in study population (in percent)

<table>
<thead>
<tr>
<th>ACE Score (sum of categories, not events)</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>33%</td>
</tr>
<tr>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td>5 or more</td>
<td>11%</td>
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</tbody>
</table>
Age dependent

Percentage Reporting Three or More Childhood Adverse Experiences

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>18-24</td>
<td>30</td>
</tr>
<tr>
<td>25-34</td>
<td>35</td>
</tr>
<tr>
<td>35-44</td>
<td>25</td>
</tr>
<tr>
<td>45-54</td>
<td>20</td>
</tr>
<tr>
<td>&gt;54</td>
<td>10</td>
</tr>
</tbody>
</table>
ACEs tend to come in groups...

<table>
<thead>
<tr>
<th>Additional ACEs (%)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>&gt;5</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you had:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>A battered mother</td>
<td>95</td>
<td>82</td>
<td>64</td>
<td>48</td>
<td>52</td>
</tr>
</tbody>
</table>
Prevalence of Childhood Abuse by Frequency of Witnessing Domestic Violence

Childhood Abuse

Emotional  Physical  Sexual

Percent (%)

Never  Once  Sometimes  Often  Very often

Prevalence of Emotional Abuse

- Never: 0%
- Once: 10%
- Sometimes: 20%
- Often: 30%
- Very often: 40%

Prevalence of Physical Abuse

- Never: 0%
- Once: 10%
- Sometimes: 20%
- Often: 30%
- Very often: 40%

Prevalence of Sexual Abuse

- Never: 0%
- Once: 10%
- Sometimes: 20%
- Often: 30%
- Very often: 40%
Prevention
vs. waiting to treat
The ACE Score and the Prevalence of Attempted Suicide

![Graph showing the prevalence of attempted suicide by ACE Score]

- Percent attempted (%)
  - ACE Score
    - 0
    - 1
    - 2
    - 3
    - >=4

Image: Hands holding pills and a bottle, indicating medication.

Legend:
- ACE Score:
  - 0
  - 1
  - 2
  - 3
  - >=4

Note: The graph illustrates the relationship between ACE score and the percentage of attempted suicide.
The ACE Score and the Prevalence of Severe Obesity (BMI ≥35)
The ACE Score and a Lifetime History of Depression

![Chart showing the relationship between ACE Score and percent depressed (women and men)]
ACE Score and the Risk of Being a Victim of Domestic Violence

Women vs. Men

<table>
<thead>
<tr>
<th>ACE Score</th>
<th>Risk of Victimization (%)</th>
<th>Women</th>
<th>Men</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>1</td>
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<td>4</td>
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<tr>
<td>&gt;5</td>
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Risk of Victimization (%)
ACE Score and Drug Abuse

- Ever had a drug problem
- Ever addicted to drugs
- Ever injected drugs

ACE Score:
- 0
- 1
- 2
- 3
- 4
- >=5

Percent with health problem (%)

Graph showing the percentage of individuals with health problems based on their ACE score.
ACEs, Smoking, and Lung Disease

ACE Score
- 0
- 1
- 2
- 3
- 4 or more

Percent With Health Problem (%)

Early smoking initiation
Current smoking
COPD
Summary of Findings:

- Adverse Childhood Experiences (ACEs) are very common

- ACEs are strong predictors of health risks and disease from adolescence to adulthood

- This combination of findings makes ACEs one of the leading, if not the leading determinant of the health and social well-being of our nation
ADVERSE CHILDHOOD EXPERIENCES
looking at how ACEs affect our lives & society

HOW DO ACES AFFECT OUR LIVES?

ACES CAN HAVE LASTING EFFECTS ON BEHAVIOR & HEALTH...

Singly put, our childhood experiences have a tremendous, lifelong impact on our health and the quality of our lives. The ACE Study showed dramatic links between adverse childhood experiences and risky behavior, psychological issues, serious illness and the leading causes of death.

The following charts compare how likely a person with 1, 2, 3, or 4 ACES will experience specified behaviors than a person without ACES.

REFERENCES:
ACE Study - http://www.cdc.gov/nces/
Economic Costs of Childhood Abuse and Neglect - www.cdc.gov/violenceprevention/child maltreatment/EconomicCost.html
Essentials for Childhood
**Bridging The Chasm**

<table>
<thead>
<tr>
<th>Child health as it stands today</th>
<th>Breakthroughs in molecular genetics and biology:</th>
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<tbody>
<tr>
<td></td>
<td>• <strong>Mental illness</strong></td>
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<td></td>
<td>• <strong>Substance abuse</strong></td>
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<td></td>
<td>• <strong>Violence</strong></td>
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<tr>
<td>Improved recognition and treatment of:</td>
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<tr>
<td>• <strong>Mental illness</strong></td>
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<td>• <strong>Substance abuse</strong></td>
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<tr>
<td>• <strong>Domestic violence</strong></td>
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<tr>
<td>• <strong>Child abuse</strong></td>
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<tr>
<th>Mass education about child development &amp; parenting:</th>
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<tr>
<td>• <strong>Media</strong></td>
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<tr>
<td>• <strong>Schools</strong></td>
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**Documenting the societal burden of child health as it stands today**

**New directions in prevention and treatment**
Involving those who don’t yet realize that they are working on issues that represent the “downstream” wreckage of child abuse and neglect— and other adverse childhood experiences—in the effort to bridge the chasm.

Routine screening for trauma is needed
Findings of the ACE Study

- ACE score of 6 and higher – an almost 20-year shortening of lifespan.

- ACE score of 4 – 260% more likely to have Chronic Obstructive Pulmonary Disorder (COPD) than a person with an ACE Score of 0.

- ACE score of at least 7 increased the likelihood of childhood/adolescent suicide attempts 51-fold and adult suicide attempts 30-fold.

- ACE scores of 4 or higher increases your chance of having self-acknowledged alcoholism as an adult by 500% (with a history of parental alcoholism).

- ACE scores of 4 or more were 12 times more likely to have attempted suicide, 7 times more likely to be alcoholic, and 10 times more likely to have injected street drugs.
Why Address Trauma?

- Trauma is widespread
- The impact of trauma is broad and touches multiple life domains
- The impact of trauma is often deep and life-altering
- Violent trauma is often self-perpetuating
- Trauma is insidious and preys particularly on the most vulnerable among us
- Trauma affects the way people approach potentially helpful relationships
- Trauma has often occurred in the service context itself

*(Fallot & Harris, 2009)*
We need to presume the clients we serve have a history of traumatic stress and exercise “universal precautions” by creating systems of care that are trauma-informed.

(Hodas, 2005)
MAGNITUDE OF THE SOLUTION

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

Population attributable risk
2012 policy statement

From the American Academy of Pediatrics

Policy Statement

Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health
• We can stop child abuse and neglect by reducing risk of it happening at all and increasing the factors that protect children. Preventing child maltreatment means influencing individual behaviors, relationships among families and neighbors, community involvement, and the culture of a society.
Prevention strategies include effective programs that focus on individual behavior and attitude change, and also efforts that change policies and societal norms to create environments that support safe, stable, nurturing relationships for children and families.

We need to implement effective prevention strategies to stop child abuse and neglect before it happens and to foster commitment to social change.
Specifically…what can be done about ACES?

- Home visiting to pregnant women and families with newborns
- Parenting training programs
- Intimate partner violence prevention
- Social support for parents
- Parent support programs for teens and teen pregnancy prevention programs
- Mental illness and substance abuse treatment
- Preschool Enrichment
- Sufficient income support for lower income families
Recommendation #1 MIHP!!
Risk identifiers and POC2s
Social Emotional growth Pyramid

Pyramid Model
for Promoting the Social and Emotional Development of Infants and Young Children

- Effective Workforce
- Nurturing and Responsive Relationships
- High Quality Supportive Environments
- Targeted Social Emotional Supports
- Intensive Intervention

Assessment based intervention that results in individualized behavior support plans.
Other ideas!

- Integrate a psychosocial approach into doing medicine. “Psychosocial problems and the new morbidities should no longer be viewed as categorically different from the causes and consequences of other biologically based health impairments.”

- Incorporate into medical school and continuing education classes the knowledge of how childhood toxic stress affects “disruptions of the developing nervous, cardiovascular, immune, and metabolic systems, and the evidence that these disruptions can lead to lifelong impairments in learning, behavior, and both physical and mental health.”
• Take an active leadership role in educating everyone — public, policy makers, educators, etc. — about the long-term consequences of childhood toxic stress.

• Support evidence-based interventions (regardless of the provider or venue) that reduce sources of toxic stress and/or mitigate their adverse effects on young children.
Thoughts from the researchers…

Not surprisingly, individuals with histories of abuse are often reluctant to engage in, or quickly drop out of, many behavioral healthcare and other social services.

Hyper vigilance and suspicion are often important and thoroughly understandable self-defense mechanisms in coping with trauma exposure – yet they make it difficult to engage in services that may be needed.
Thoughts from the researchers…

Share your story with all who will listen. For many of us, telling is the first step to healing. It also helps to normalize the conversation about adverse childhood experiences and their impact on our lives. Making it "OK" to talk about what happened removes the power of secrecy.
Thoughts from the researchers…

Adverse childhood experiences—would typically go undetected because of shame, secrecy and social taboo, which prevent people from talking about such things.
Thoughts from the researchers…

These same social taboos prevent physicians and other health care providers—those best poised to help victims of child abuse—from asking the very questions that would help identify these underlying causes of major impediments to Americans’ health and well being.
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