

# Adverse Childhood Experiences and their Relationship to Adult Well-being and Disease : *Turning gold into lead*



A collaborative effort between  
Kaiser Permanente and the Centers for Disease Control

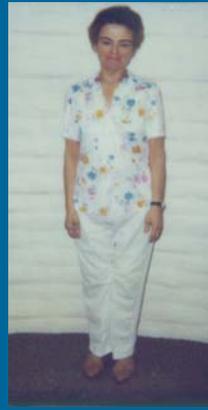
Office on Women's Health, US Dept. of HHS  
Chicago, IL July 20, 2011

Robert F. Anda, M.D.  
Vincent J. Felitti, M.D.

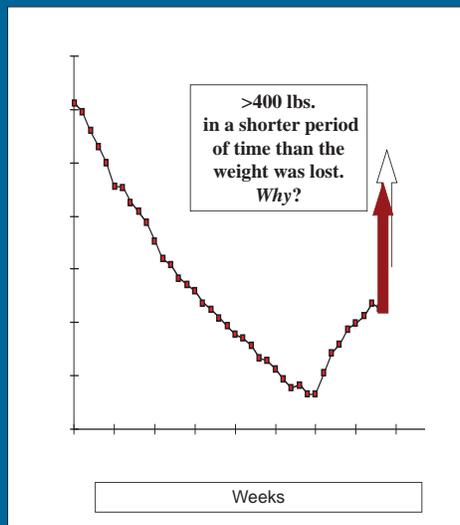
## Origins of the ACE Study



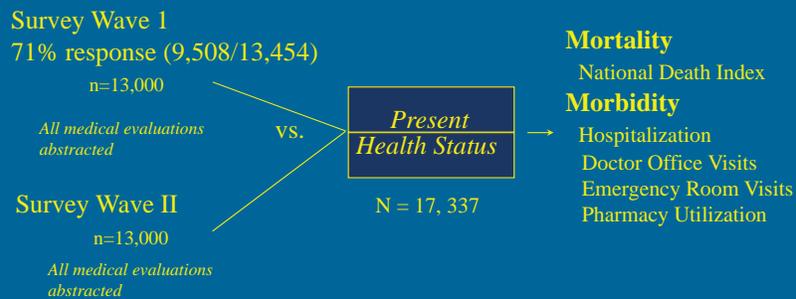
51 weeks later  
408 → 132 lbs



What is the *core* problem here?



## ACE Study Design



## Prevalence of Adverse Childhood Experiences

	Prevalence (%)
<b>Abuse, by Category</b>	
Psychological (by parents)	11%
Physical (by parents)	28%
Sexual (anyone)	22%
<b>Neglect, by Category</b>	
Emotional	15%
Physical	10%
<b>Household Dysfunction, by Category</b>	
Alcoholism or drug use in home	27%
Loss of biological parent < age 18	23%
Depression or mental illness in home	17%
Mother treated violently	13%
Imprisoned household member	5%

## Adverse Childhood Experiences Score

**Number of categories (not events) is summed...**

ACE Score	Prevalence
0	33%
1	25%
2	15%
3	10%
4	6%
5 or more	11%*



- Two out of three experienced at least one *category* of ACE.
- If any one ACE is present, there is an 87% chance *at least* one other category of ACE is present.
- \* Women are 50% more likely than men to have a Score >5.

*On my beginning is my end. Ó*

T.S.Eliot, *Quartets*

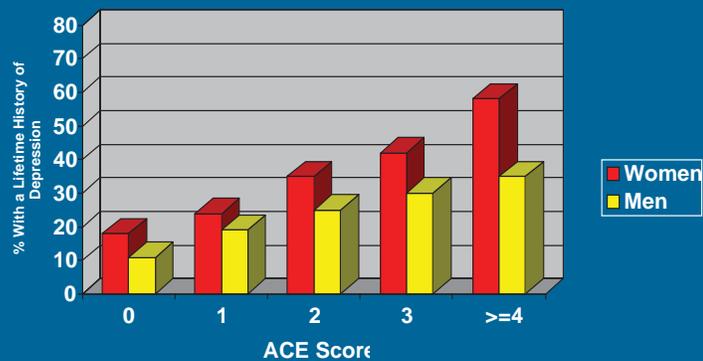
Depression:

Most say depression is a disease.  
Many say depression is genetic.  
Some say it is due to a chemical imbalance.



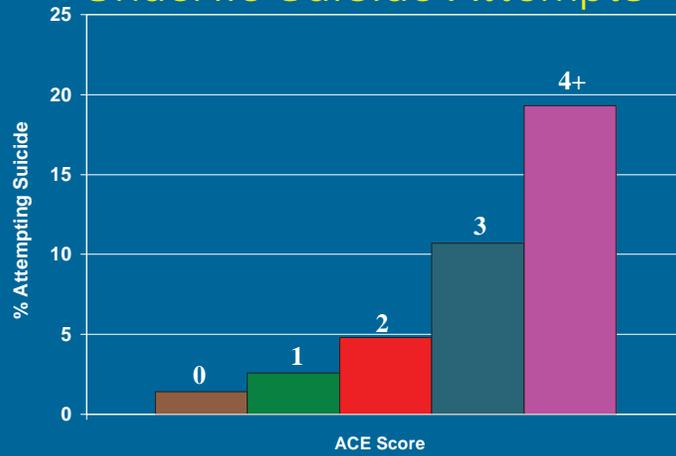
Mental Health

Childhood Experiences Underlie Chronic Depression



Mental Health

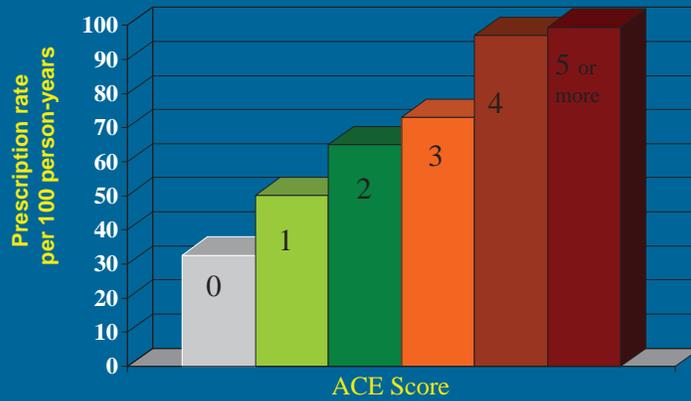
## Childhood Experiences Underlie Suicide Attempts



Mental Health; Costs

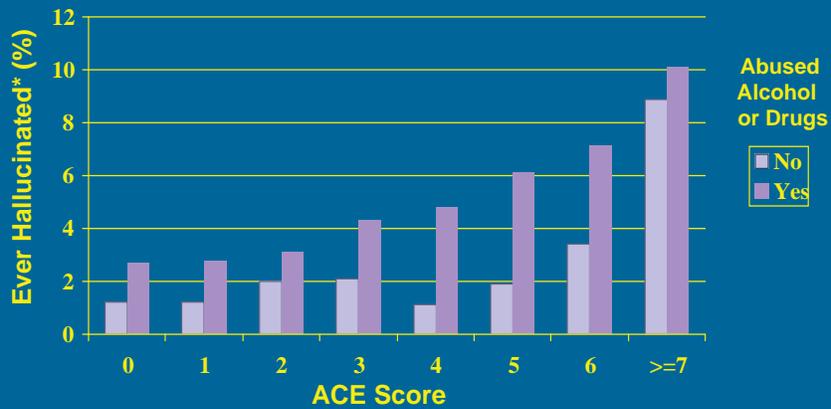
## ACE Score and Rates of Antidepressant Prescriptions

approximately 50 years later



Mental Health

## ACE Score and Hallucinations



\*Adjusted for age, sex, race, and education.

The traditional concept:

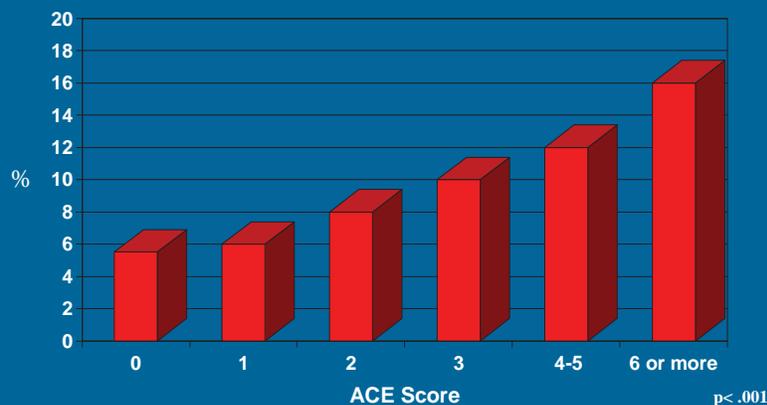
“Addiction is due to the characteristics intrinsic in the molecular structure of some substance.”

The ACE Study shows that:

Addiction highly correlates with characteristics intrinsic to that individual’s childhood experiences.

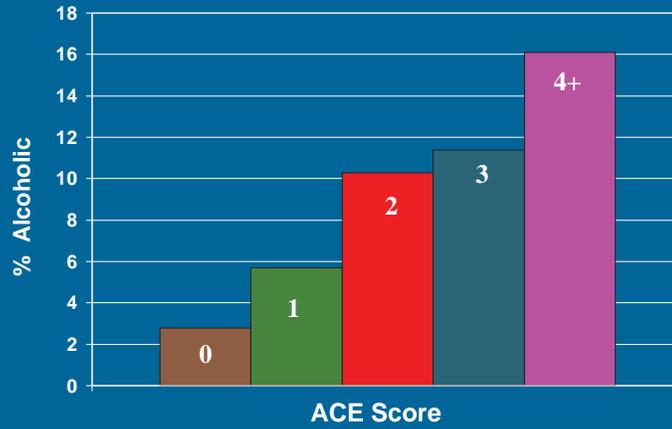
Health Risks

**Adverse Childhood Experiences vs. Smoking as an Adult**



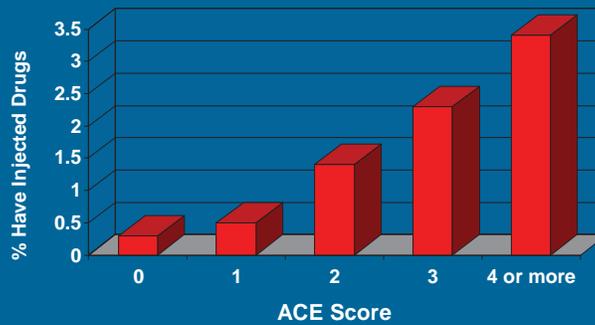
Health Risks

## Childhood Experiences vs. Adult Alcoholism



Health Risks

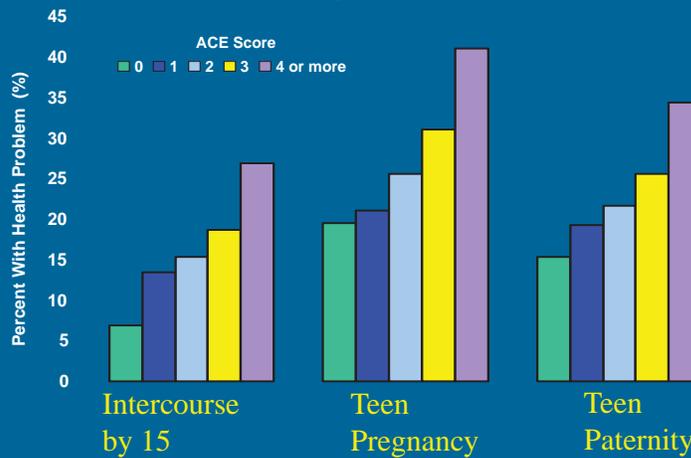
## ACE Score vs Injection Drug Use



p<0.001

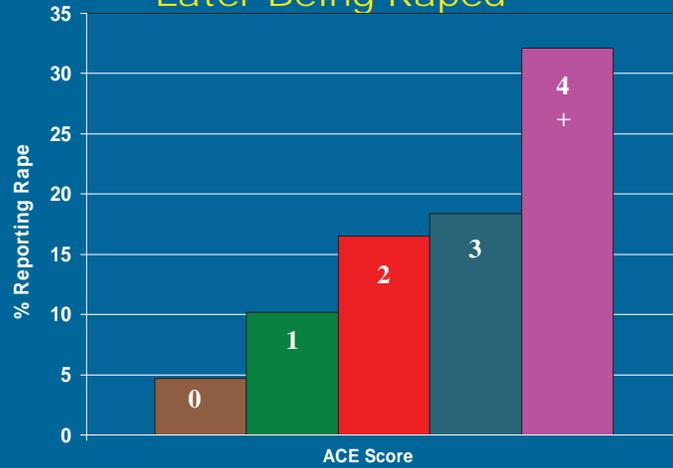
Social function

## ACE Score and Teen Sexual Behaviors



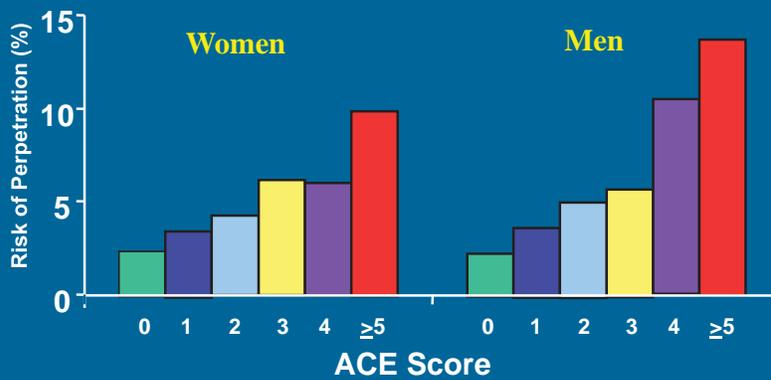
Well-being

### Childhood Experiences Underlie Later Being Raped



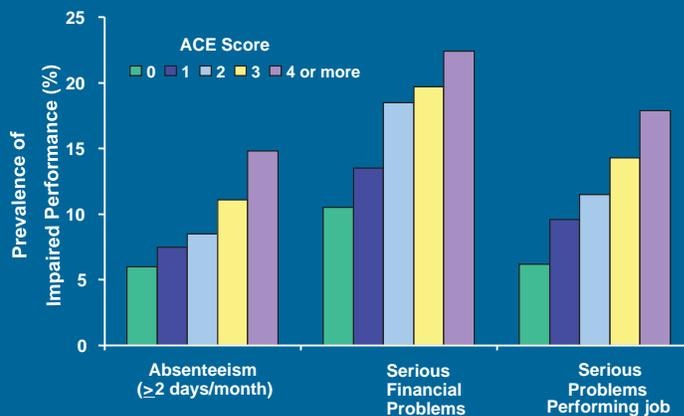
Social function

### ACE Score and the Risk of Perpetrating Domestic Violence



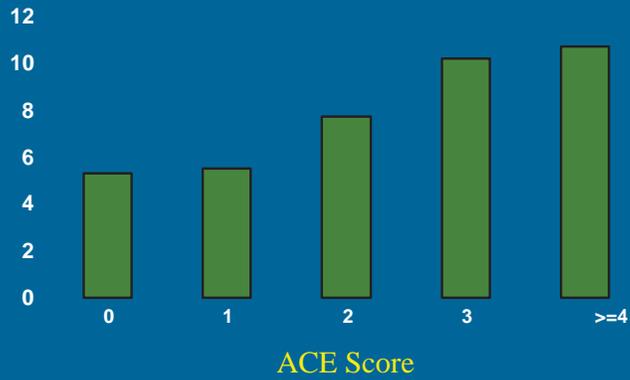
Social function

### ACE Score and Indicators of Impaired Worker Performance



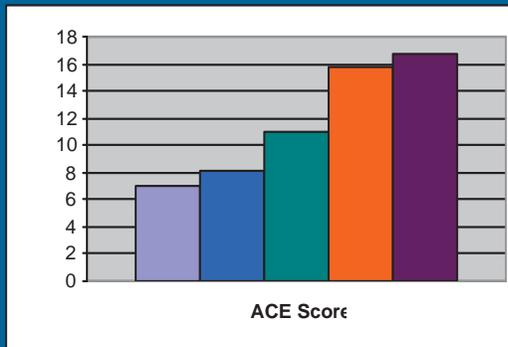
Biomedical Disease

### The ACE Score and the Prevalence of Liver Disease (Hepatitis/Jaundice)



Biomedical Disease

### ACE Score vs. COPD



medical disease

### ACEs Increase Likelihood of Heart Disease\*

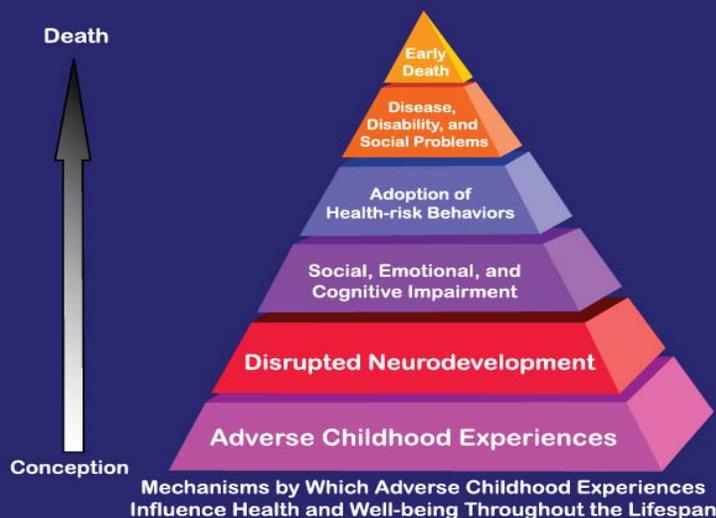
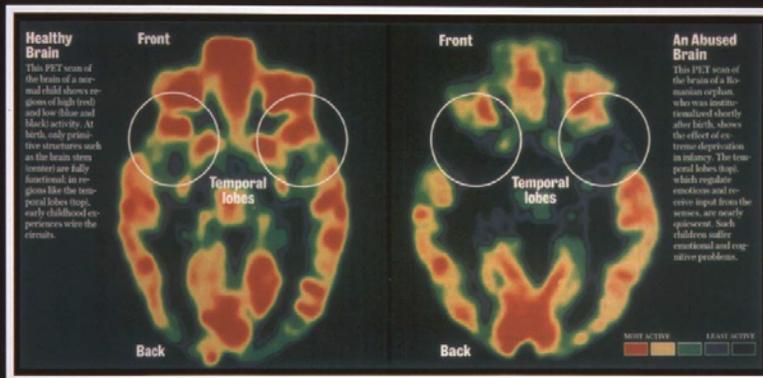
- Emotional abuse 1.7x
- Physical abuse 1.5x
- Sexual abuse 1.4x
- Domestic violence 1.4x
- Mental illness 1.4x
- Substance abuse 1.3x
- Household criminal 1.7x
- Emotional neglect 1.3x
- Physical neglect 1.4x



\*After correction for age, race, education, and conventional risk factors like smoking and diabetes. *Circulation*, Sept 2004.

# How and why do Adverse Childhood Experiences exert their influence throughout life?

## Why is treatment so difficult?



In Summary, the ACE Study indicates:

Adverse childhood experiences are the most *basic and long-lasting* determinants of health risk behaviors, mental illness, social malfunction, disease, disability, death, and healthcare costs.

*A Public Health Paradox*

What are conventionally viewed as Public Health *problems* are often personal *solutions* to long-concealed adverse childhood experiences.

*“It’s hard to give up something that almost works.”*

Interventions

Translating Research into Practice

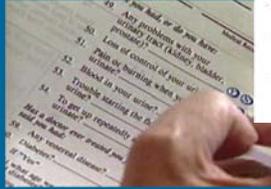
a beginning



1.3 million comprehensive patient evaluations since 1975

# An Individual, Population-based Health Appraisal System: A Biopsychosocial Concept

- Comprehensive history (*not* symptom-initiated) obtained at home by detailed questionnaire, better by Internet.



69. Depression or feel "down in the dumps"?  Y  N

70. Much trouble with nervousness?  Y  N

Do you:

71. Sometimes drink more than you think is good for you?  Y  N

72. Use street drugs?  Y  N

Have you ever:

73. Been raped, or sexually molested as a child?  Y  N

73a. As a child, been physically abused?  Y  N

73b. As a child, been verbally abused?  Y  N

Includes ACE Questions

## Interventions

### Unconventional R.O.S. Questions of Demonstrated Value

- Have you ever lived in a war zone?
- Have you been a combat soldier?
- *Who* in your family has committed suicide?
- *Who* in your family has been murdered?
- *Who* in your family has had a nervous breakdown?
- Were you molested as a child?
- Have you ever been held prisoner?
- Have you been tortured?
- Have you been raped?

## Effect of Interventions

### Benefits of a Biopsychosocial Preventive Approach

Biopsychosocial evaluation: **35% reduction in DOVs**  
in subsequent year.  
(120,000 patient sample)

Biomedical evaluation:  
(Control group) **11% reduction in DOVs**  
in subsequent year.  
(700 patient sample)

## Final Insights from the ACE Study

- Adverse childhood experiences are common but typically unrecognized.
- Their link to major problems later in life is strong, proportionate, and logical.
- They are the nation's *most basic* public health problem.
- It is comforting to mistake intermediary mechanism for basic cause.
- What presents as the 'Problem' may in fact be an attempted solution.
- Treating the solution may be threatening and cause flight from treatment.
- Primary prevention is presently the only feasible population approach.
- Using this information clinically will be resisted, by us.

## Further Information

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

Google or Medline (Anda or Felitti as author name)

[VJFMDSOCA@mac.com](mailto:VJFMDSOCA@mac.com)

[info@cavalcadesproductions.com](mailto:info@cavalcadesproductions.com) (Documentary DVDs)

[www.HumaneExposures.com](http://www.HumaneExposures.com) (3 books)