The **Repressed** Role of Adverse Childhood Experiences in Adult Well-being, Disease, and Premature Death: *Turning gold into lead*

A collaborative effort between

Kaiser Permanente and the Centers for Disease Control,

Children’s Advocacy Days
Nashville, TN. March 13, 2018

Robert F. Anda, M.D.
Vincent J. Felitti, M.D.
The ACE Study Summary of Findings:
(17,000+ patients, 20 year followup, 86 publications)

Today’s Goals are understanding that:

• Adverse Childhood Experiences (ACEs) are very common, but typically unrecognized.

• They are powerful predictors of adult social malfunction, emotional distress, health risks, disease, and premature death.

• This combination makes ACEs the leading determinant of the health, psychosocial well-being, and economy of the nation.

• It is possible to use this information productively in daily practice.
What is the Core Diagnosis Here?

In 51 weeks:
408 ➞ 132 lbs.

Which photo represents the patient’s problem?
>400 lbs. (185 Kg) in a shorter period of time than the weight was lost.
If Obesity is not the core problem, weight-loss is not going to be the solution.

In < 1 year

back over 400 lbs.

1986  1987
The THREAT of ‘Success’ 12 Years Later
Functional aspects of ‘dysfunctional’ behavior

Physical safety in being obese ...

Lost 158 pounds in Program.
But, why did he gain it?
The Hidden *Threat* of Weight Loss

Ella H. says "No" to Bariatric Surgery
A Former Pediatric Patient Speaks Clearly

Frontiers of Treatment in Obesity and Smoking
A Public Health Paradox

Many of our most common and intractable public health problems are also unconsciously attempted solutions to personal experiences occurring in childhood, lost in time, and concealed by shame, by secrecy, and by social taboo against exploring certain topics.
ACE Study Design

Survey Wave 1
n=13,000
71% response
All medical evaluations abstracted

Survey Wave II
n=13,000
All medical evaluations abstracted

Present Health Status
17,337 adults

Illness & Costs
Hospital Discharges
Doctor Office Visits
Emergency Room Visits
Pharmacy Costs

Mortality
National Death Index

(20 year follow-up)
## Categories of Acknowledged Adverse Childhood Experiences

### Abuse, by Category
- Psychological (by parents): 11%
- Physical (by parents): 28%
- Sexual (anyone): 22%

### Neglect, by Category
- Emotional: 15%
- Physical: 10%

### Household Dysfunction, by Category
- Alcoholism or drug use in home: 27%
- Loss of biological parent <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...

<table>
<thead>
<tr>
<th>ACE Score</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>
</tr>
</tbody>
</table>

- 67% 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, and 50% chance of 3 or >.

* Women are 50% more likely than men to have a Score >5.
Nicotine to Self-Medicate

Is he describing dysfunctional behavior, or is it functional in realms of which we are ignorant?
An ad from the 1940s, for the Profession

'Amphedroxyn Hydrochloride'
(Methamphetamine Hydrochloride, Lilly)

IS OFTEN PREFERABLE TO OTHER FORMS OF AMPHETAMINE—
because—
smaller doses produce longer cerebral stimulation,
with a minimum of undesirable excitation and other
side-effects.

When patients with depression, narcolepsy,
alcoholism, or obesity are selected as suitable cases
for stimulant therapy, 'Amphedroxyn Hydrochloride'
is a prudent choice of drug.

Detailed information and literature on
'Amphedroxyn Hydrochloride' are personally
supplied by your Lilly medical service representative
or may be obtained by writing to
Eli Lilly and Company, Indianapolis 6, Indiana, U.S.A.
Childhood Experiences Underlie Chronic Depression

Well-being
Childhood Experiences Underlie Suicide Attempts

Death

% Attempting Suicide

0 1 2 3 4+

Childhood Experiences Underlie Suicide Attempts
Health risks

ACE Score vs Intravenous Drug Use

% Have Injected Drugs

ACE Score

p<0.001
Disease

ACE Score and Hallucinations

*Adjusted for age, sex, race, and education.
ACE Score and Rates of Antipsychotic Prescriptions

A half-century later, on average
Health risks

Adverse Childhood Experiences vs. Likelihood of > 50 Sexual Partners

Adjusted Odds Ratio

ACE Score

0 1 2 3 4 or more
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
A Complex Point
Adverse Childhood Experiences determine the likelihood of the ten most common causes of death in the United States.

Top 10 Risk Factors: smoking, severe obesity, physical inactivity, depression, suicide, alcoholism, illicit drug use, injected drug use, 50+ sexual partners, h/o STD.
With an ACE Score of 4 or more, the majority of adults have multiple risk factors for these diseases, the diseases themselves, or have died early.
Many chronic diseases of adults are determined decades earlier, in childhood. Not by childhood diseases, but by life experiences.
The risk factors translate into adult disease by three pathways.
Converting ACEs into Disease

1) By trying to feel better by various Coping mechanisms like Smoking, Overeating, Physical inactivity, Alcoholism, Illicit drug use, Promiscuity.

2) By the complex effects of major unrelieved Stress on key Brain functions affecting core body processes like inflammation and the immune response.

3) By Epigenetic effects (yet to be studied but upcoming).
Evidence from the ACE Study Indicates:

Adverse childhood experiences are the main cause of health risk behaviors, and hence of disease, disability, premature death, and healthcare costs.
Healthy Brain

This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

An Abused Brain

This PET scan of the brain of a Romanian orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.
Improving the Future

Realizing that these problems are common.

Identifying cases in medical practice.

Teaching supportive parenting. (primary prevention)

Child health and well-being as it stands today.

Adult health and well-being as it could be.
Interventions

Translating Research into Practice

a beginning

6th Floor

1.3 million comprehensive medical 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.

Includes ACE Questions
## Extract from an actual case

### GENERAL HEALTH
- Her health limits activity to some degree.
- Limitations are mostly due to shortness of breath or difficulty breathing.
- Limitations are mostly due to fatigue, tiredness, or lack of energy.
- Her stress level: large
- Doctor visits during the past 12 months: 1 - 4 times
- Hospitalizations over the past 12 months: 0 times
- Patient regularly uses seat belts.
- Patient believes she is more tired and has less energy compared to other people.
- She often has trouble falling asleep or staying asleep.
- She often awakens tired after adequate sleep.
- She is more sensitive than other people.
- She is often worried about being ill.
- She often feels hopeless or down in the dumps.
- She has difficulty saying no, or sticking up for herself.
- She has problems controlling her anger.
- She has difficulty caring for herself.
- Patient is having serious problems with her family.
- Patient is having serious problems with her job.
- Patient is having serious problems with her finances.
- Patient has used street drugs.
- Patient would like an HIV (AIDS) test.

### WOMEN'S HEALTH
- Patient does a breast exam: at least once a month
- Patient's last mammogram was: never.
- Patient is still having menstrual periods.
- Patient currently has irregular periods.
- Patient currently has a lot of pain with her periods.
- She has not been sexually active within the past year.
- She is no longer sexually active.
- Type of birth control used: tubal ligation
- Number of pregnancies: four or more
- Number of live births: three
- Patient has been physically abused as a child.
- Patient has been verbally abused as a child.
- Patient has been sexually molested as a child or adolescent.
- Patient has been threatened or abused as an adult by a sexual partner
- Her partner has threatened, pushed, or shoved her.
- Her partner has threatened or abused her children.

### DIGESTIVE
- Patient has had a distinct weight gain during the last year.
- Patient has had indigestion or heartburn during the past year.
- Patient has had recurrent nausea or vomiting during the past year.
- She has recurrent abdominal pain.
- Patient has been diagnosed with esophagitis or esophageal reflux.
- Patient is likely to have some form of alcohol: never.
But, How is this *Used*?

• “I see on the Questionnaire that…… Can you tell me how that has affected you later in your life.”

• And one *Listens*. *Period*
Economics of a Biopsychosocial Preventive Approach

Biomedical evaluation: 11% reduction in DOVs in subsequent year (700 patient sample)

Biopsychosocial evaluation: 35% reduction in DOVs (130,000 patient sample)
Practice Implications of the ACE Study

• Routinely incorporating childhood life experiences questions as part of the comprehensive medical evaluation of adults has been demonstrated to be acceptable to patients, affordable, and powerfully beneficial.

• It is possible to move from our current symptom-reactive mode of practice, and start dealing with basic causes, and thereby improve care while markedly reducing its costs.

• A trauma-oriented, comprehensive medical history has been demonstrated to have major benefits and is proposed as the routine entry mechanism into all ongoing care: medical, psychological, or institutional.
Final Insights from the ACE Study

- Adverse childhood experiences are common but overwhelmingly 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 be a patient’s attempted solution.
- Treating their solution may be threatening and cause flight from treatment.
- Primary prevention is presently the only realistic population approach.
- Change has been resisted, by us, in spite of enormous benefits.
Further Information

Search “ACE Study” on the Internet and YouTube

www.ACEsConnection.com and www.ACEsTooHigh.com

www.AVAHealth.org (Major current 4-hour DVD on ACE Study)

info@CavalcadeProductions.com (Documentary ACE patient DVDs)


VJFMDSDCA@mac.com