# Adverse Childhood Experiences: The Role of Philanthropy

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YOUTH WELLNESS

health begins with hope

## **OUR MISSION IS THREEFOLD:**



...THE IMPACTS OF ACES AND TOXIC STRESS!

## Why ACEs/Toxic Stress?

- Affects millions of Americans
- Significant risk factor for several of the leading causes of death in the U.S.
- Major contributor to health disparities
- Under-recognized and largely unaddressed by the medical community
- Major driver of health care costs
- Early detection and intervention improves outcomes!



## My Goal

### You will leave here today:

- Recognizing that ACEs and toxic stress are a health issue, and as such require a clinical and public health response
- Understanding the urgency and also the great hope for developing evidence-based interventions
- Committing to include ACEs/Toxic Stress treatment into your portfolio





## The ACE Study



- Vincent J. Felitti, MD and Robert J. Anda, MD, MS
- Asked 26,000 adults at Kaiser, San Diego's Dept of Preventive Medicine.
- 17,421 participated in the study.
- Participants completed a questionnaire.

#### ACE Criteria

- 1. Recurrent physical abuse
- 2. Recurrent emotional abuse
- 3. Contact sexual abuse
- 4. An alcohol or drug abuser in the household
- 5. An incarcerated household member
- 6. Someone who was chronically depressed, institutionalized, or suicidal
- 7. Mother treated violently
- 8. One or no parents, or parents divorced.
- 9. Emotional or physical neglect

#### Results

- 12.6% of population had ACE score  $\geq$  4
- Dose-Response relationship between adverse childhood events and numerous organic diseases.

• Person with an ACE score of  $\geq$  4 is 260% as likely to have COPD than a person with a score of 0.

#### Relative Risk of Disease for ACE $\geq$ 4

Fetal Demise 180%

Hepatitis 240%

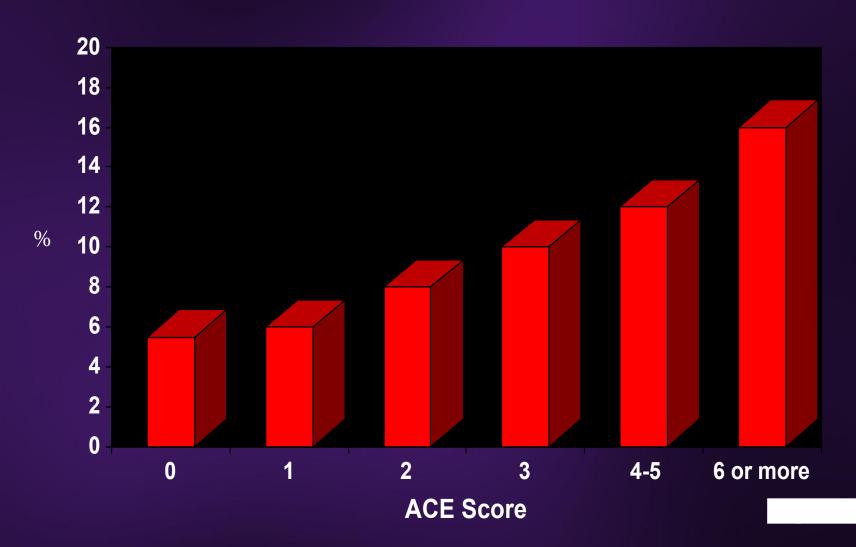
• STD 250%

• COPD 260%

Depression 460%

Suicidality 1,220%

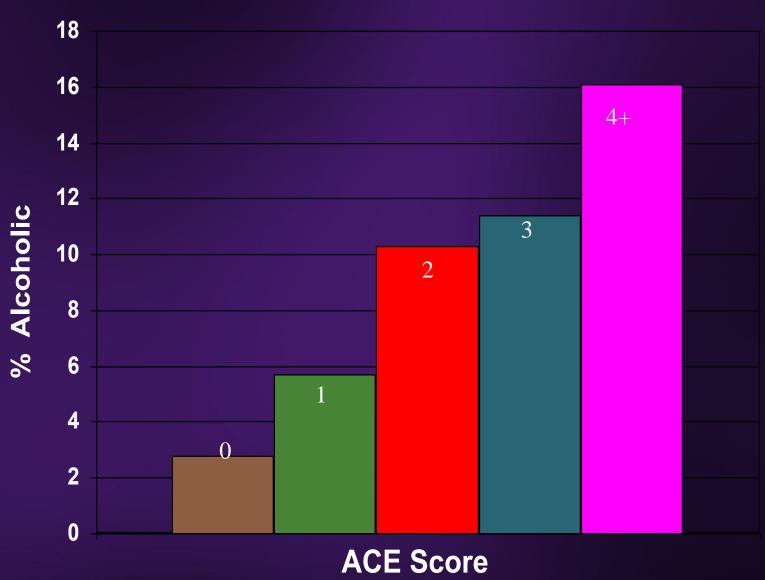
# Adverse Childhood Experiences vs. Smoking as an Adult



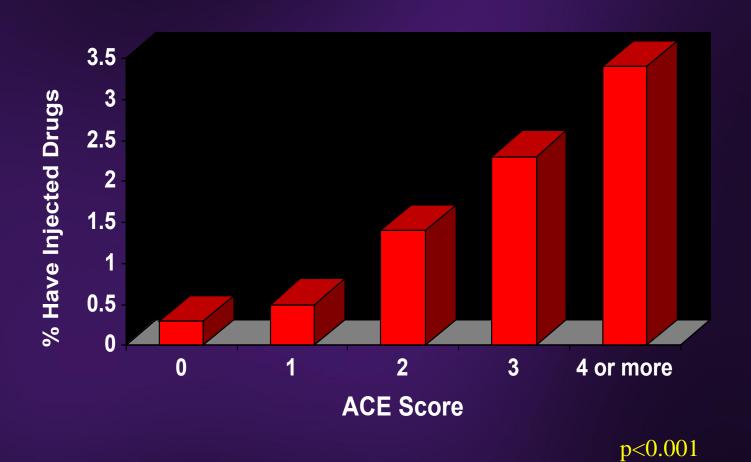
#### Health Risks

### Childhood Experiences vs.

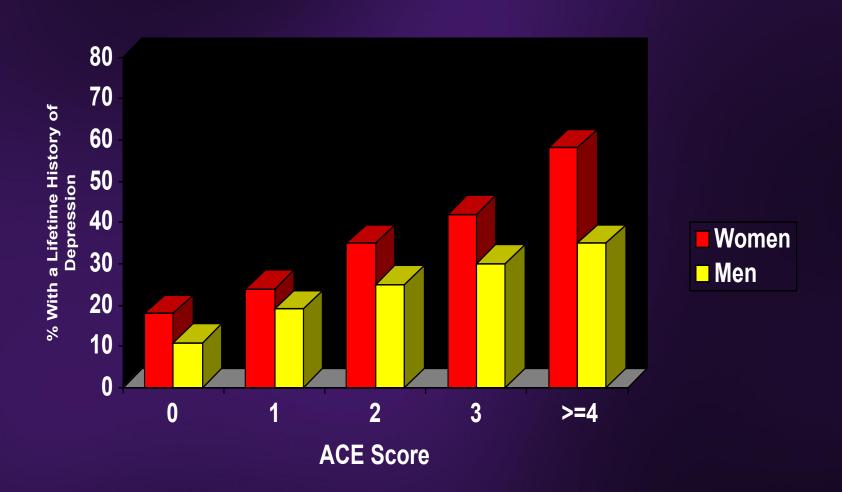
#### Adult Alcoholism



## ACE Score vs Intravenous Drug Use

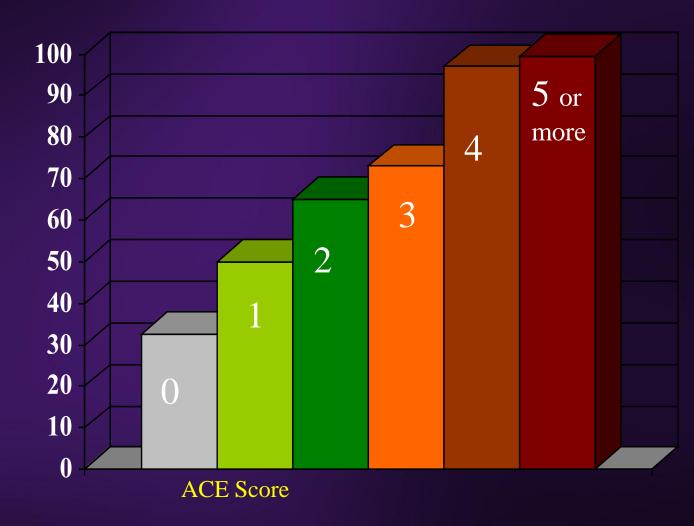


### Chronic Depression

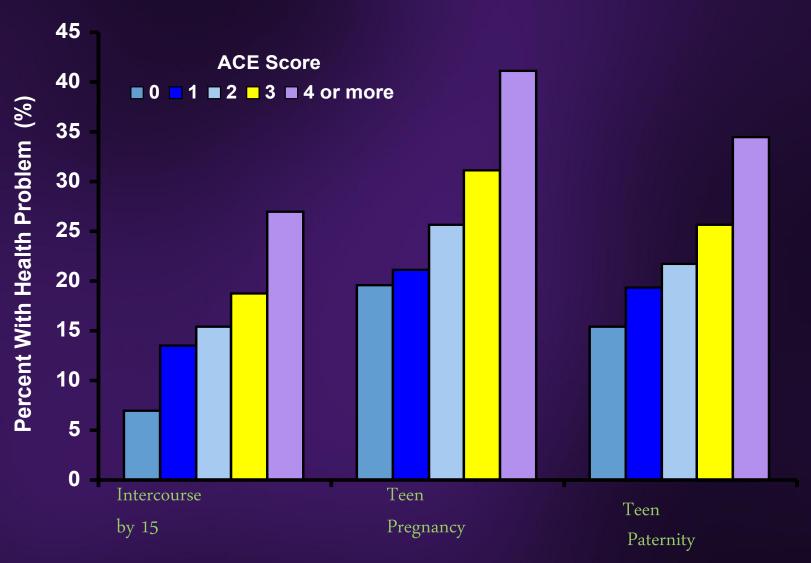


#### ACE Score and Rates of Antidepressant Prescriptions

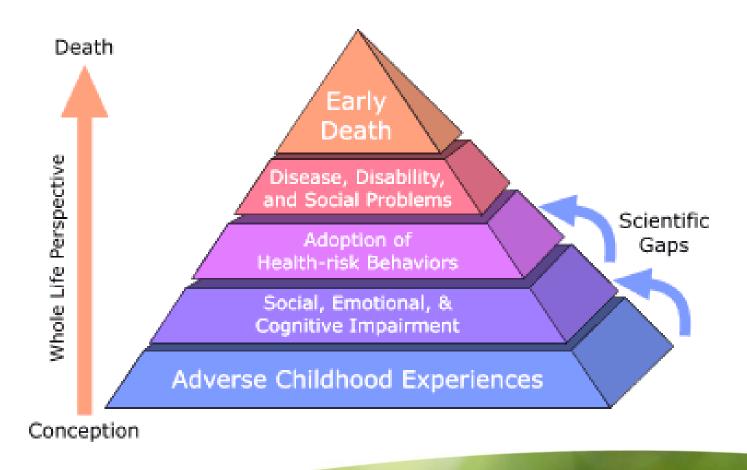




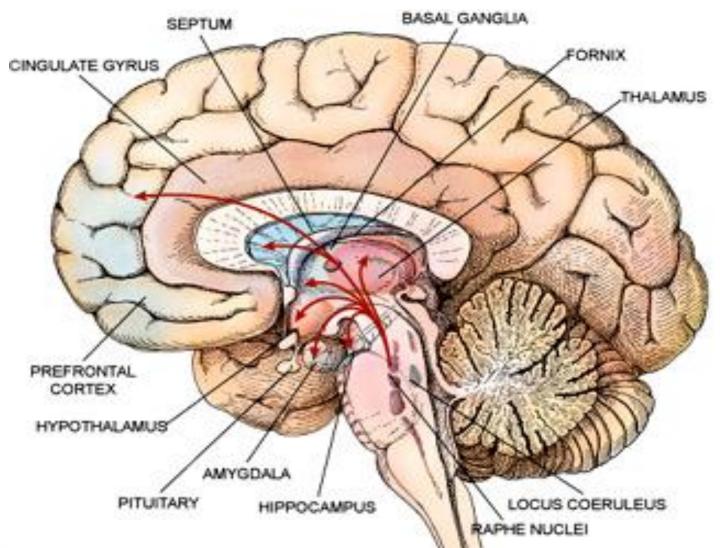
#### ACE Score and Teen Sexual Behaviors



#### Mechanism



## Neurobiology







### Multi-systemic Impacts

#### Neurologic:

- Changes in the structure and function of the brain
- HPA Axis Dysregulation
- Reward center dysregulation
- Hippocampal neurotoxicity

#### Immunologic

- Increased inflammatory mediators and markers of inflammation such as interleukins, TNF alpha, IFN- $\gamma$
- Chronic inflammation and dysregulation of the immune system

### Multi-systemic Impacts

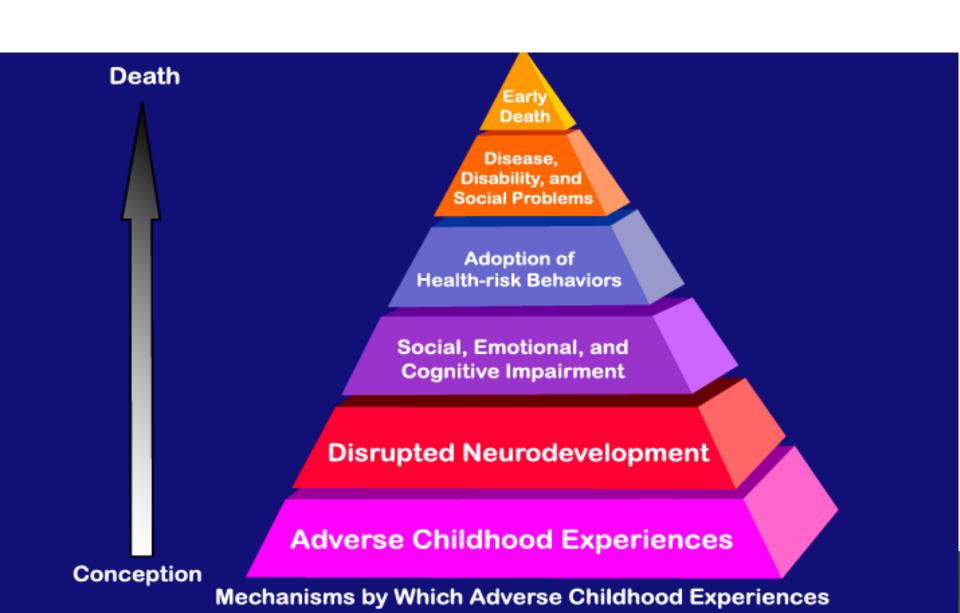
#### Endocrine

- Adult ACTH and plasma cortisol levels directly correlate with adverse childhood events, neglect and depression measures.
- Maltreated children with PTSD were found to excrete greater than normal urinary cortisol and catecholamines years after disclosure of abuse.
- Long-term changes in cortisol, adrenaline and other hormones.

#### Epigenetic

Changes in the way DNA is read and expressed leads to changes in the way the brain responds to stress.

### Updated Mechanism





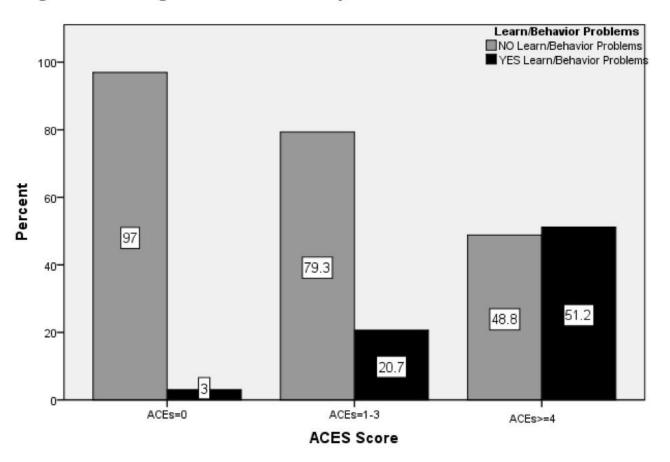
### Bayview Child Health Center

$ACEs \ge 1$	67.2%
$ACEs \ge 4$	12%
$ACEs \ge 4$ and $BMI \ge 85\%$	OR: 2.0
	p<.02
ACEs ≥ 4 and learning/beh probs	OR: 32.6
	p<.001

#### N.J. Burke et al/ Child Abuse and Neglect 35(2011) 408-413

#### Effect of ACEs on Educational Outcomes

Figure 2: Learning/Behavior Problems by ACEs Score



### Scope of the Challenge

- Impacts are pervasive and long-lasting
  - Development
  - Physical and Mental Health
  - Social and Educational impacts
  - Economic impacts
- Prevalence is high
- Strong evidence relating the risk
- Early intervention improves outcomes





#### What we need NOW

- Public awareness campaign
- Public policy intervention
- Educational, financial, and logistical/administrative/systems support for:
  - Basic science and translational research for the development of evidence-based practices
  - Training for clinicians and researchers to develop and implement effective interventions.
  - Community-based participatory research
  - Data collection and analysis

## Catalytic Capital Investing in Innovation

 The Tipping Point Community in San Francisco raised \$4.2M in 2010 to support a co-located partnership between the Center for Youth Wellness, the Bayview Child Health Center and the SF Children's Advocacy Center.

## Catalytic Capital Telling the Story

 Pritzker Foundation in Chicago has sponsored a documentary by filmmaker Jamie Redford about Adverse Childhood Experiences and their impacts.

## Catalytic Capital Raising Awareness and Seeding Solutions

- The Robert Wood Johnson Foundation cosponsored the first National Summit on Adverse Childhood Experiences in May 2013, bringing together national and local leaders to explore effective strategies to address ACEs across systems.
- \$384,000 investment in the ACEs Connection Network online resource community.

## Catalytic Capital Piloting Interventions

 The Annie E. Casey Foundation is working with the CYW to support validation of our clinical screening tool for use in primary care.

## Catalytic Capital Building the Evidence Base

 The JPB Foundation in New York has provided a planning grant to the CYW and the Harvard Center on the Developing Child to assess the feasibility of creating a National Research Consortium for Toxic Stress

## Catalytic Capital Building Alliances

- The Mid Iowa Health Foundation played a critical role in the formation of the Iowa ACEs Steering Committee.
- Partnered with the Iowa Department of Public Health and United Way of Central Iowa, the Mid Iowa Health Foundation.
- Strategic leadership in supporting state-wide ACEs Summit and state-wide ACEs data collection.

## Take Aways

- Make "urgent" grants and "patient" grants. Bob Ross, TCE
- Multidisciplinary/cross sector work can be slower but is necessary to find solutions that work.
- Investments in two-generation approaches are critical.
- We are at the beginning of a movement, so infrastructure investments are required.
- We need to advance the science, transform practice and heal communities.

## THANK YOU!

