Adverse Childhood Experiences: The Role of Philanthropy

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OUR MISSION IS THREEFOLD:

Prevent  Screen  Heal

...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

ACE Score

%
Health Risks

Childhood Experiences vs. Adult Alcoholism

ACE Score vs. % Alcoholic

- ACE Score 0: 1%
- ACE Score 1: 2%
- ACE Score 2: 3%
- ACE Score 3: 4%
- ACE Score 4+: 5%
ACE Score vs Intravenous Drug Use

% Have Injected Drugs

ACE Score

p<0.001
Chronic Depression

The bar chart shows the percentage of individuals with a lifetime history of depression across different ACE (Adverse Childhood Experiences) scores, comparing women and men. ACE scores range from 0 to >=4, with higher scores indicating more severe childhood adversity. The chart indicates that the percentage of individuals with depression increases with higher ACE scores, and this trend is consistent across both women and men, with men showing slightly higher percentages for higher ACE scores.
ACE Score and Rates of Antidepressant Prescriptions

Prescription rate per 100 person-years.

ACE Score

- 0
- 1
- 2
- 3
- 4
- 5 or more

0
10
20
30
40
50
60
70
80
90
100
ACE Score and Teen Sexual Behaviors

ACE Score

Percent With Health Problem (%)

0 1 2 3 4 or more

Intercourse by 15

Teen Pregnancy

Teen Paternity
Mechanism

- Adverse Childhood Experiences
- Social, Emotional, & Cognitive Impairment
- Adoption of Health-risk Behaviors
- Disease, Disability, and Social Problems
- Early Death

Whole Life Perspective:

- Conception
- Whole Life Perspective
- Death

Scientific Gaps
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-γ
  - 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

Death

Conception

Mechanisms by Which Adverse Childhood Experiences

Disrupted Neurodevelopment

Social, Emotional, and Cognitive Impairment

Adoption of Health-risk Behaviors

Disease, Disability, and Social Problems

Early Death
### Bayview Child Health Center

<table>
<thead>
<tr>
<th>ACEs ≥ 1</th>
<th>67.2%</th>
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</thead>
<tbody>
<tr>
<td>ACEs ≥ 4</td>
<td>12%</td>
</tr>
<tr>
<td>ACEs ≥ 4 and BMI ≥ 85%</td>
<td>OR: 2.0</td>
</tr>
<tr>
<td>ACEs ≥ 4 and learning/beh probs</td>
<td>OR: 32.6</td>
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</tbody>
</table>

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

- ACEs=0: 97%
- ACEs=1-3: 79.3%
- ACEs>=4: 51.2%
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
PHILANTHROPY is the BRIDGE
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 co-sponsored 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.
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!