Childhood Adversity: Can We Make a Difference? We Can!

*The 22nd Annual Childhood Development and Behavior Conference*

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Faculty Disclosure Information

In the past 12 months, I have no relevant financial relationships product(s) and/or provider(s) of commercial services discussed in this CME activity.

I do not intend to discuss an unapproved/investigative use of a commercial product/device in our presentation.
Learning Objectives

1. Identify the threats to early childhood development
2. Understand how early adversity impacts the developing brain
3. Know how to screen for social determinants of health
4. Learn about interventions to support children in adversity
Poverty

POVERTY REPORT U.S. CHILDREN

1 IN 5
U.S. kids living in poverty

3 MILLION
More kids in poverty than in 2008

1 IN 3
Hispanic, black kids in poverty

SOURCE: ANNIE E CASEY FOUNDATION

Yale SCHOOL OF MEDICINE
Extreme Poverty

- Annual income less than half the poverty level or $12,282 for a family of four
- 1:10 children under the age of 5
- 1:6 African American children and 1:10 Hispanic children
- 1:20 White children

Children’s Defense Fund [www.childrensdefense.org](http://www.childrensdefense.org)
How Poverty Exerts its Effect

Effects on Parents
- Emotional unavailability
- Mental and physical health
- Substance Abuse

Environmental impact
- Food insecurity, micronutrient deficiency
- Homelessness and overcrowding
- Exposure to environmental toxins
- Material Deprivation

Disrupted lives
- School disruption
- Gaps in health care
- Frequent moves
The three types of ACEs include:

**ABUSE**
- Physical
- Emotional
- Sexual

**NEGLECT**
- Physical
- Emotional

**HOUSEHOLD DYSFUNCTION**
- Mental Illness
- Incarcerated Relative
- Mother treated violently
- Substance Abuse
- Divorce
Prevalence of Adverse Child and Family Experiences among US Children 0-17 years

Source: 2011/12 NSCH
Prevalence of Children 0-17 who experienced 2+ ACEs

Prevalence of 2+ (of 9) ACEs: 16.3% (UT) – 32.9% (OK)

From The Child and Adolescent Health Measurement Initiative (CAHMI) and the Robert Wood Johnson Foundation, with in-kind contributions from the California Endowment and our many research, family, policy and practice partners.
Stress
POSITIVE
Brief increases in heart rate, mild elevations in stress hormone levels.

TOLERABLE
Serious, temporary stress responses, buffered by supportive relationships.

TOXIC
Prolonged activation of stress response systems in the absence of protective relationships.
Mechanisms of poverty and other adverse risks on development

Effects on Parents

Environmental Impact

Disrupted lives

Poverty and other risks

Stress

1. HPA Axis
2. Genetics
3. Epigenetics
4. Neural Structure and function

Brain Development

- Hippocampus
- Amygdala
- Prefrontal Cortex

- Executive Functioning
- Self-regulation
- Language
Genetics

- Genes explain more of the variance in cognition and brain structure in high-SES individuals than in low-SES individuals.
- Genetic variation explains some individual differences in the impact of poverty on the brain.
- **Differential susceptibility hypothesis**
  - Some genetic variants confer greater vulnerability to environmental stimuli
  - Dopamine and serotonin Transporter genes
- Telomere length shortened after father loss but significantly more so in children with specific alleles
Epigenetics

• In animals, stress can produce epigenetic changes that modify the receptor that controls cortisol.

• Other chemicals, nutrients and drugs also can modify the epigenome. (Bisphenol A, heavy metals)

• Some epigenetic changes can be modified through parenting, therapy, pharmacology

• *Intergenerational impact*: Epigenetic modification in response to maternal care can be transmitted across generations.
Neural Structure and Function

- In animal models, chronic repeated stress affects hippocampus by:
  - Shortening dendrites
  - Loss of spine synapses
  - Suppression of neurogenesis

- In the amygdala:
  - Opposite

- Human studies limited
Executive Function and Self-regulation

- Lower cognitive functioning
- Risky behaviors
- Behavior and Emotional Problems
- Victims of abuse
- Poor health status
- Lower educational attainment
Pediatric Interventions

Screening for Social Determinants of Health

Implementing 2-Generation Solutions
Food Insecurity

Food Insecurity - Hunger Vital Sign

1. “Within the past 12 months we worried whether our food would run out before we got money to buy more”

2. “Within the past 12 months the food we bought just didn't last and we didn't have money to get more.”

** Has been translated into 10 languages in addition to English

Figure 1: Families at risk of food insecurity had worse child health outcomes and worse maternal mental and physical health.
Single question poverty screen

“Do you have difficulty making ends meet at the end of the month?”
Many children experience stressful life events that can affect their health and wellbeing. The results from this questionnaire will assist your child’s doctor in assessing their health and determining guidance. Please read the statements below. Count the number of statements that apply to your child and write the total number in the box provided.

Please DO NOT mark or indicate which specific statements apply to your child.

1) Of the statements in Section 1, HOW MANY apply to your child? Write the total number in the box.

### Section 1. At any point since your child was born…

- Your child’s parents or guardians were separated or divorced
- Your child lived with a household member who served time in jail or prison
- Your child lived with a household member who was depressed, mentally ill or attempted suicide
- Your child saw or heard household members hurt or threaten to hurt each other
- A household member swore at, insulted, humiliated, or put down your child in a way that scared your child OR a household member acted in a way that made your child afraid that s/he might be physically hurt
- Someone touched your child’s private parts or asked your child to touch their private parts in a sexual way
- More than once, your child went without food, clothing, a place to live, or had no one to protect her/him
- Someone pushed, grabbed, slapped or threw something at your child OR your child was hit so hard that your child was injured or had marks
- Your child lived with someone who had a problem with drinking or using drugs
- Your child often felt unsupported, unloved and/or unprotected

!  

2) Of the statements in Section 2, HOW MANY apply to your child? Write the total number in the box.

### Section 2. At any point since your child was born…

- Your child was in foster care
- Your child experienced harassment or bullying at school
- Your child lived with a parent or guardian who died
- Your child was separated from her/his primary caregiver through deportation or immigration
- Your child had a serious medical procedure or life threatening illness
- Your child often saw or heard violence in the neighborhood or in her/his school neighborhood
- Your child was often treated badly because of race, sexual orientation, place of birth, disability or religion
### Family Questions:

**Survey of Well-being of Young Children**

**1 month, 0 days to 65 months, 31 days**

V1.00, 9-1-16

**Family Questions:**

Because family members can have a big impact on your child’s development, please answer a few questions about your family below:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does anyone smoke tobacco at home?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. In the last year, have you ever drunk alcohol or used drugs more than you meant to?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Has a family member’s drinking or drug use ever had a bad effect on your child?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. In the past month was there any day when you or anyone in your family went hungry because you did not have enough money for food?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Over the past two weeks, how often have you been bothered by any of the following problems?**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Having little interest or pleasure in doing things?</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Feeling down, depressed, or hopeless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**In general, how would you describe your relationship with your spouse/partner?**

<table>
<thead>
<tr>
<th>Description</th>
<th>No tension</th>
<th>Some tension</th>
<th>A lot of tension</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

**Do you and your partner work out arguments with:**

<table>
<thead>
<tr>
<th>Description</th>
<th>No difficulty</th>
<th>Some difficulty</th>
<th>Great difficulty</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
WE CARE survey

1. Do you have a high school degree?
   - YES
   - NO
   - If NO, would you like help to get a GED?
     - YES
     - NO
     - MAYBE
     - LATER

2. Do you have a job?
   - YES
   - NO
   - If NO, would you like help finding employment?
     - YES
     - NO
     - MAYBE
     - LATER

3. Do you need daycare for your child?
   - YES
   - NO
   - If YES, would you like help finding it?
     - YES
     - NO

4. Do you think you are at risk of becoming homeless?
   - YES
   - NO
   - If YES, would you like help with this?
     - YES
     - NO

5. Do you always have enough food for your family?
   - YES
   - NO
   - If NO, would you like help with this?
     - YES
     - NO

6. Do you have trouble paying your heating bill for the winter?
   - YES
   - NO
   - If YES, would you like help with this?
     - YES
     - NO

**Provider Instructions:** If a parent has needs and wants help, please: 1) give a WE CARE information sheet for EACH indication noted, and 2) have the family meet with the study RA. She will provide follow-up with the family and you. Also, please feel free to directly refer to your clinical staff support (e.g., case worker, social worker).
Two-Generation Solutions

Programs that *intentionally* serve parents and children individually and together as a family unit. At a minimum, these approaches seek to:

1. **Re-engage young parents in education and/or work**
   - Job training/Employment assistance
   - Literacy programs
   - Life skills training

2. **Nurture parent-child bonds**
   - Parenting programs

3. **Improve children’s wellbeing**
   - Quality preschool
   - Developmental and behavioral screening
   - Care Coordination

4. **Connect families with economic, social, and other supports.**
   - Mental health
   - Housing Stability

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Breaking the Cycle of Poverty in Young Families Two-Generation Strategies for Working with Disconnected Young Parents & Their Children, National Human Services Assembly, 2013
Existing Pediatric Examples

where great stories begin™
Support Relationships and Promote Resiliency

- Let parents know they matter
- Reinforce parents’ efforts
- Encourage parents to play with children and provide positive attention and praise
- Strengthen families whenever and wherever you can!
Sensitive Periods

Development of Neural Connections

Receptive Language/Speech Production

Seeing/Hearing

Higher Cognitive Functions


zerotothree.org/2017agenda

#ThinkBabies
Brain malleability over time
What can you add?

- Ask parent: How are you doing? What do you need? What does your family need?
- Embed:
  - Adult literacy specialists and local libraries
  - Employment and job training organizations
  - Adult and pediatric mental health specialists
  - Evidence based positive parenting programs such as Triple P or Incredible Years
  - Medical-legal partnership
- Develop closer links to adult providers
- Include more strengths-based language and positive parenting in anticipatory guidance
- Partner with local organizations
- Use innovative strategies such as Purple Binder and FINDconnect to identify resources
Current Conceptual Framework Guiding Early Childhood Policy and Practice

Significant Adversity

Healthy Developmental Trajectory

Impaired Health and Development

Supportive Relationships, Stimulating Experiences, and Health-Promoting Environments
Building an Enhanced Theory of Change

Significant Adversity

New Protective Interventions

Healthy Developmental Trajectory

Supportive Relationships, Stimulating Experiences, and Health-Promoting Environments
Websites of Interest

- Early Childhood Technical Assistance Center [www.ectacenter.org](http://www.ectacenter.org)
- Center on the Developing Child [https://developingchild.harvard.edu/](https://developingchild.harvard.edu/)
- Center for Parent Information and Resources [www.parentcenterhub.org](http://www.parentcenterhub.org)
- Center for Youth Wellness [https://centerforyouthwellness.org/](https://centerforyouthwellness.org/)
- Family Voices [www.familyvoices.org](http://www.familyvoices.org)
- Healthy Children [www.healthychildren.org](http://www.healthychildren.org)
- National Center For Children In Poverty [www.nccp.org](http://www.nccp.org)
- National Association for the Education of Young Children [www.naeyc.org](http://www.naeyc.org)
- Understood [www.understood.org](http://www.understood.org)
- Zero to Three [www.zerotothree.org](http://www.zerotothree.org)