Addressing Toxic Stress In Young Children In Rhode Island: Children’s Cabinet
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Objectives

- Review of terms and concepts: ACEs, toxic stress, stress physiology
- Overview of Rhode Island Toxic Stress Project
- Vision for a public health response to toxic stress in Rhode Island
Adverse Childhood Experiences: ACE Model

17,337 Adults in Kaiser-Permanente San Diego 1995-1997
10 Classic ACEs

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

Image courtesy of the Robert Wood Johnson Foundation
## ACEs in Rhode Island Children

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 1 Adverse Childhood Experience</td>
<td>48 %</td>
</tr>
<tr>
<td>≥ 2 Adverse Childhood Experiences</td>
<td>23 %</td>
</tr>
<tr>
<td>Socioeconomic Hardship</td>
<td>29 %</td>
</tr>
<tr>
<td>Parental Separation/Divorce</td>
<td>19 %</td>
</tr>
<tr>
<td>Household Drug or Alcohol Problem</td>
<td>12 %</td>
</tr>
<tr>
<td>Household Mental Illness</td>
<td>11 %</td>
</tr>
<tr>
<td>Victim/Witness of Neighborhood Violence</td>
<td>9 %</td>
</tr>
<tr>
<td>Witness Domestic Violence</td>
<td>7 %</td>
</tr>
<tr>
<td>Parental Incarceration</td>
<td>5 %</td>
</tr>
<tr>
<td>Experienced Racial Prejudice</td>
<td>3 %</td>
</tr>
<tr>
<td>Death of a Parent</td>
<td>3 %</td>
</tr>
</tbody>
</table>

# Harvard Center for the Developing Child Model of Stress

<table>
<thead>
<tr>
<th>Positive Stress</th>
<th>Tolerable Stress</th>
<th>Toxic Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal and essential part of healthy development</td>
<td>Body’s alert systems activated to a greater degree</td>
<td>Occurs with strong, frequent or prolonged adversity.</td>
</tr>
<tr>
<td>Brief increases in heart rate and blood pressure</td>
<td>Activation is time-limited and buffered by caring adult relationships</td>
<td>Disrupts brain architecture and other organ systems.</td>
</tr>
<tr>
<td>Mild elevations in hormonal levels</td>
<td>Brain and organs recover</td>
<td>Increased risk of stress-related disease and cognitive impairment.</td>
</tr>
<tr>
<td>Example: tough test at school. Playoff game.</td>
<td>Example: death of a loved one, divorce, natural disaster</td>
<td>Example: abuse, neglect, caregiver substance abuse</td>
</tr>
</tbody>
</table>

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**Intense, prolong, repeated, unaddressed**

**Social-Emotional buffering, Parental Resilience, Early Detection, Effective Intervention**
Examples of Stress

- Giving up a toy
- Getting an immunization
- First day at preschool
- Death in family
- Contentious divorce
- Natural disaster
- Terrorism
- Child abuse or neglect
- Exposure to violence
- Parent mental illness/substance abuse
- Cumulative burden of chronic financial hardship
Positive Stress

- A mild/normative degree of adversity or threat
- Caring and responsive adult helps child cope
- Brief increase in heart rate, mild stress hormone elevation
- Conquering => healthy social-emotional development

2012 AAP Policy Statement on Toxic Stress
Tolerable Stress

- Greater degree of adversity or threat
- Serious, more intense stress response
- Tolerable - only if protective, caring adult relationships are available to facilitate coping

2012 AAP Policy on Toxic Stress
Toxic stress occurs when individuals have adverse events or exposures that are uncontrollable, unmanageable, and/or unmediated by caregiver/community supports, resulting in biological/psychological changes that may reduce the opportunity for healthy learning and development.
Toxic Stress

• Serious, prolonged, or frequent adversity
• Chronic activation of the body’s stress system
• Prolonged because of lack of protective, supportive adult relationships
• Enduring changes in brain, immune system, epigenetic processes, behavior, and emotions
Individual Response

• Tolerable and toxic stress can result from the same examples/experiences
  – death in the family can become toxic
  – exposure to violence can become tolerable

• It depends, in part, on the intensity/repetition of the experience and the **supportive** (or non-supportive) relationships
Continuous activation of the stress hormone response is the basis for the physical and behavioral symptoms of toxic stress.
Epigenetics

Continuous activation of the stress hormone response can also cause to changes to brain structure:
- Cell protein changes
- DNA gene expression changes
### Table 3. Child’s Response to Trauma: Development and Learning

<table>
<thead>
<tr>
<th>AGE</th>
<th>EFFECT ON WORKING MEMORY</th>
<th>EFFECT ON INHIBITORY CONTROL</th>
<th>EFFECT ON COGNITIVE FLEXIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant / toddler / pre-schooler</td>
<td>Difficulty acquiring developmental milestones</td>
<td>• Frequent severe tantrums • Aggressive with other children</td>
<td>• Easily frustrated • Difficulty with transitions</td>
</tr>
<tr>
<td>School-aged child</td>
<td>• Difficulty with school skill acquisition • Losing details can lead to confabulation, viewed by others as lying</td>
<td>Frequently in trouble at school and with peers for fighting and disrupting</td>
<td>• Organizational difficulties • Can look like learning problems or ADHD</td>
</tr>
<tr>
<td>Adolescent</td>
<td>• Difficulty keeping up with material as academics advance • Trouble keeping school work and home life organized • Confabulation increasingly interpreted by others as integrity issue</td>
<td>• Impulsive actions which can threaten health and well-being • Actions can lead to involvement with law enforcement and increasingly serious consequences</td>
<td>Difficulty assuming tasks of young adulthood which require rapid interpretation of information: eg, driving, functioning in workforce</td>
</tr>
</tbody>
</table>
• In 2013, RI DOH received a grant from the Maternal and Child Health Bureau

• $140,000/year for 3 years

• Develop a system to respond to toxic stress/trauma in children birth to three years of age
Objectives

1. Enhance systems of recognition, response, and intervention to improve outcomes for children, birth to three years of age, who experience toxic stress and/or trauma.

2. Support a state/community infrastructure as a mechanism for aligning policies and programs to ensure that Rhode Island families who experience toxic stress can access services to mitigate its impact and support them to reach their full potential.
Project Team

- Professional leaders in
  - Early childhood systems building
  - Primary care
  - Mental and behavioral health
  - Family visiting
  - Early care and education
  - Healthy environments
  - Public health
  - Research and evaluation
  - Consumer perspective

- State Agency Partners: BHDDH, DCYF, DHS, EOHHS, RIDE
Scope of Work

• Define toxic stress

• Identify or develop a screening tool to identify risk for toxic stress

• Develop training to support primary care and home visiting professionals to effectively screen for and address toxic stress

• Identify, implement, and evaluate effective interventions to address the factors that can lead to toxic stress
Prevention/Intervention

Prevention

• Anticipatory guidance around positive parenting and violence exposure reduction

Targeted Intervention

• Family Visiting Programs
• Parenting programs
• Early Intervention

Treatment

• Evidence-based trauma treatment approaches
  o Parent Child Interaction Therapy (PCIT)
  o Trauma-based Cognitive Behavioral Therapy
Outcomes

Short Term

• Increase awareness and understanding of toxic stress

• Train primary care providers and family visitors to screen for toxic stress

• Pilot behavioral health consultation in primary care and family visiting programs to address toxic stress
Outcomes

Long Term

• Trauma-informed practices used by all programs serving children and families in Rhode Island

• Increased capacity of evidence-based interventions for those experiencing, or at risk of experiencing, toxic stress

• State agencies have a coordinated approach to mitigating toxic stress that impacts young children and their families
Public Health Approach

From Individual Pillars ...

Public Health Approach

... to a Network of Pilings!

Next Steps

• Continue work to increase awareness and understanding of toxic stress
• Determine the capacity of Rhode Island to support families who experience toxic stress with existing programs
• Recommend new strategies to address toxic stress if needed
Next Steps

- Implement training for primary care providers and family visitors to support families who experience toxic stress

- Implement a statewide workgroup to address toxic stress in Rhode Island
Conclusion

Mitigating the impact of toxic stress and improving outcomes for families requires:

- Family-centered, multi-generation approach
- Accessible community-based services
- Multi-agency collaboration
- Integrated systems of referral and response
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