Early Childhood Brain Development:
Aligning for Impact

Lee Savio Beers, MD, FAAP
President-Elect, American Academy of Pediatrics
Medical Director, Community Health and Advocacy, Children’s National Hospital
@LeeBeers
Within the past 12 months, I have had no financial relationships with proprietary entities that produce health care goods and services.
Objectives

At completion of the lecture, participants will:

• Understand early childhood brain architecture and recognize the impact of early childhood experiences on future health and education outcomes

• Examine the impact of current global events on social emotional development

• Appreciate community level interventions and strategies for collaborative work in early childhood mental health promotion
The Basics of Early Childhood Brain Development
Building a Strong Foundation

Brain development begins in the prenatal period and lays the foundation for:

- Healthy development
- Physical health
- Social-emotional health
- School achievement
- Executive functioning
Before age 5
90% of a child’s brain development happens

90%
Brain development before age 5

10%
Brain development after age 5
Synapses: Blooming and Pruning
Influences on Early Brain Development

Source: The Center on The Developing Child
Early Childhood Development – Key Concepts

• Interaction between genes and environment – Early experiences shape cognitive, social and emotional development
  — Early, positive, interactive relationships and experiences promote healthy development over a lifetime
  — Persistent and/or toxic stress can damage developing brain architecture and inhibit lifelong healthy development

• Effectiveness of intervention – Development can be positively affected and impact of adverse experiences reduced
  — Early intervention matters
  — Effective intervention is based in culturally responsive and loving relationships, and multi-generational approaches
Early Childhood Development—
A Conceptual Model

Healthy Developmental Trajectory
- Supportive Relationships
- Stimulating Experiences
- Health-Promoting Environments

 Significant Adversity and Toxic Stress
- Impaired Health and Development
- Lifelong impacts

Can counter adversity

What is Toxic 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.

https://developingchild.harvard.edu/science/key-concepts/toxic-stress/
What Causes Toxic Stress?

Adverse Childhood Experiences

**CDC-Kaiser Adverse Childhood Experiences Study**

- Abuse
  - Physical
  - Sexual
  - Emotional

- Neglect
  - Physical
  - Emotional

- Household dysfunction
  - Mental illness
  - Domestic Violence
  - Divorce
  - Substance abuse
  - Incarceration

**Subsequent Literature**

- Immigration/refugee status
- Neighborhood violence
- Racism
- War and conflict
- Poor housing conditions
- Living in poverty
- Gender discrimination
Adverse Childhood Experiences and Children of Color

- Overall, ACEs are more prevalent in Hispanic and Black Non-Hispanic children, as compared to White children
  - There is regional variation in these disparities
- Children experience and/or observe racial discrimination from very early ages, which can cause toxic stress
- Structural racism creates unequal opportunity and access, which compounds risk for ACEs

www.childtrends.org/publications/prevalence-adverse-childhood-experiences-nationally-state-race-ethnicity
Impact of Early Toxic Stress

ADVERSE CHILDHOOD EXPERIENCES

Hyper-responsive stress response; ↓calm/coping

Chronic “fight or flight;” ↑cortisol/norepinephrine

Changes in Brain Architecture
Toxic Stress Changes Brain Architecture

Normal

Typical neuron with many connections

Toxic Stress

Neuron damaged by toxic stress -- fewer connections

Prefrontal Cortex and Hippocampus

Center on the Developing Child, Harvard University
Significant Adversity Impairs Development in the First Three Years

Toxic Stress and Early Childhood Mental Health

- Increased risks of lasting mental health and behavioral concerns
- Impaired executive functioning
- Familial impacts may affect caregiver attachment and mental health
- Essential to address in the context of family and community systems
Factors which Predispose Children to Positive Outcomes in the Face of Adversity

- A sense of self-efficacy and perceived control
- Opportunities to strengthen adaptive skills and self-regulatory capacities
- Ability to mobilize sources of faith, hope, and cultural traditions
- The single most common factor for children who develop resilience is at least one stable and committed relationship with a supportive parent, caregiver, or other adult
Promotion of Early Relational Health

- “Serve and Return” – Early and responsive interactions strengthen brain development
- Caring and consistent caregivers
- Promoting stimulating environments
The Importance of Early Intervention

The brain’s ability to change in response to experiences

The amount of effort such change requires

Source: Levitt (2009)
Impact of COVID-19 on Early Childhood Mental Health
COVID-19 + Existing Environmental Stresses

- Inadequate Systems of Family Support
- Poor Access to Mental Health Care
- Inequities in Early Childhood Education Systems
- Interpersonal and Structural racism

Isolation
Economic Impact
Academic Impact
Grief and Fear
COVID-19: Impact of Stay-at-home Orders and Social Distancing on Child Mental Health

- Most reviewed studies reported negative psychological effects including post-traumatic stress symptoms, confusion and anger.¹

- For children specifically, there may be mental health difficulties due to changes in routines (e.g., school closures), increase in social isolation from peers and other community supports, and emotional challenges (boredom, frustration, anxiety, confusion, disappointment)²

- For adolescents, “social isolation and loneliness increased the risk of depression, as well as the possibility of anxiety at the time of loneliness. ... Young people were as much as 3x more likely to develop depression in the future due to social isolation, with the impact of loneliness on mental health lasting up to 9 years later.”³

COVID-19: Impact of Family Well-Being on Child Mental Health

- In addition to stress from quarantine, family stress may increase from rising unemployment, parents’ new role as teachers, lack of childcare, isolation, and other new stressors. 4, 5
- Adults report high rates of anxiety and depressive symptoms in light of the pandemic, with almost 1 in 3 reporting feelings of anxiety or depression. 6
- Some models suggest suicide and substance use disorders could rise in adult populations as unemployment increases. 7
- There is also the potential for rises in domestic violence and child abuse. 8, 9

5. ZERO TO THREE. (2020). How COVID-19 is impacting babies and families.
COVID-19: Inequitable Impacts

• Race/ethnicity data limited at this time:
  – Not collected, not reported, high missing data
  – New reporting requirements: COVID-19 Pandemic Response, Laboratory Data Reporting: CARES Act Section 18115

• Indicators and case examples show:
  – States with surging cases = higher uninsured rates
  – Systemic disparities: race, ethnicity, immigrants, essential workers

• Latino families likely especially affected and undercounted
### Racial and ethnic distribution of confirmed child COVID-19 cases and state child population

Data as of 6/26/20

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<th>California</th>
<th>Illinois</th>
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<tr>
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<td>Confirmed child COVID-19 cases</td>
<td>State child population</td>
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<tr>
<td>Hispanic/ Latino</td>
<td>69%</td>
<td>58%</td>
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<tr>
<td>White</td>
<td>7%</td>
<td>25%</td>
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<tr>
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<td>5%</td>
<td>16%</td>
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<tr>
<td>Asian</td>
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**Source:** AAP analysis of publicly available data from CA and IL state health departments

**Note:** Other includes ‘other’, ‘multi-racial’, and ‘American Indian/Alaskan Native’; IL - 10,104 child cases (26% missing race/ethnicity); CA - 15,499 child cases (32% missing race/ethnicity)
COVID-19, Racism, and Child & Family Mental Health

- Racism is a core social determinant of health and rooted in structural racism.
- Independent of COVID-19, there is pre-existing need for high-quality, timely resources and evidence-based practices that are culturally responsive.
- COVID-19 has had disproportionate health and economic impacts on historically underserved communities of color, and it is reasonable to expect that mental health impacts will be similar.
- Particular issues may be compounded, such as disparities in healthcare/mental health care access and resources, chronic exposure to trauma, managing grief and loss, and stigma.

Early Childhood Systems – Pathways to Health Equity
“Health equity means everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care. For the purposes of measurement, health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups.”

Source: Robert Woods Johnson Foundation
rwjf.org/en/library/research/2017/05/what-is-health-equity-.html
Health equity is crucial for the well-being and vibrancy of communities.

Health is a product of multiple determinants.

Health inequities are in large part a result of poverty, structural racism, and discrimination.

Communities have agency to promote health equity.

Supportive public and private policies at all levels and programs facilitate community action.

The collaboration and engagement of new and diverse (multi-sector) partners is essential to promoting health equity.

Tools and other resources exist to translate knowledge into action to promote health equity.

Early Childhood Is Critical to Health Equity

• Conditions in early childhood shape health throughout life
  — Poverty limits where a family can live, alters their living conditions and contributes to chronic stress
  — Structural and interpersonal racism, regardless of income level deny families equitable access to healthy living conditions and can contribute to chronic stress
• Damage to development sustained in early childhood can have lifelong health consequences
• Reducing poverty and strengthening supports and services for families will not be sufficient without committed efforts to end structural racism in partnership with families and communities

Two-Generation Approach

The Two-Generation Continuum

- child-focused
- child-focused with parent elements (e.g. early childhood development, parenting skills, family literacy, and health screenings)
- whole family
- parent-focused with child elements (e.g. child care and workforce programs, food and nutrition, and supports for student parents)
- parent-focused

Five Key Components of the Two-Generation Approach

- **Social Capital**: Peer and family networks, coaching, and cohort strategies
- **Early Childhood Development**: Head Start, Early Head Start, child care partnerships, preK, and home visiting
- **Postsecondary & Employment Pathways**: Community college, training and certification, workforce partnerships
- **Health & Well-being**: Mental, physical, and behavioral health, coverage and access to care, adverse childhood experiences, toxic stress
- **Economic Assets**: Asset building, housing and public supports, financial capacity, transportation

Source: What is 2GEN? Ascend: The Aspen Institute Website
Supporting Positive Early Childhood Experiences

• Build *relational capacity* in adults
  – Parents and other caregivers in the home
  – Providers (e.g. health and education)
  – Adults in the community

• Identify and address *social influences on health* in order to decrease stress and adversity
  – Impacts of racism on child health
  – Multi-disciplinary collaboration

• Advocate for and implement *supportive policies*
  – Apply a racial equity lens (e.g. [www.racialequityalliance.org/tools-resources](http://www.racialequityalliance.org/tools-resources))
  – Community leadership
Opportunities to Address the Impacts of Racism in Early Childhood

- Use strategies such as the Raising Resisters approach during anticipatory guidance to provide support for youth and families.

- Integrate positive youth development approaches, including racial socialization, to identify strengths and assess families for protective factors that can help mitigate exposure to racist behaviors.

- Infuse cultural diversity into early literacy–promotion programs to ensure that there is a representation of authors, images, and stories that reflect the cultural diversity of children served in pediatric practice.

- Advocate for policies which address systemic and interpersonal racism.
Actions to Promote Equitable Outcomes in Early Childhood Brain Development

• Strengthen comprehensive, family-centered supports
• Parent/caregiver training and support
• Collaboration between health and early-care and education programs
• Committed efforts to end structural racism
• More detailed and differentiated evaluation strategies

Promising Practices

- Home-visiting programs
- Center-based early-care and education programs
- Initiatives to strengthen systems of care and education
- Integrated programming and supports in pediatric medical care sites
- Economic policies and programs

A Case Study: Children’s National Hospital Community Mental Health CORE

**Collaboration**

**Outreach**

**Research**

**Equity**

**Integrated Behavioral Health in Pediatric Primary Care:**
Primary Care Practice-focused education, technical assistance and policy support

**Early Childhood Innovation Network:**
A Community Network focused on 2-Gen, Strengths Based innovations

**Improving Systems of Care:**
A Health Network approach to improving access to a continuum of mental health services
The Early Childhood Innovation Network (ECIN) is a local collaborative of health and education providers, community-based organizations, researchers, and advocates promoting resilience in families and children from pregnancy through age 5 in Washington, DC.
Early Childhood Innovation Network

Shared Vision and Value
- Early involvement of community leaders
- Aspire to a model of co-creation in all activities (innovations, policy/advocacy and capacity-building)

Increasing Community Capacity
- Sustainable integration with existing resources
- Workforce development and training internally and externally

Fostering Multi-Sector Collaboration
- Multi-disciplinary teams and partnerships
- Ongoing, systemic efforts to become an anti-racist network
HealthySteps DC embeds an early childhood mental health specialist and family support worker within the primary care clinic to engage with families at each routine pediatric visit from birth to three years of age. ECIN's HealthySteps DC model provides caregivers with behavioral health intervention sessions and full-time case management support.

Innovations in partnership with Early Care and Education Centers include:

- Early Childhood Mental Health Consultation
- Mindful Parenting Workshops
- Family WellBeing Program, which embeds parental mental health care and peer support into an ECE setting
ECIN: Education, Implementation and Policy

2017 Perinatal Mental Health Toolkit for Pediatric Primary Care: Overview and Primer

StartPrimaryCare.com

Goals of START:
- Provides practical knowledge for low toxins impacts on our patients
- Equips caregivers to care for families in trauma informed way

START Includes:
- Background information on toxins and adverse health outcomes
- Instruction on how to screen for toxins and their family narratives

Intended audience:
- Pediatric primary care health providers
- Pediatric health providers
- School nurses, case managers, family counselors, and more

DC Collaborative for Mental Health in Pediatric Primary Care
Children's National Health System

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®
“.....educational attainment is important to achieving better health outcomes, and health is key to better educational outcomes...”

Strategies to Promote Collaboration Between Health and Early Care and Education

- Identify shared vision and value
- Establish common language
- Promote opportunities for relationship development
- Leverage respective resources and expertise
- Regular communication
- Infrastructure support

www.cdc.gov/healthyschools/wssc
Aligning for Impact

- Early childhood is a critical time for brain development and promotion of social-emotional health
- The buffering of toxic stress and promotion of supportive and stimulating early experiences can positively impact brain development and long-term outcomes
- Health and early childcare and education professionals can collaboratively impact early childhood systems and outcomes
Questions??

lbeers@childrensnational.org