Priorities in Early Childhood Development

Geoffrey Nagle, PhD, LCSW, MPH
Erikson Institute
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Theory of Change

EARLY CHILDHOOD FIELD
FAMILY WELL-BEING
THRIVING COMMUNITIES

Erikson Institute
• We improve the lives of young children and families through:
  o Graduate education
  o Professional training
  o Policy research
  o Community programs
Community Programs - Services

• Families
  o Fussy Baby (500 families)
  o Center for Children and Families (500 families)
  o Child welfare (5,500 families)

• Schools
  o 900 teachers
  o 16,000 students
  o 70 schools
Effects Of Extreme Deprivation

Healthy Child  Neglected Child

Toxic stress
Disparities in development
Economic development/impact
National security

2000 – The Early Childhood Conversation

• Importance of the early years
• Missed opportunities
• The right thing to do
• Brain development

2016

• Brain architecture
• Toxic stress
• Disparities in development
• Economic development/impact
• National security

• Executive Function
• STEM
• Trauma
• Grit
• Epigenetics

1971 2016
Today's Challenges

- We invest too little
  - OECD = US ranked 35th
- Extreme financial cost to families
  - As much as 85% of a family’s income
  - As much as public university

Families Today

- 35% live with single parents
- 71% of single mothers work
- 82% of single fathers work
- 61% of married partners both work

Teacher Quality and Compensation

- Median elementary school teacher - $54,890
- Median kindergarten teacher - $51,640
- Median preschool teacher - $28,570
- Median Child care worker - $20,320
  - 46% are in federal income-support programs

The Importance of Early Learning
The Importance of Early Childhood Education

The Importance of Early Childhood Development

The Importance of Early Experience

* Early experience is the "smoking gun" for both education success and long-term health
  * Things that happen early in life leave biological memories in your body
  * "Gets under your skin"
Importance of Early Experience

- Striking disparities in what children know and can do are evident well before they enter kindergarten.
  - Brain Architecture

Brain Architecture

- Major Stages of Brain Development
  - Neural tube formation
  - Cell proliferation
  - Cell differentiation
  - Cell migration
  - Cell connections
  - Synaptic pruning
  - Myelination

The Brain Changes its Structure and Function in Response to Experience

- Plasticity
  - The brain is adaptable and can be influenced by positive experiences
  - The brain is vulnerable and can be harmed by negative experiences

Toxic Stress

- Some causes
  - Extreme poverty
  - Physical or emotional abuse
  - Chronic neglect
  - Severe maternal depression
  - Substance abuse
  - Family violence

Gillernson & Klein/Zero to Three (2008)
Cortisol

- If exposed to chronic stress, then level of production of hormones becomes “normal”
- Over arousal and tendency toward impulsive
  - Over active
  - Over reactive
  - More aggressive
  - Less attentive

Adverse Childhood Experiences Study (ACE)

- Examines the health and social effects of ACEs throughout the lifespan
- Studied among 17,421 members of the Kaiser Health Plan in San Diego County
Adverse Childhood Experiences Study (ACE)

- **ACE Score**
  - 0
  - 1
  - 2
  - 3
  - 4 or more

- **Prevalence**
  - 33%
  - 26%
  - 16%
  - 10%
  - 16%

Lifelong Trajectory of Increasing Risk

- ACEs increase the risk of
  - Heart disease
  - Chronic lung disease
  - Liver disease
  - Diabetes
  - Suicides
  - HIV and STDs
  - School failure
  - Teen pregnancy
  - Criminality

Cumulative ACEs & Mental Health

Data from the National Comorbidity Survey-Replication Sample (NCS-R) - Putnam, Harris, Putnam, J Traumatic Stress, 26:435-442, 2013

Mood Disorders

<table>
<thead>
<tr>
<th>ACEs</th>
<th>Prevalence %</th>
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<tr>
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Anxiety Disorders

<table>
<thead>
<tr>
<th>ACEs</th>
<th>Prevalence %</th>
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<tr>
<td>0</td>
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**Adverse Childhood Experiences Study (ACE)**

- ACE scores of 4 or higher
  - 2x as likely to smoke
  - 7x as likely to be alcoholics
  - 2x as likely to have cancer

- ACE score >6
  - 30x more likely to have attempted suicide

- ACE score 7+ (no drinking, smoking, or overweight)
  - 360 percent higher risk of heart disease

- Ace score 6+
  - 60.6 years vs. 79.1 years

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**Many chronic diseases of adults are determined decades earlier, in childhood**

- Not by disease, but by life experiences

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**Telomeres**

Sections of DNA at the end of each chromosome
**Telomeres**
- The biological clock of the cell
- At end of chromosomes
  - Protect chromosomes from damage
  - Naturally shorten with age as cells divide and replicate
  - When the length gets too short, it tells a cell when to die

**Epigenetics**
- The on/off switch
  - Affects gene expression without altering DNA sequence
  - Doesn’t change the operation of the gene
- Genes vs. Destiny
  - Gene expression depends upon the environment/experience

**Cortisol and Telomeres**
- Increased cortisol exposure
- Reduced telomere length
- Higher risk for cardiovascular disease, cognitive decline, diabetes, mental illness

**Same Risk Factors**  
**Different Outcomes**
Relationships are the “Active Ingredients” of Early Experience

Attachment

- Infants are strongly biologically predisposed to form attachments to caregiving adults.
- Adults are strongly biologically predisposed to respond to infants.
- Under usual rearing conditions, infants develop “focused” or “preferred” attachments in the second half of the first year of life (7-9 months of age).
Attachment

- Through experiences with attachment figures, baby develops expectations about the dependability of attachment figures to **provide comfort, support, nurturance and protection** in times of need.
- Strongly *predictive* of child’s subsequent social adaptation.
- Attachment forms the basis of emotional development in early childhood.

Secure Relationships

- The impact of secure relationships is not just emotional or psychological
  - It is biochemical
- Any time you see resilient outcomes, there was at least one supportive relationship
  - Kids don’t become resilient alone

School Readiness

- Acquiring Self-Regulation
  - Emotions, behaviors and attention
- Communicating and Learning
  - Language, reasoning and problem solving
- Getting Along with Peers
  - Parent-child relationship is the first opportunity to experience trust, love, and nurturance and forms the basis for learning to relate well to others

(National Research Council and Institute of Medicine, 2000)
**New System Paradigm**

- Transforming population outcomes
- Public health approach

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**Transforming Population Outcomes**

- Flatten/shift the tail of the curve for the most vulnerable
- Narrow range/reduce disparities

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**Food Labeling**

- In 1990, the Nutrition Labeling Education Act was signed into law.
**Polio Vaccine**

- The first inoculations of children against polio began in Pittsburgh, Pennsylvania on February 23, 1954. Through mass immunization, the disease was wiped out in the Americas.

**Environmental Protection Agency**

- In 1970, the Environmental Protection Agency (EPA) was established under the Nixon Administration.
- The EPA is charged with protecting human health and with safeguarding air, water, and land.

**Motor Vehicle Safety**

- Increased use of safety belts, child safety seats, and motorcycle helmets and decreased drinking and driving.

**Tobacco**

- Since the 1964 Surgeon General's report on the health risks of smoking, the prevalence of smoking among adults has decreased, and millions of smoking-related deaths have been prevented.
Fluoridation has played an important role in the reductions in tooth decay (40%-70% in children) and of tooth loss in adults (40%-60%).

School Readiness Tax Credits
Long Term Funding for Quality Child Care

- Package of 4 Tax Credits
  - Credits to Providers
  - Credits to Directors and Teachers
  - Credits to Business for Supporting Child Care
  - Credits to Parents/Consumers

Why Tax Credits
- Tax policies can support the ends we want to achieve...
  - School Readiness
  - Quality Child Care
Tax Credits to Parents

2008: $953,484
2009: $1,210,429
2011: $1,664,917
2013: $3,171,798

Tax Credits to Providers

2008: $1,643,879
2009: $3,310,685
2011: $5,558,407
2013: $4,847,928

Tax Credits to Teachers

2008: $1,503,902
2009: $3,302,024
2011: $6,008,651
2013: $8,049,910

Tax Credits to Businesses

2008: $30,295,536
2009: $942,142
2011: $387,351
2013: $732,083
**Total Impact**

- 2008: $4,253,601
- 2009: $8,458,520
- 2011: $14,616,676
- 2013: $17,435,435

**Licensed Centers Participating**

- Dec. 2009: 94%
- Dec. 2010: 89%
- Dec. 2012: 88%

- 1-2 Stars:
  - Dec. 2009: 94%
  - Dec. 2010: 89%
  - Dec. 2012: 88%

- 3-5 Stars:
  - Dec. 2009: 6%
  - Dec. 2010: 11%
  - Dec. 2012: 11%

**Subsidized Children by Star Level (under age 5)**

- Nov. 2009:
  - 0 stars: 52%
  - 1-2 Stars: 13%
  - 3-5 Stars: 3%

- Nov. 2010:
  - 0 stars: 45%
  - 1-2 Stars: 41%
  - 3-5 Stars: 19%

- Nov. 2012:
  - 0 stars: 53%
  - 1-2 Stars: 14%
  - 3-5 Stars: 2%

**Policy Options on the Table**

- Home visiting programs
- Universal pre-k (3 and/or 4 year-olds)
- Quality vs. Quantity
- Pay parity
- Paid family leave
Closing Thoughts

• Invest in early experience, not just early education
  o Risk stays with you your entire life
• Focus on the right skills
  o Social Skills, Executive Function, Self-Regulation
• Need to build from prenatal/birth up
  o Not from K-12 down
• Utilize a public health approach
• Urgency

Citations