



# Parental ACEs and PCEs in Pediatric Primary Care

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ACEs Health Champions Gatherings

June 23, 2022

# Objectives

- Give an overview of one practice's approach to ACEs and PCEs...and how that links to early relational health.
- Inspire...

# Social-Emotional / Early Relational Health

- Social-emotional health refers to a child's ability to:
  - Form secure relationships
  - Experience and regulate emotions
  - Explore and learn
- Early relational health establishes the centrality of relationships between caregivers and children for future health, development, and social-emotional well-being.

# Why Focus on Early Relational Health?

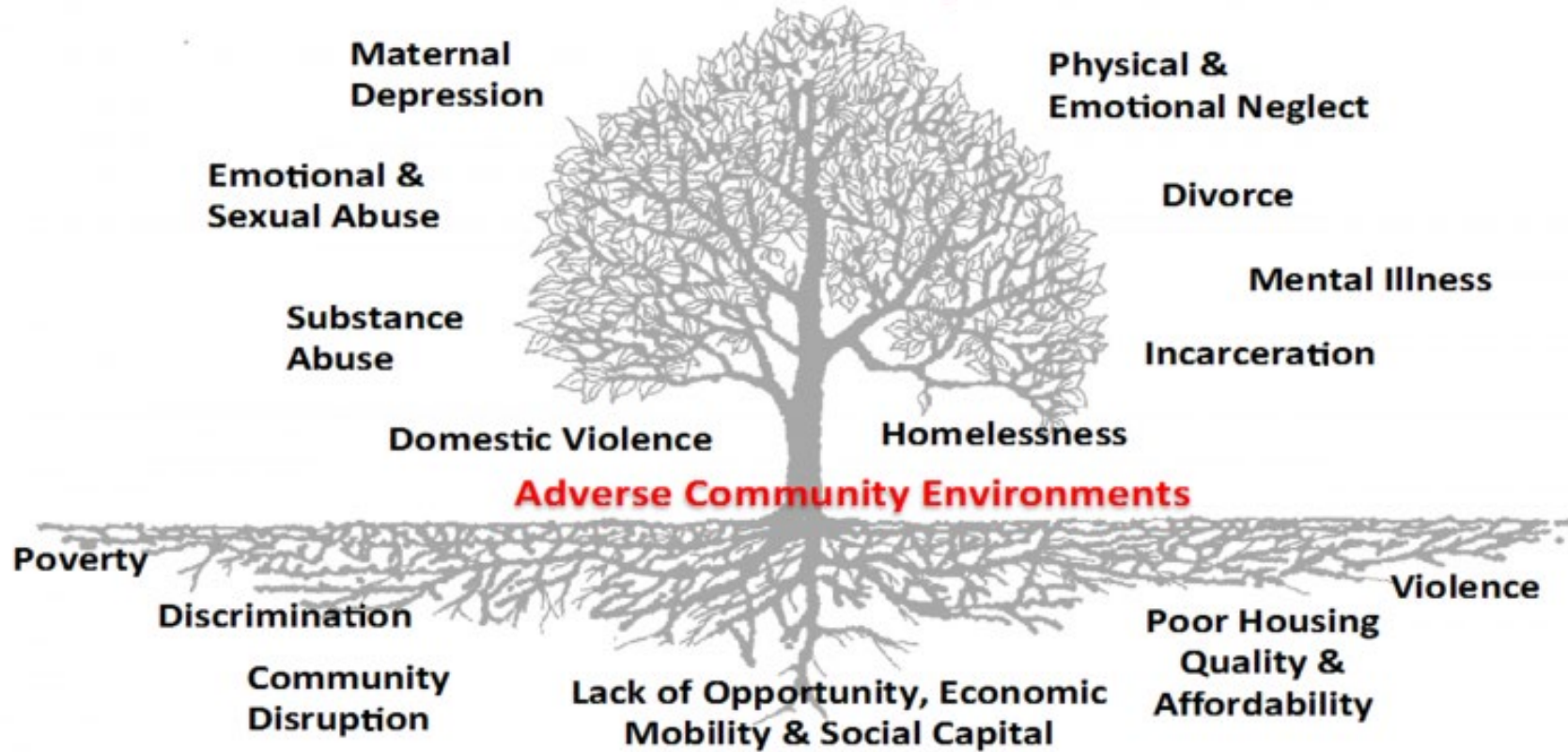
- A child's developmental trajectory – both positive and negative – is dependent on their early relationships.
- Problems in early social, emotional, and behavioral development will predict early school failure... which predicts later school failure.
- Intervening early helps to prevent the need for later, and more expensive interventions – both in the educational system and the mental health system.
- According to parents, social-emotional health significantly contributes to Kindergarten success, but is also the area where parents need the most support.

# SSNRs and ERH

- Early relational health is dependent on safe, stable, nurturing relationships (SSNRs).
- Anything that gets in the way of SSNRs can disrupt ERH... “It’s hard to be in relational mode when you’re in survival mode.”
- Conversely, Positive Childhood Experiences are all about supporting and promoting SSNRs and therefore ERH.

## The Pair of ACEs

### Adverse Childhood Experiences



Ellis, W., Dietz, W. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. *Academic Pediatrics*. 17 (2017) pp. S86-S93. DOI information: 10.1016/j.acap.2016.12.011



**How can we, as a profession**

**prevent ACEs**

**promote PCEs**

**if parents don't first know what these things are?**



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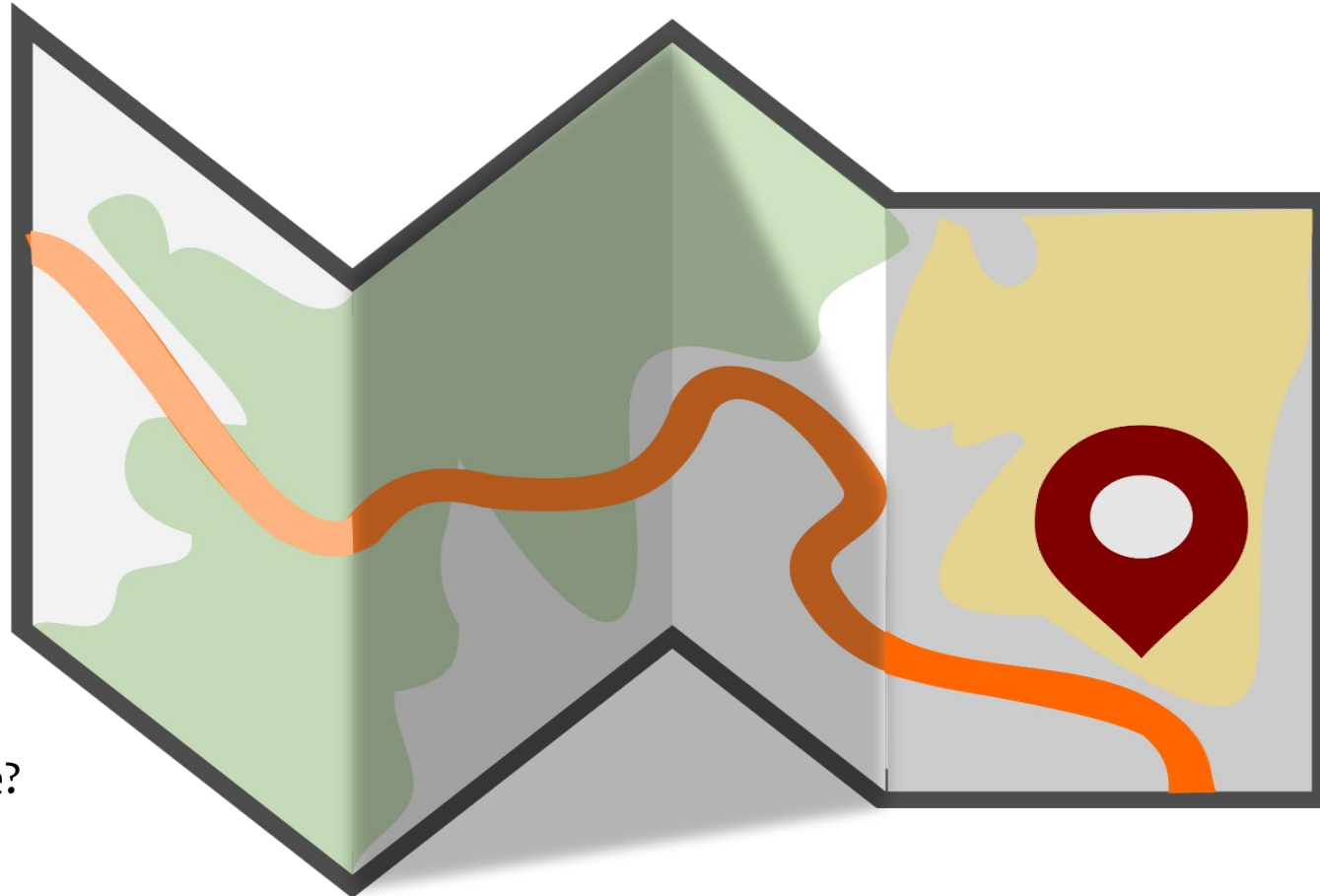
# A Word from the American Academy of Pediatrics...

- Pediatric medical homes should:
  1. strengthen their provision of anticipatory guidance to support children's emerging social-emotional-linguistic skills and to encourage the adoption of positive parenting techniques;
  2. actively screen for precipitants of toxic stress that are common in their particular practices;
  3. develop, help secure funding, and participate in innovative service-delivery adaptations that expand the ability of the medical home to support children at risk; and
  4. identify (or advocate for the development of) local resources that address those risks for toxic stress that are prevalent in their communities.

# What was missing...

Who do we screen?

Do we screen once,  
or multiple times?



When do we screen?

What tool do we use?

**WHAT DO WE DO IF WE FIND IT???**

# Stories from the literature – why parent trauma matters...

1

Correlations exist between parent ACE scores and child's ACE score... the more ACEs a parent experiences, the more ACEs the child is likely to experience.

2

Parenting styles are at least in part inherited: if a parent experienced harsh parenting, they are more likely to engage in harsh parenting styles themselves.

3

Parents have new brain growth in the first six months after their child's birth – in both the amygdala (emotional center) and frontal cortex (logical center) UNLESS they are experiencing stress, which impairs frontal cortex development.

4

Children who have experienced three or more ACEs before entering Kindergarten have lower readiness scores: literacy, language and math skills are lower – and rates of behavioral problems are higher.

# Background – Where We've Been

- Working on assessing parental ACEs since 2013.
- Started with a small pilot driven by two providers who felt it was urgent to “do something”.
- At the time, little guidance as to what to actually do in practice...
- (and a lot of debate since then)

# The assumption

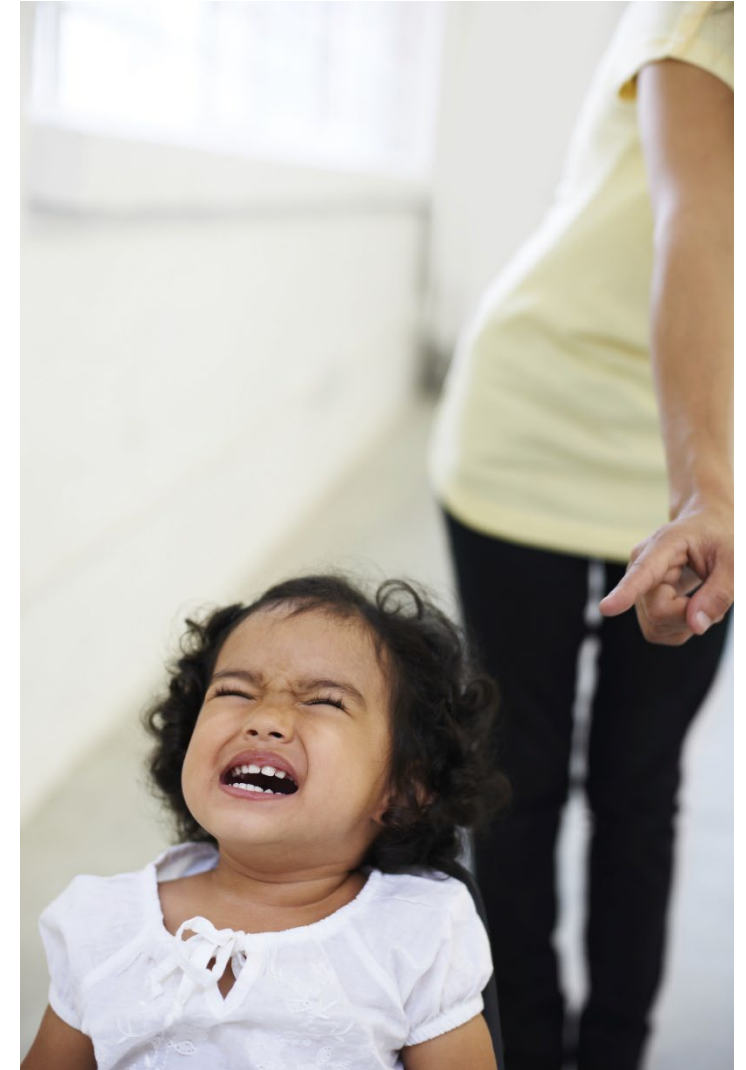
If...

- we can identify parents who are at greatest risk
- bring their trauma histories out of the closet
- agree to support them when they feel most challenged in a non-judgmental way

... we will be able to create a new cycle of healthier parenting.

# The Theory...

- Certain moments in the life of an infant or toddler will be stressful
  - Tantrums, colic, toilet training, hitting / biting, sleep problems are examples
- What happens to a parent who has experienced trauma? Will their response be:
  - Fight?
  - Flight?
  - Freeze?
  - Can it be something else?
- How can we better prepare at-risk parents for these inevitable moments?



# And thinking further...

- If a parent experienced trauma, do they have appropriate skills / ideas for:
  - Taking care of themselves?
  - Identifying when they need help?
  - Modeling appropriate conflict resolution?
  - Discipline that is developmentally appropriate?
  - Playing with their child?
- In other words, can we teach parents and children to be more resilient?



# Case Study: The Children's Clinic

- 28 providers in three practice sites
- Strong interest in early childhood development / developmental promotion
- Since 2008 have implemented multiple standardized universal screening protocols
  - Developmental delay
  - Autism
  - Maternal Depression
  - Adolescent Depression
  - Adolescent Substance Abuse
- Adolescent questionnaire has always included questions about dating violence; many providers ask about bullying in their history for school aged children.





# How do I Find it? Our First Step

- Eight providers piloted screening
- At the four month visit, parents are given the ACE screener, along with a questionnaire about resilience and a list of potential resources.
  - Cover letter explaining the rationale for the screening tool, and what we plan to do with the information
- Created a confidential field in the EMR that does not print into notes, but perpetuates into visits to document results while minimizing risk to families.
- Added questions about community violence, bullying, racism / prejudice and foster care exposure.



# Initial Goals

- How do we best assess parental ACEs in primary care?
- (Is it feasible to assess parental ACEs in the course of a primary care visit?)

# Adjusted risk for suspected developmental delay

	Relative Risk (95% CI)	
	<sup>a</sup> Maternal (n=311)	<sup>b</sup> Paternal (n=122)
<sup>c</sup> ACE		
≥ 1	1.25 (0.77, 2.00)	2.47 (1.09, 5.57)**
< 1 (Ref)	-	-
≥ 2	1.78 (1.11, 2.91)**	3.96 (1.45, 10.83)***
< 2 (Ref)	-	-
≥ 3	2.23 (1.37, 3.63)***	0.82 (0.12, 5.72)
< 3 (Ref)	-	-
Payer source		
Public	1.67 (1.05, 2.67)**	0.87 (0.37, 2.03)
Private (Ref)	-	-
Gestational age at birth		
< 37 weeks	1.70 (0.89, 3.24)	7.76 (3.12, 19.33)***
≥ 37 weeks (Ref)	-	-

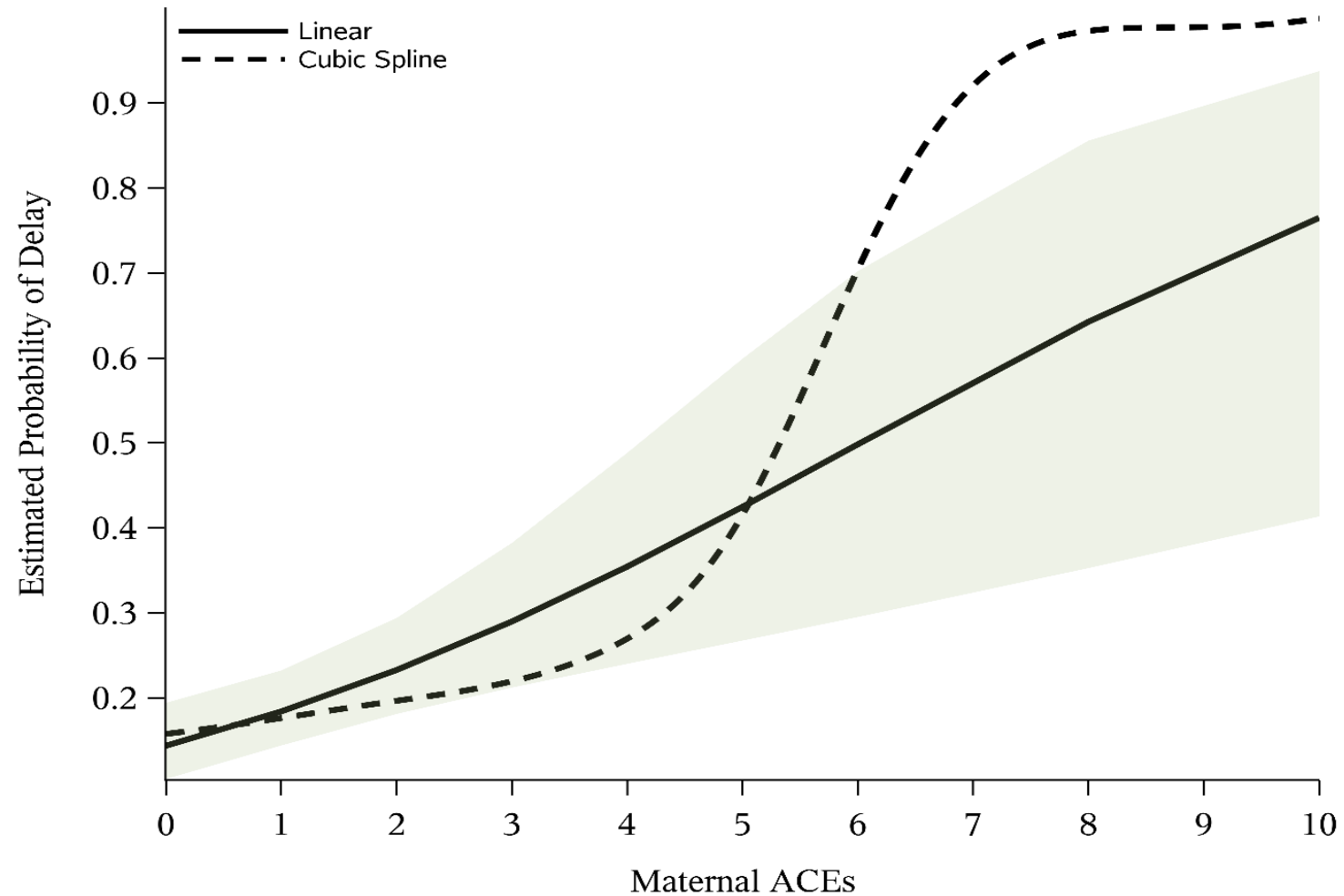
\* = p < 0.1, \*\* = p < 0.05, \*\*\* = p < 0.01

# Domain-specific developmental risk by Maternal ACE exposure

	Maternal ACEs		Relative Risk (95% CI)
	≥ 1 (n=149)	<1 (n=162)	
Communication, <i>n</i> (%)	24 (16.3)	18 (11.1)	1.47 (0.83, 2.60)
Gross Motor, <i>n</i> (%)	20 (13.5)	17 (10.6)	1.28 (0.70, 2.35)
Fine Motor, <i>n</i> (%)	18 (12.1)	16 (9.9)	1.22 (0.65, 2.31)
Problem Solving, <i>n</i> (%)	17 (11.6)	8 (5.0)	2.31 (1.03, 5.20)**
Personal-Social, <i>n</i> (%)	19 (12.9)	17 (10.6)	1.22 (0.66, 2.26)
	≥ 2 (n=60)	<2 (n=251)	
Communication, <i>n</i> (%)	12 (20.3)	30 (12.0)	1.69 (0.92, 3.11)*
Gross Motor, <i>n</i> (%)	12 (20.0)	25 (10.0)	1.99 (1.06, 3.73)**
Fine Motor, <i>n</i> (%)	9 (15.0)	25 (10.0)	1.51 (0.74, 3.06)
Problem Solving, <i>n</i> (%)	11 (18.3)	14 (5.7)	3.23 (1.55, 6.76)***
Personal-Social, <i>n</i> (%)	9 (15.0)	27 (10.9)	1.38 (0.68, 2.77)
	≥ 3 (n=39)	<3 (n=272)	
Communication, <i>n</i> (%)	10 (26.3)	32 (11.8)	2.23 (1.19, 4.16)**
Gross Motor, <i>n</i> (%)	9 (23.1)	28 (10.4)	2.23 (1.14, 4.36)**
Fine Motor, <i>n</i> (%)	8 (20.5)	26 (9.6)	2.15 (1.05, 4.40)**
Problem Solving, <i>n</i> (%)	6 (15.4)	19 (7.1)	2.17 (0.92, 5.10)*
Personal-Social, <i>n</i> (%)	8 (20.5)	28 (10.4)	1.97 (0.97, 4.01)*

\* =  $p < 0.1$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$

# Dose response relationship between Maternal ACE and risk for suspected developmental delay



# Parental ACEs and Behavioral Outcomes

- Compared to children whose parents have no ACEs, a child whose parent has 4+ ACEs has:
  - 2.3 point higher score on the Behavior Problems Index (BPI)
  - 2.1x higher odds of hyperactivity
  - 4.2x higher odds of emotional disturbances
- Correlations were stronger for maternal ACEs than paternal ACEs.

Schickedanz et al., *Pediatrics*. 2018;142(2).

# Parental ACEs and Health Outcomes

- For each additional parental ACE:
  - Worsening overall health status (aOR 1.19)
  - Increase rates of asthma (aOR 1.19)
  - Increase in excessive media use (aOR 1.16)
- Since these effects are cumulative, if a parent has 6+ ACEs, their child has 6.38x the risk of asthma.

Lê-Scherban et al., *Pediatrics*. 2018;141(6).

# Parental ACEs and Utilization Patterns

- For each additional maternal ACE, there is a 12% increased risk of missing well visits in the first two years.
- This did not result in missing immunizations.
- However, given the risk of developmental delays, it is likely that:
  - Parents are not receiving anticipatory guidance on developmental promotion.
  - There may be an increased risk of missing on-time administration of standardized developmental screens, meaning a potential delay in referral to services.

Eismann EA et al.(... Gillespie RJ), J Pediatr 2019;211:146-51.



# Stories from the literature – why parent trauma matters...

**5**

There is a correlation between parental ACEs and their child's developmental, behavioral and overall health risks.

# The Sticking Points

- Sitting with data about developmental outcomes was a bit like holding a hot potato...
- The assumption is that developmental outcomes in the context of parental trauma is due to disruptions in the attachment relationship... how do we build that?
- The resilience questionnaire (CD-RISC) wasn't really leading to questions from patients or conversations from providers.
- How do we better balance the conversations with parents (is “balancing ACEs with hope” trademarked yet)?
  - “Summing the suffering” versus “building the buffering”...

# What we're working on now

- Broadening definition of adversity
  - Included bullying, discrimination, community violence and foster care in previous iterations
  - “Did anything else scary or upsetting happen to you as a child? Please describe that, if you feel comfortable.”
- Switched from resilience questionnaire to Positive Childhood Experiences
- Implementing universal resilience interventions

# Switching to Positive Childhood Experiences

- Before the age of 18, I...
  - Was able to talk with the family about my feelings
  - Felt that my family stood by me during difficult times
  - Enjoyed participating in community traditions
  - Felt a sense of belonging in high school
  - Felt supported by friends
  - Had at least two non-parent adults who took a genuine interest in me
  - Felt safe and protected by an adult in my home

From Bethell C, et al (2019). *JAMA Pediatrics* 173(11), e193007

# Rounding Out the Conversation

- Which of these positive childhood experiences are you most excited to have happen for your child?
- How are you doing with making that experience happen?
  - I'm doing great
  - I need some help with this
  - I don't need to discuss this right now
- Is there anything that you think would be helpful for your pediatrician to provide right now?

# Which of these PCEs are you most excited to have happen with your child?

- “All of them.”
- “For him to create friendships with his cousins”
- “I would love it if my kids talked about feelings early and also always feel protected.”
- “Having the support of friends.”
- “Traditions and being supported by family and friends.”
- “I’m excited for her to grow older and have us to talk to about anything. And for her to know we are there for her no matter what.”

# Resilience-based Interventions

- At each well visit in the first year, using specific brief interventions to promote resilience, attachment / attunement.
- Partnership with Amy King, PhD
  - 2 weeks – Parent Self-Care
  - 2 months – Mirror time
  - 4 months – Focusing on attachment
  - 6 months – Time ins
  - 9 months – Review mirror time and time-ins
  - 12 months – Beginning discipline

# Where we want to go next

- Still learning about whether PCEs are better-received by providers and patients (preliminarily looks good).
- How do we ensure resilience interventions are delivered consistently?
- What resilience / attachment interventions should we do beyond the first year of life?
- How do resilience interventions moderate developmental risk?



# The Ultimate Outcomes

- How do we use our knowledge of ACEs / PCEs in children and in parents to
  - a) Prevent ACEs and promote PCEs in the next generation?
  - b) Support and promote Kindergarten Readiness?



# Selected References

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M., Marks, J. S. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*, 14(4), 245-258. doi:10.1016/s0749-3797(98)00017-8
- Folger AT, Eismann EA, Stephenson NB, Shapiro RA, Macaluso M, Brownrigg ME, Gillespie RJ. Parental Adverse Childhood Experiences and Offspring Development at 2 Years of Age. *Pediatrics*. 2018;141(4):e20172826.
- Folger AT, Putnam KT, Putnam FW, Peugh JL, Eismann EA, Sa T, Shapiro RA, Van Ginkel JB, Ammerman RT. Maternal Interpersonal Trauma and Child Social-Emotional Development: An Intergenerational Effect. (2017) *Paed and Perinatal Epidemiol*.
- Garner AS, Shonkoff JP, et al. Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption and Dependent Care, and Section on Developmental and Behavioral Pediatrics. Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health. (2012). *Pediatrics* 129 (1) e224.
- Gillespie, R.J., Folger A.T. Feasibility of Assessing Parental ACEs in Pediatric Primary Care: Implications for Practice-Based Implementation. (2017) *Journ Child Adol Trauma*. DOI 10.1007/s40653-017-0138-z.
- Ginsburg, K. Building Resilience in Children and Teens. 2014, American Academy of Pediatrics Press.
- Jimenez, M. E., Wade, R., Lin, Y., Morrow, L. M., & Reichman, N. E. (2016). Adverse Experiences in Early Childhood and Kindergarten Outcomes. *Pediatrics*, 137(2). doi:10.1542/peds.2015-1839
- Kim, P., Evans, G. W., Angstadt, M., Ho, S., Sripada, C., Swain, J. E., Liberzon, I., & Phan, K. L. (in press). Effects of Childhood Poverty and Chronic Stress on Emotion Regulatory Brain Function in Adulthood, The Proceedings of the National Academy of Sciences of the United States of America (PNAS).
- Lomanowska, A., Boivin, M., Hertzman, C., & Fleming, A. (2015). Parenting begets parenting: A neurobiological perspective on early adversity and the transmission of parenting styles across generations. *Neuroscience*. doi:10.1016/j.neuroscience.2015.09.029
- Noble, K.G., Houston S.M., et al. (2015). Family Income, Parental Education and brain structure in children and adolescents. *Nature Neuroscience*. 18: 773-778.
- Randell, K. A., O'Malley, D., & Dowd, M. D. (2015). Association of Parental Adverse Childhood Experiences and Current Child Adversity. *JAMA Pediatrics JAMA Pediatr*, 169(8), 786. doi:10.1001/jamapediatrics.2015.0269
- Traub F, Boynton-Jarrett R. (2017). Modifiable Resilience Factors to Childhood Adversity for Clinical Pediatric Practice. *Pediatrics*. 139(5): e20162569.