Perspectives From the Field
TALK SHOW

The Bigger Picture:
Health Disparities and Childhood Trauma

Feb. 26-29, 2020
CARIBE ROYALE
Orlando, FL

20/20
Focus On A Brighter Future
Transforming Pediatric Practices to Address Determinants of Health and Trauma

Dayna Long, MD
UCSF Benioff Children’s Hospital Oakland
Center for Child and Community Health
Notes from the Field
September 11th 2019
Objectives

1. Recognize the significance of adverse childhood experiences (ACEs) and social determinants of health (SDOH).

2. Explore ways to build capacity and infrastructure to universally address ACEs and SDOH.

3. Examine interventions to mitigate toxic stress.
Trauma is a Public Health Crisis

• Increases the risk for 7 out of 10 of the leading causes of death in the United States
• Affects brain development
• Influences the way our DNA is read and transcribed
• Triples the lifetime risk of heart disease and lung cancer
• Reduce life expectancy up to 20 years
Trauma is a Public Health Issue

- Trauma impacts more than just the individual
  Ripple effect to others
- Low income and communities of color are disproportionately affected
  Discrimination + Poverty + Trauma = Toxic
- Intergenerational transmission of trauma
- Systemic, preventative approach needed
SOCIAL DETERMINANTS OF HEALTH (SDOH)

Where we live, eat, sleep, play, and learn profoundly impacts our health
WHAT DETERMINES HEALTH?

- Social Determinants of Health: 80%
- Quality of Care: 10%
- Access to Health Care: 10%
Compared to a white child in the affluent Oakland Hills, a black child born in the flatlands is...

**INFANT**
- 2 times more likely to be born low birth weight
- 12 times less likely to have a mother who graduated from college

**CHILD**
- 13 times more likely to live in poverty
- 4 times less likely to read at grade level

**ADULT**
- 5 times more likely to be unemployed
- 3 times more likely to die of stroke

*Cumulative impact: 14 year difference in life expectancy*

*Source: Alameda County Vital Statistics files, 2010-2012*
Adverse Childhood Experiences (ACES)

ACES leads to poor health such as obesity, diabetes, cancer and depression

3 Types

- Abuse: physical, emotional, sexual
- Neglect: physical and emotional
- Household Dysfunction: mental illness (depression), domestic violence, divorce, drug use, prison

Children Who Experience 4 or more ACEs:

- **32x** Learning and Behavioral Problems
- **4.5x** Depression
- **2-3x** Asthma, Heart Disease and Cancer
- **3.5x** Pulmonary Disease

- 7 out of 10 Leading Causes of Death in the U.S. correlate with exposure to 4 or more ACE's

- 10-12x greater risk for Intravenous Drug Use and Attempted Suicide

CDC–Kaiser Permanente ACEs Study, 1995-97
**Positive stress**  
*Brief* increases in heart rate  
*Mild* elevations in stress hormones

**Tolerable stress**  
Serious, *temporary* stress responses  
*Buffered* by supportive relationships

**Toxic stress**  
*Prolonged* stress response activation  
*Absence* of protective relationships
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*Stressors: Trauma, Access, Demographics, Violence, Neighborhood deprivation, Air pollution*

*J Shonkoff Harvard University Center on the Developing Child*
**Stressors**
- Trauma, Access, Demographics
- Violence, Neighborhood deprivation, Air pollution

**Individual Characteristics**
- Sex, genes, development, experience, behavior

**Nature of stressor**
- **Positive stress**
  - *Brief* increases in heart rate
  - *Mild* elevations in stress hormones

**How stressor is perceived**
- **Tolerable stress**
  - Serious, *temporary* stress responses
  - *Buffered* by supportive relationships

**Ability to cope**
- **Toxic stress**
  - Prolonged stress response activation
  - Absence of protective relationships

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J Shonkoff, Harvard University Center on the Developing Child
Positive stress
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Toxic stress
Prolonged stress response activation
Absence of protective relationships

Nature of stressor

How stressor is perceived

Ability to cope

Physiologic response

Stressors
Trauma, Access, Demographics
Violence, Neighborhood deprivation, Air pollution

Individual Characteristics
Sex, genes, development, experience, behavior

Biologic Response
Neuro-endocrine and humoral response, epigenetics, GxE interaction, microbiome

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How does Stress and Trauma get Under our Skin?
ACES and Brain Development

90% of a child’s brain development happens before age 5
ACES and Behavior/Learning

• ACES before the age of 5, associated with ADHD

(Jimenez et al Acad Pediatr 2017 May-June: 17 (4) 356-361)
Learning/Behavior problems by ACE score

Burke NJ et al, Child Abuse Negl 2011
The Health Outcomes of ACES Over the Life Course

- Growth delay
- Cognitive delay
- Sleep disruption

- Asthma
- Infection
- Learning difficulties
- Behavioral problems

- Obesity
- Violence
- Bullying
- Smoking
- Teen pregnancy
Adverse Childhood Experiences (ACEs)

Disruption of the neuro-endocrine-immune functions

Social, Emotional, Cognitive impairment

Adoption of health-risk behaviors

without symptom

Healthy life

Disease, disability & social problems

Early Death
Bay Area Research Consortium on Toxic Stress and Health (BARC)

A multi-institutional collaboration dedicated to advancing how primary care identifies, measures, and addresses childhood adversity and toxic stress.
PEdiatric ACEs Screening and ResiLiency Study (PEARLS)

1. Identify important risk factors at all levels
   • Develop a screener for ACEs for Pediatric Primary Care
   • Examine associations between ACEs and health in childhood

2. How do risk factors interact with host factors?
   • Examine associations between biomarkers of stress, ACEs, and health

3. What are crucial time points to intervene?

4. Impact of a comprehensive intervention
   • Develop and pilot primary care based interventions
PEdiatric ACEs Screening and ResiLiency Study (PEARLS)

- Prospective Pediatric Screening Tool
- Biomarkers and Clinical Diagnoses
- Interventions
PEARLS

- 10 Original categories of ACES from 3 domains
- Added a 4 domain for SDOH
  - Food Insecurity
  - Housing Instability
  - Discrimination, Bullying
  - Violence outside of the home
**Pediatric ACEs and Related Life Events Screener (PEARLS)**

**PART 1:**

- Has your child ever lived with a parent/caregiver who went to jail/prison? [ ]
- Do you think your child's life was unsafe, neglected, and/or unprotected? [ ]
- Has your child ever lived with a parent/caregiver who had mental health issues? (for example depression, schizophrenia, bipolar disorder, PTSD, or an anxiety disorder) [ ]
- Has a parent/caregiver ever insulted, humiliated, or put down your child? [ ]
- Has the child's biological parent or any caregiver ever had, or currently has a problem with too much alcohol, street drugs or prescription medications use? [ ]
- Has your child ever lack appropriate care by any caregiver (for example, not being protected from unsafe situations, or not cared for when sick or injured even when the resources were available)? [ ]
- Has your child ever been or heard a parent/caregiver being screamed at, sworn at, insulted or humiliated by another adult? [ ]
- Has any adult in the household often or very often pushed, grabbed, slapped or thrown something at your child? [ ]
- Has any adult in the household ever hit your child so hard that your child had marks or was injured? [ ]
- Has your child ever experienced sexual abuse? (for example, anyone touched your child's private parts or made your child do something you didn't want to do, or made your child feel uncomfortable, or anyone ever touched you in a way that was unwanted, or made your body feel uncomfortable, or sexual acts with your child?) [ ]
- Have there ever been significant changes in the relationship status of the child's caregiver(s)? (for example a parent/caregiver got a divorce or separated, or a romantic partner moved in or out)? [ ]

**How many “Yes” did you answer in Part 1?** [ ]

**PART 2:**

Please check “Yes” where apply.

1. Has your child ever been, heard, or been a victim of violence in your neighborhood, community or school? (for example physical or sexual abuse, verbal abuse, or harassment) [ ]
2. Has your child experienced discrimination (for example being harassed or made to feel inferior or excluded due to their race, ethnicity, gender identity, sexual orientation, religion, learning difficulties, or disabilities)? [ ]
3. Has your child ever had problems with housing (for example being homeless, not having a stable place to live, moved more than twice in a six-month period, faced eviction or foreclosure, or had to live with multiple families or family members)? [ ]
4. Have you ever worried that your child did not have enough food to eat or that the food for your child would run out before you could buy more? [ ]
5. Has your child ever lived with a parent/caregiver who had a serious physical illness or disability? [ ]
6. Has your child ever been separated from their parent or caregiver due to foster care, or immigration? [ ]
7. Has your child ever lived with a parent or caregiver who died? [ ]

**How many “Yes” did you answer in Part 2?** [ ]
RESEARCH ARTICLE
Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study

Kadiatou Koita1*, Dayna Long2, Danielle Hessler3, Mindy Benson2, Karen Daley2, Monica Bucci1, Neeta Thakur4, Nadine Burke Harris1

1 The Center for Youth Wellness, San Francisco, California, United States of America, 2 Benioff Children’s Hospital Oakland, Oakland (BCHO), University of California San Francisco, Oakland, California, United States of America, 3 Department of Family Community Medicine, University of California San Francisco (UCSF), San Francisco, California, United States of America, 4 Department of Medicine, Division of Pulmonary and Critical Care Medicine, University of California San Francisco (UCSF) School of Medicine, San Francisco, California, United States of America

* kkoita@centerforyouthwelness.org
Governor’s budget (July 2019)

• AB340

• “Approves of $23 million Proposition 56 for Medi-Cal trauma screenings and $60 million Prop 56 one-time for provider trainings on administering trauma screenings.
Resilience

“In the final analysis, resilience is rooted in both the physiology of adaptation and the experiences we provide for children that either promote or limit its development.” – Jack Shonkoff, Harvard Center for the Developing Child

Clinical Focus: Buffers and Protective Factors

- Caregiver resilience
- Social connections
- Knowledge of parenting and child development
- Concrete support in times of need
- Social and emotional resilience of children
- Nature
Caregiver Buffering: Bio-behavioral synchrony and dyadic neurodevelopment

**Bio-behavioral synchrony in human attachments**

**Behavioral Synchrony**
Synchronized behavior in gaze, affect, vocal, and touch
Mother-specific
Father-specific

**Heart Rate Coupling**
Synchronized HR during synchronized interactions

**Endocrine Fit**
Coordinated OT response following contact
Coordinated cortisol response to stress

**Brain to Brain Synchrony**
Coordinated brain oscillations in alpha and gamma rhythms

Prevention and Interventions

**Anticipatory Guidance**
- Short (2 min) scripted statement
- Providers deliver after ACEs screening
- 100% of staff trained

**Care Coordination**
- Screened via FINDconnect for unmet needs
- Connected to community resources
- Warm handoffs

**Resiliency Clinic**
- 6 monthly group classes
- Led by mental health provider and an NP
- Building caregiver-child relationship and self-regulation

*ALL operated within Primary Care*
PEARLS Universal Screening

Partner with provider to refer to Social Work, Developmental and Mental Health Services, early intervention services

Help with utilities, food, afterschool activities, green space, medical legal partnership

Universal social and environmental needs screening

Warm Hand-offs & Culturally Responsive Care

Patients with complex needs

Patients with basic resource needs

PEARLS Universal Screening
A cloud based innovative solution that empowers patients, care teams and their communities to collaboratively address social determinants of health.
Care Coordinators

• Facilitate the trusted relationship
• Central part of medical team
• Diverse workforce mirrors the community
• Enable all staff to work at the top of their license
• Use technology as a tool to increase efficacy and capacity
FINDconnect GOALS
To make connecting with resources for social and environmental determinants of health incredibly easy and effective for all

Suite of Tools
• Opportunity Assessment
• Action Plan creation and delivery
• Knowledge Base
• Case Management

Automation provides
• Scalability
• Outcome tracking
• Program quality and evaluation

Training & Education
• Integrating into clinic flow
• User guide
• Cultural Humility/Trauma Informed Tech
FINDconnect FEATURES

- Customizable, validated survey algorithms
- Web based platform, will run on any modern browser
- Sophisticated real-time resource matching
- HIPAA-compliant case management
- Automated action planning
DATA BY ZIP CODES

Enrollments
- Activities
- Food
- Child Development
- Housing
- Legal Services
- Utilities

ADULT MENTAL HEALTH
- phq2
- phq9
- GAD7
- Pearls Section 1
- Pearls Section 2

Rollover or tap an area to see stats. 1827 Family Enrollments
TRAUMA-INDUCING TO TRAUMA REDUCING

TRAUMA-ORGANIZED
- Reactive
- Reliving/Retelling
- Avoiding/Numbing
- Fragmented
- Us Vs. Them
- Inequity
- Authoritarian Leadership

TRAUMA-INFORMED
- Understanding of the Nature and Impact of Trauma and Recovery
- Shared Language
- Recognizing Socio-Cultural Trauma and Structural Oppression

HEALING ORGANIZATION
- Reflective
- Making Meaning Out of the Past
- Growth and Prevention-Oriented
- Collaborative
- Equity and Accountability
- Relational Leadership
Lessons Learned

- Understanding the impact that trauma has on health
- Effective population health requires universal screening
- Need data management capability that does not exist yet but are developing
- Develop partnerships, both internal and external
- Eliminate silos
- Involve the target population early; listen closely
- Allow the process to be iterative
- Consider sustainability in design
- Make sure roles and responsibilities are clear
Opportunities

• **Share data** analytics and observations across systems about the community determinants that are shaping and/or exacerbating these health concerns.

• Consider **organizational and practice changes** that encourage consumer/patient engagement focused on family and community assets available that help them recover and heal.

• **Develop innovative viable payment systems** that are sustainable and support health and wellbeing
Vision for the Future

• Sustainable Practices for communities to support dyads of children and caregivers
• National Practice Guidelines
• More Local, State and Federal Policy Formation
• Collaborative Multi-Sector Partnerships
• Hub of Research Innovation and Training
North Star: Innovation has the potential to disrupt the link between adversity and poor health

Adapted from Dr. Barry Zuckerman
Thank you
Publications


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