

Adverse Childhood Experiences Among School-Aged Children

May 1, 2024



School-Based Health Alliance

Transforming Health Care for Students

Our **Focus**

The School-Based Health Alliance Works to Support & Grow SBHCs

Policy



Establishes and advocates for national policy priorities

Standards



Promotes high-quality clinical practices and standards, including for telehealth

Data



Supports data collection and reporting, evaluation, and research

Training



Provides training, technical assistance, and consultation

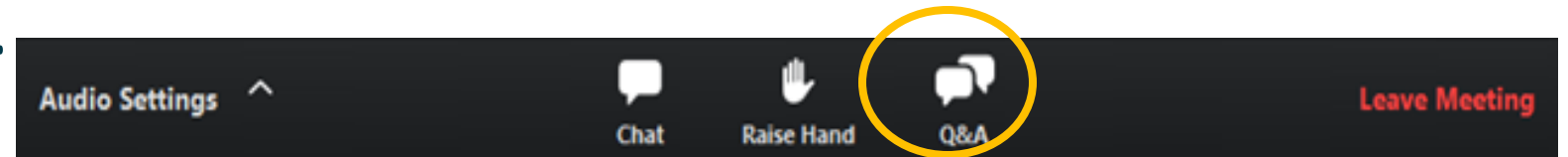
We support the improvement of students' health via school-based health care by supporting and creating community and school partnerships.

www.sbh4all.org

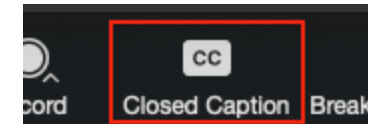
REMINDERS

 All attendees are in listen-only mode.

 To ask a question during the session, use the “Q&A” icon that appears on the bottom of your Zoom control panel.



 To turn on closed captioning, click on the “CC” button.



 Please complete evaluation poll questions at the end of the presentation.

Learning Objectives

1. Define adverse and positive childhood experiences and give two examples of each
2. Explain how experiences affect our brains and bodies across the lifespan
3. Describe trauma sensitive inquiry
4. Give two examples of activities that enhance positive experiences or mitigate the impact of adverse experiences



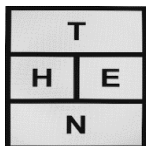
TODAY'S PRESENTER



Audrey Stillerman, MD ABFM ABIHM ABOIM
Medical Director, Mile Square School Health Center Program
Associate Director of Medical Affairs
University of Illinois Hospital and Health Sciences System

The Impact of Childhood Experiences on Health: Lessons for our Work

Audrey Stillerman, MD
Clinical Associate Professor
UIC Family & Community Medicine
Medical Director
Mile Square School Health Centers
Cofounder
THEN Center
5/1/24



Notice of Traumatic Content

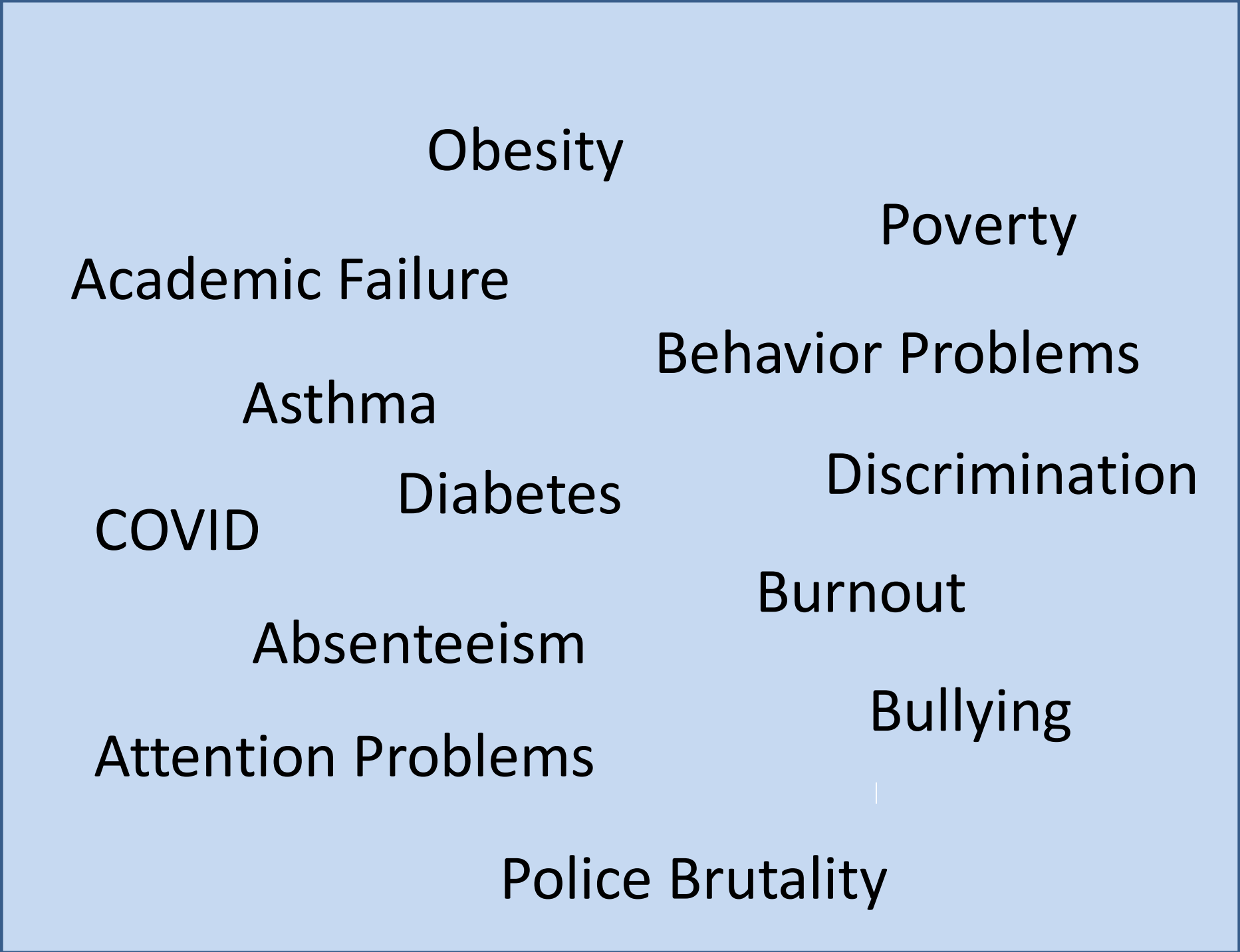
Trauma is personal for everyone.

This lecture includes discussion of Child Neglect - Deprivation, Abuse,
Racial Trauma and Discrimination

Our lecture includes scientific concepts often omitted in conventional
training

This content may be distressing.

We invite you to visit www.thencenter.org
sections on Secondary Trauma and suggestions for Self Care.



Our
Typical
Approach

We Focus
on What
We Can
See



Sample Case: Elena* age 8

Elena referred to Doctor from SCHOOL



- Behavior problems at home & school: impulsive, easily distracted, fights with others
- School: In 3rd grade but functioning 1st grade level
Teacher recommends MD eval & Special Ed Services
- Mother reports temper tantrums, nightmares, multiple medical problems—
recurrent ear infections, erratic appetite, constipation, incontinence

* Elena is a true case; name & details changed for anonymity



- 1.Exploring the connection between life experiences and health: epidemiology and neurobiology**
- 2.Screening, care planning and treatment**
- 3.Case Discussion**
- 4.Q and A**

Learning Objectives

1. Define ACEs and PCEs. Give 2 examples of each
2. Explain how experiences affect our brains and bodies across the lifespan.
3. Describe trauma sensitive inquiry
4. Give 2 examples of activities that enhance PCES or mitigate the impact of ACEs



1.The Epidemiology

Connecting Experience with Health and Well-being

ABUSE



Physical abuse



Emotional abuse



Sexual abuse

NEGLECT



Physical neglect



Emotional neglect

HOUSEHOLD STRESS



Mental illness



Substance abuse



Domestic violence



Incarceration



Parental separation /
Divorce

Add up total number
of ACEs= Score

ACEs are:

***Common**

***Interrelated**

***Cumulative**

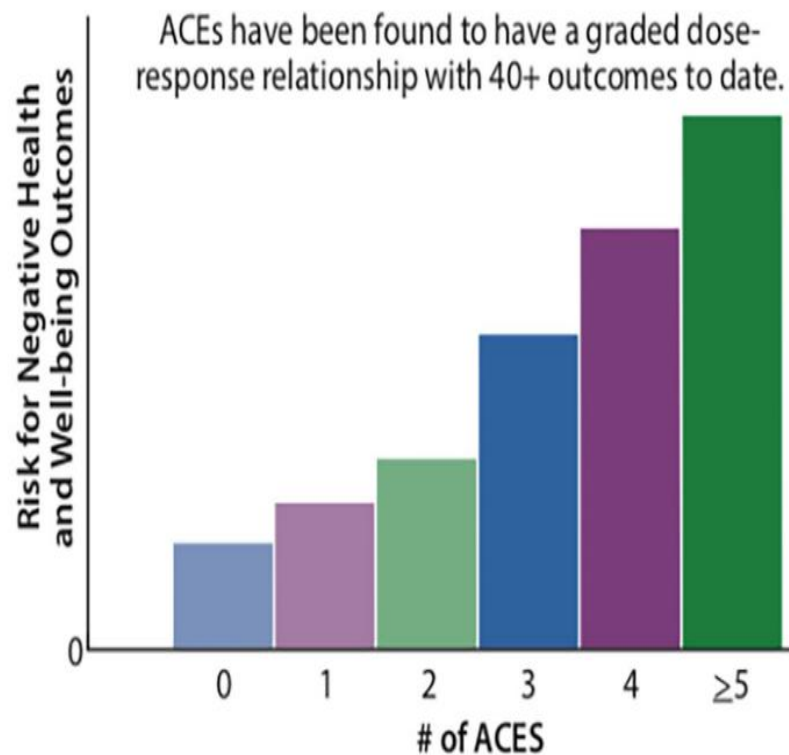
***Profoundly Impactful**

**ACE=6 > risk for 20 year
lower life expectancy**

CDC-Kaiser 1998

Conditions linked to Childhood Adversity and Trauma

- Preterm and LBW Birth
- Maternal and fetal death
- Over and underutilization
- Difficulty adhering to Rx
- Unexplained symptoms
- Disordered Sleep/Eating
- School Problems
- Chronic Disease
- Chronic Pain
- Autoimmune Disease
- Mental Health/Behavior Problems
- Addiction
- Poorer Surgical Outcomes
- Injuries and Disability
- Perpetrating and Experiencing Violence
- More



*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

Washington School Classroom: ACEs

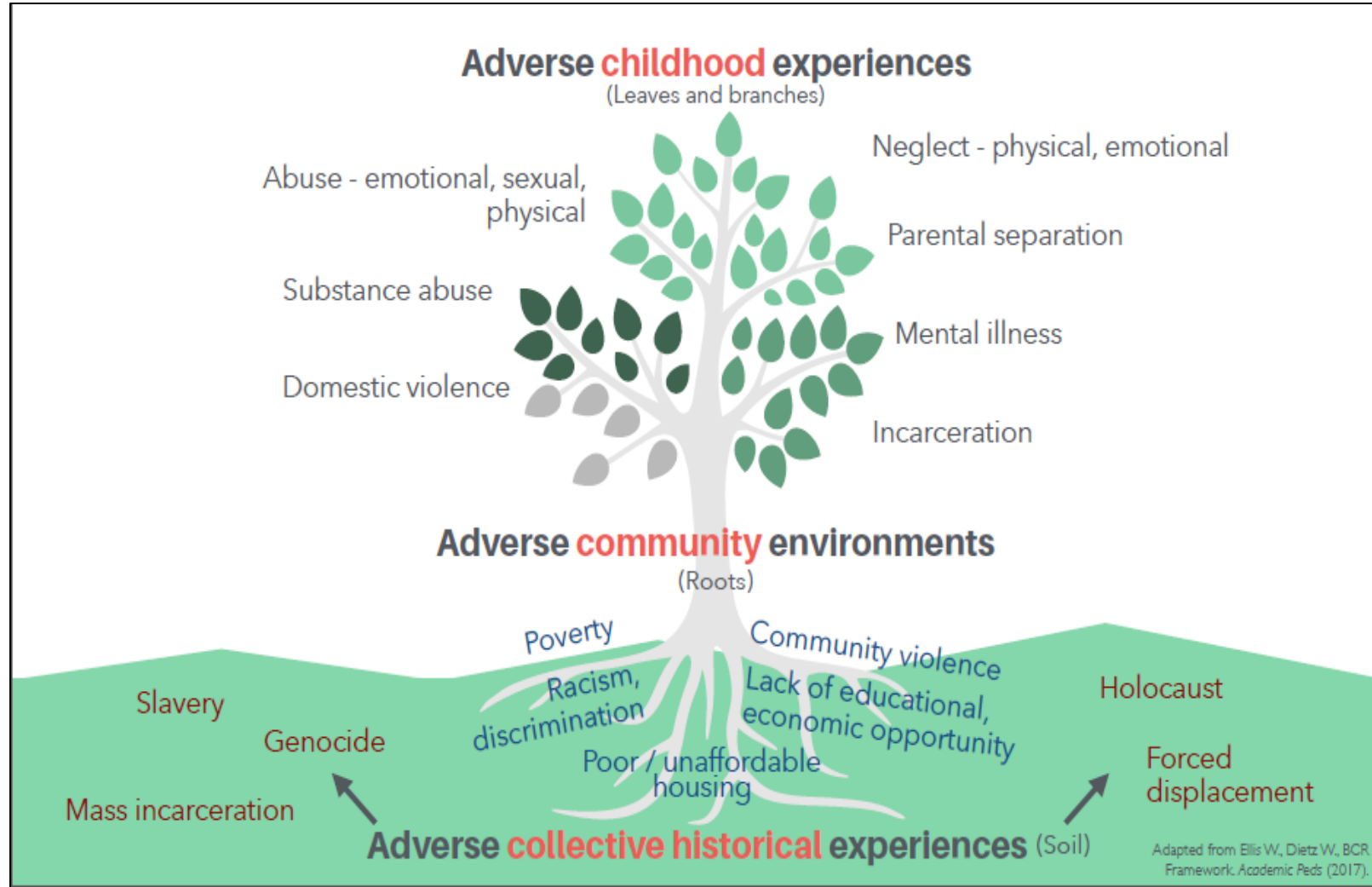
30 students; high school sophomores & seniors

*6 students with no ACEs
5 students with 1 ACE
6 students with 2 ACEs*

*3 students with 3 ACEs
7 students with 4 or 5 ACEs
3 students with 6 or more ACEs*



Expanding our Definition of ADVERSITY



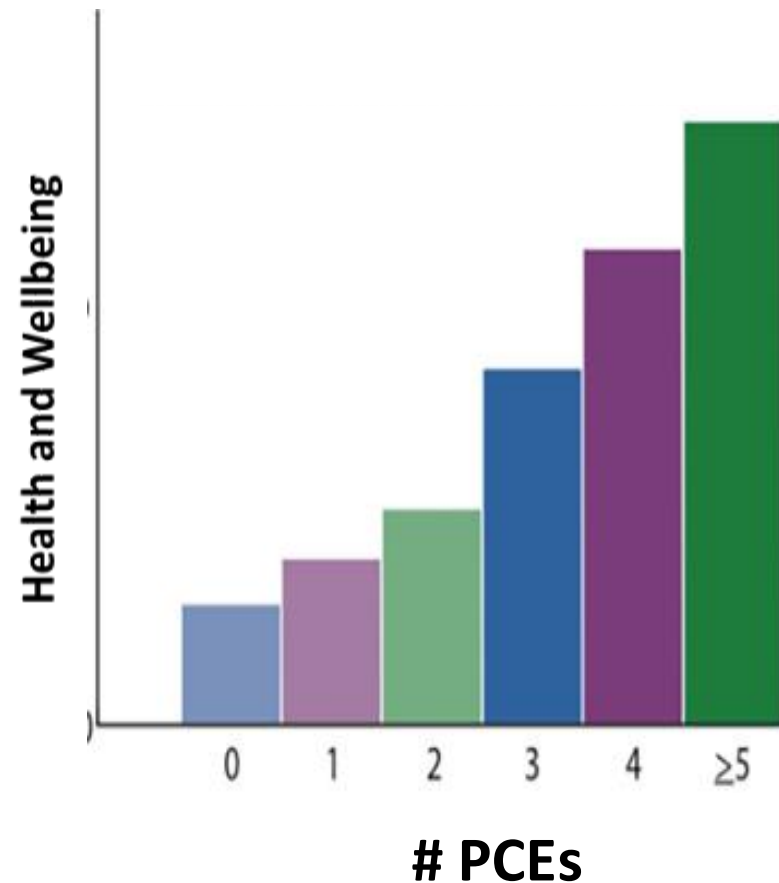
Protective Factors: Critically Important



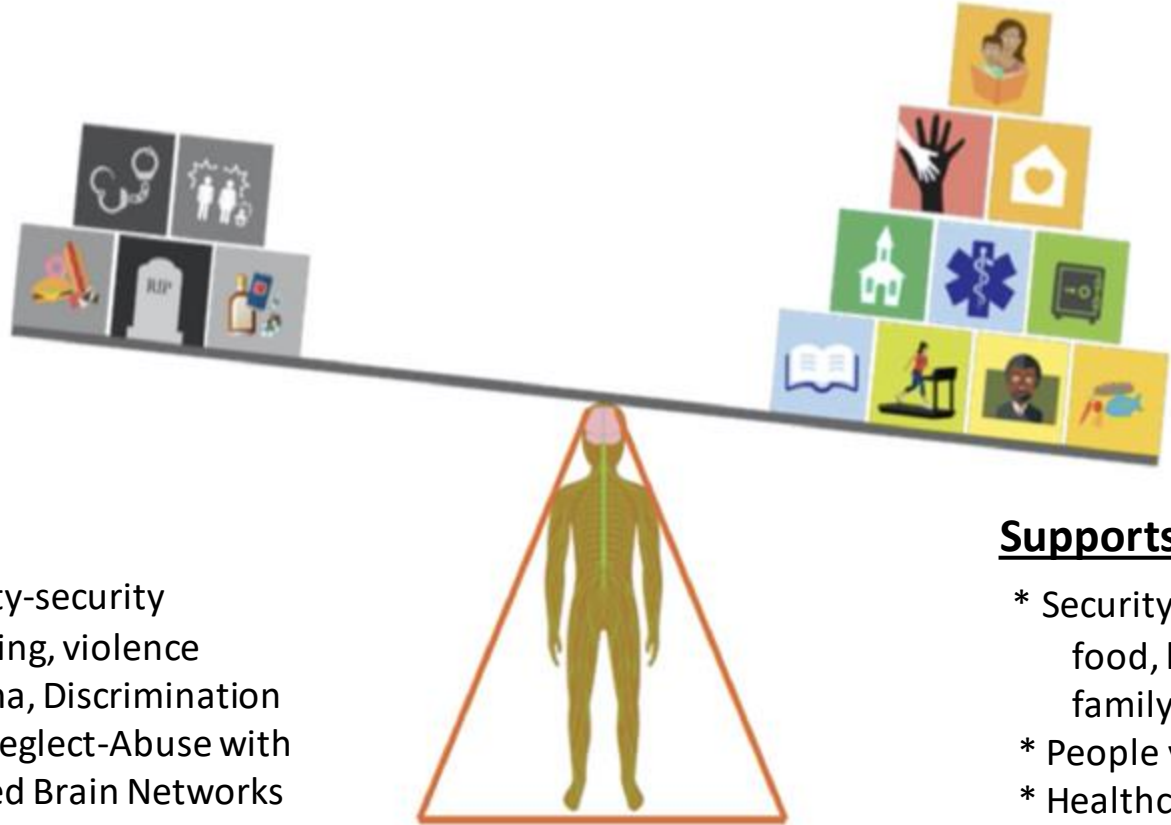
Dose-Response Relationship

More PCES= Better Mental and Physical Health

- Lower risk of ANY psych condition
- Lower risk of ANY condition at ANY age
- Lower risk of peds chronic pain



Experience: it all counts!



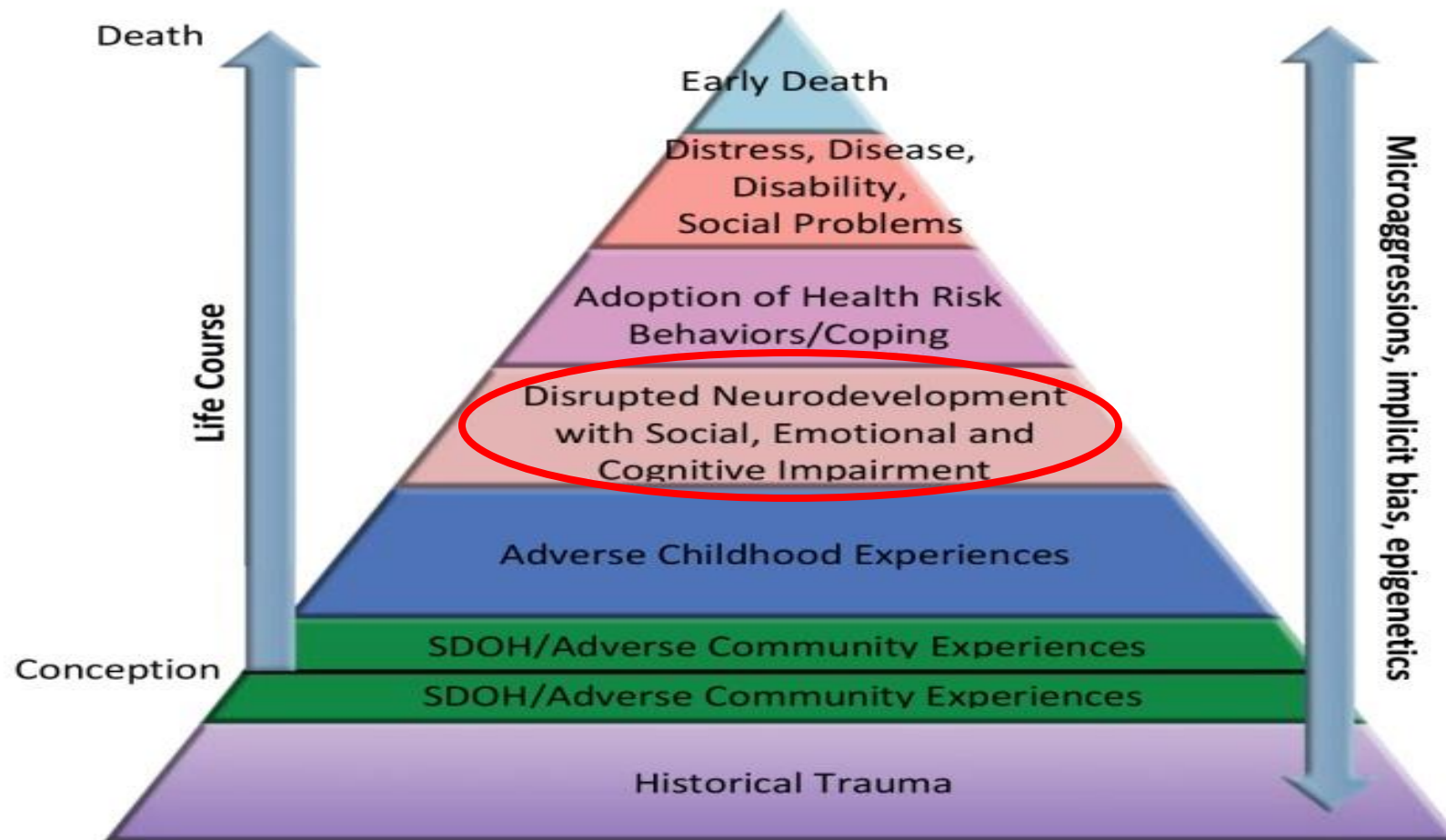
Stressors:

- * Lack of safety-security
 food, housing, violence
- * Racial Trauma, Discrimination
- * Childhood Neglect-Abuse with
 dysregulated Brain Networks

Supports:

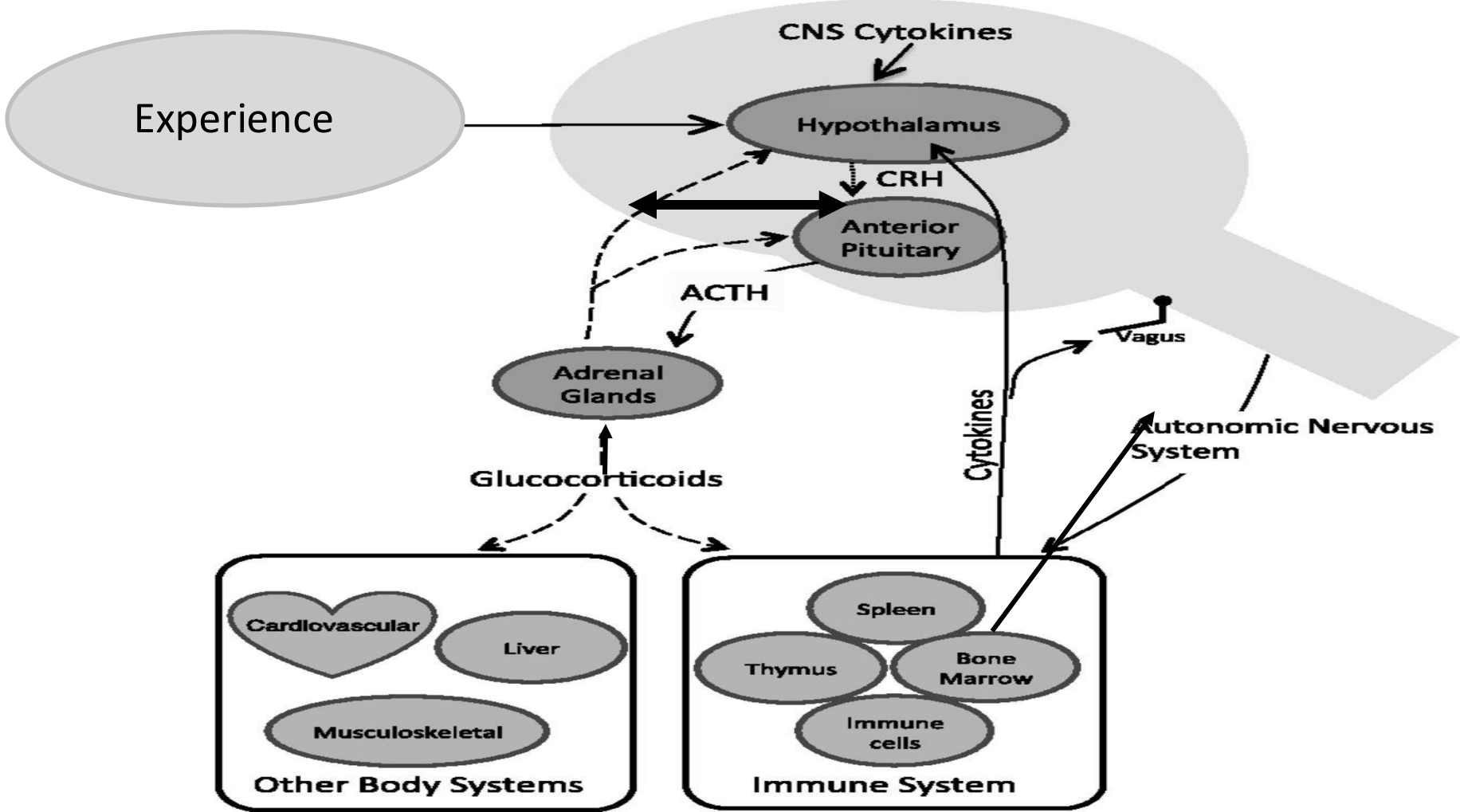
- * Security-safety-justice
 food, housing, schools,
 family income
- * People you can count on
- * Healthcare you trust

2. The Neuroscience: What is the Pathway from Experience to Illness Across the Lifespan?



Adapted from The ACE Pyramid: Mechanism By Which ACEs Influence Health and Well-being Across the Life Span, CDC Office of Violence Prevention, last Updated April 1, 2016 and Trauma and Social Location, RYSE Center 2015.

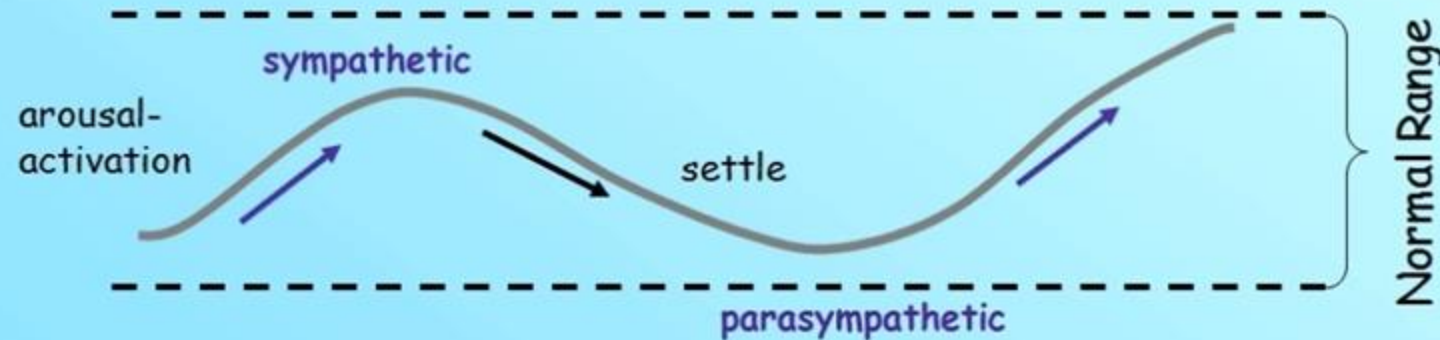
Unified Brain-Body-World Interrelationship



Adapted from Johnson SB, Riley AW, Granger DA, Riis J. The science of early life toxic stress for pediatric practice and advocacy. *Pediatrics*. 2013;131(2):319-327. doi:10.1542/peds.2012-0469

Brain and Autonomic Nervous System Coordinate Physiologic Balance/Regulation

A Healthy Brain-Body System



Cycle of Arousal-Activation – and – Calming-Settling

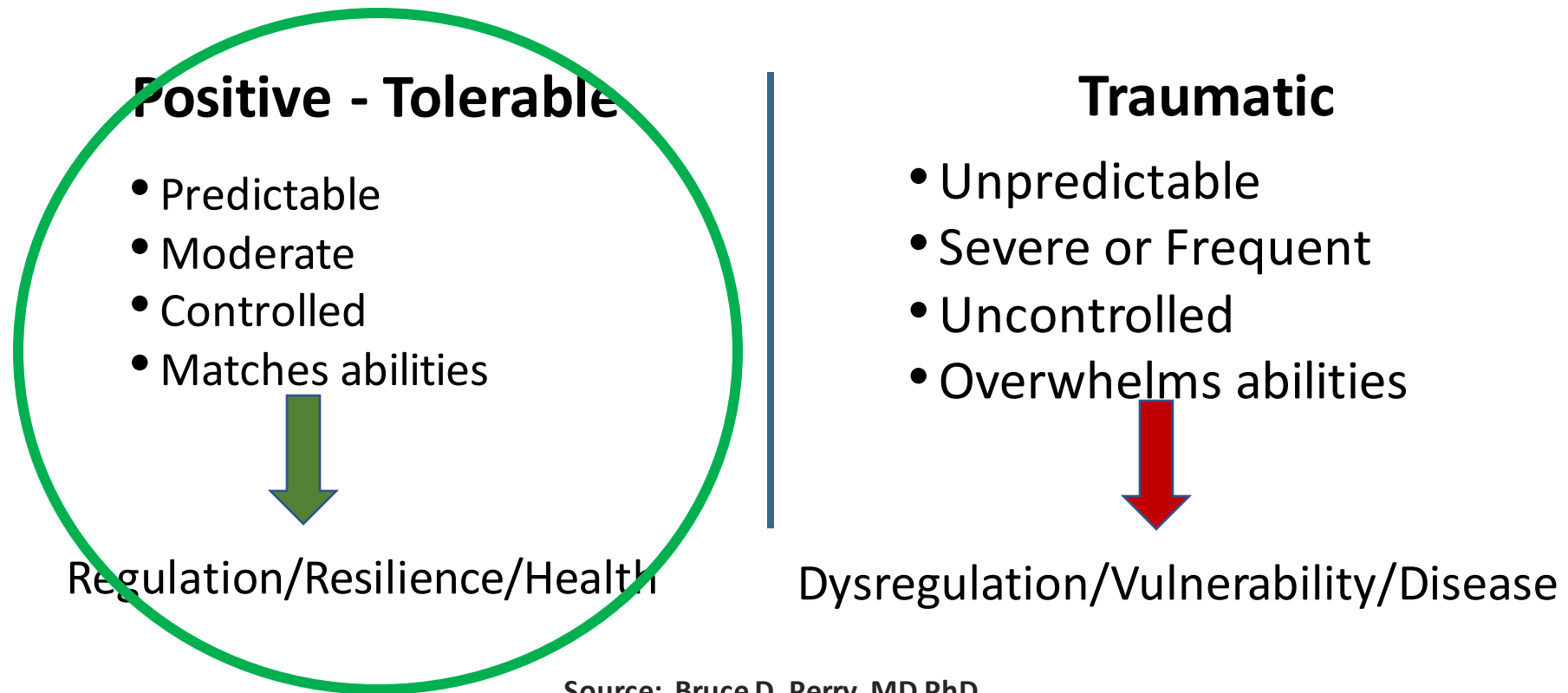
What does Brain-Body Regulation Look Like?

Awakening	Wake feeling rested, refreshed, optimistic
Body sensations	Aware and in touch with one's body. No major pain. Good breathing, digestion, activity.
Emotional Balance	Feel positive, able to feel and balance one's emotions.
Attention Concentration	Clear thinking and focus, learn new things.
Relationships Co-Regulation	Act calmly, positively with others, resolve differences.
Memory	Can remember memories and remain balanced
Sleep	Fall asleep easily, sleep for 6-8 hours

Attachment and Attunement Support Regulation Throughout Life



Positive Experiences Enhance Regulation/Health



Regulation is Inborn AND Can Be Activated!

Inborn Regulatory Processes Regulatory Activities/Supports

Sleep

Attached/Attuned Relationships

Daily Routine

Stress Response System

Brain-Body synchronization

via deep breathing

Movement-Exercise

Breathwork

Sports

Expressive Arts

Mindfulness/Yoga

Outdoor activities

Fun – Play

Meeting basic needs

Traumatic Experiences Impair Regulation/Health

Positive - Tolerable

- Predictable
- Moderate
- Controlled
- Matches abilities



Regulation/Resilience/Health

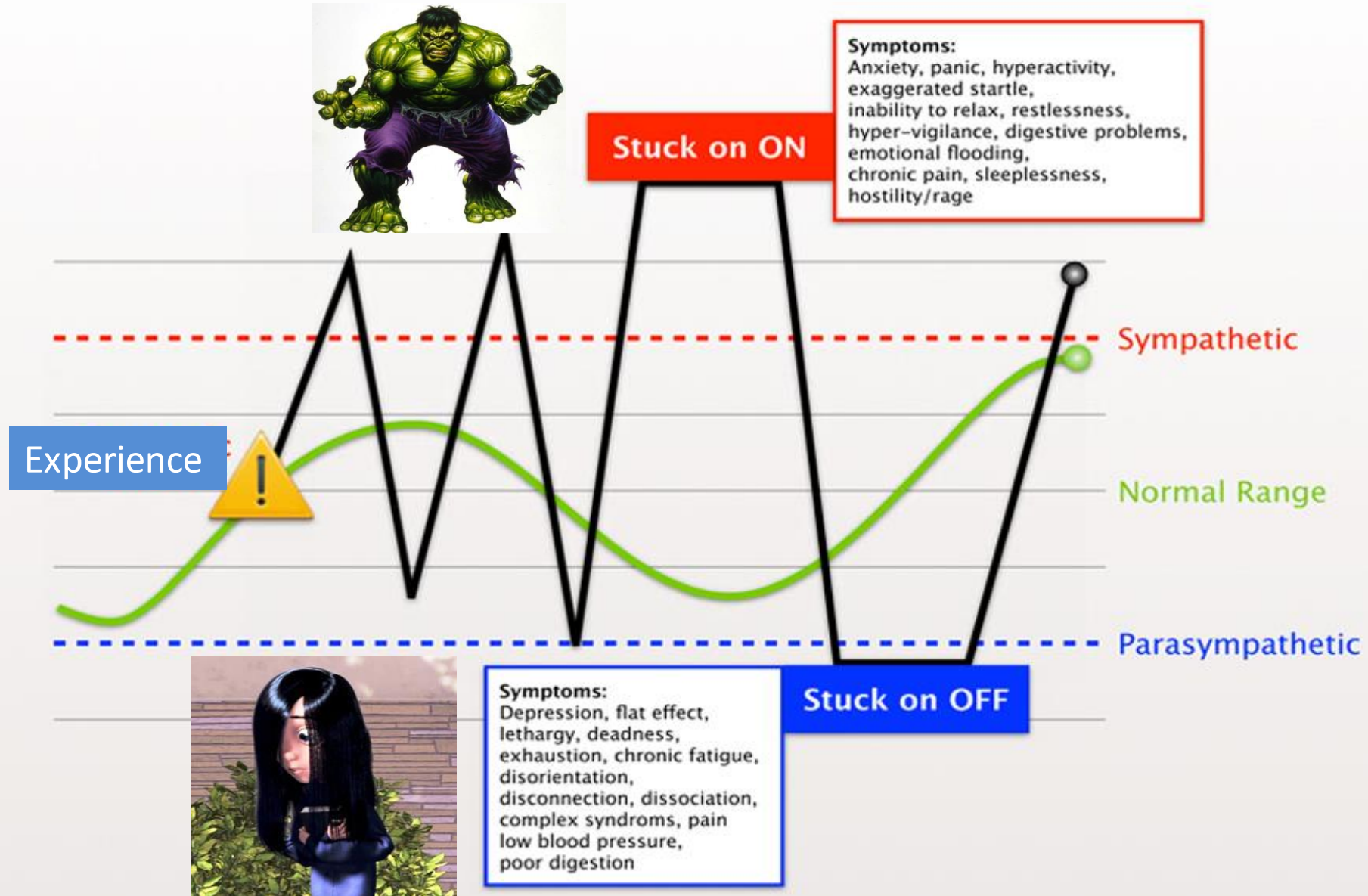
Traumatic

- Unpredictable
- Severe or Frequent
- Uncontrolled
- Overwhelms abilities



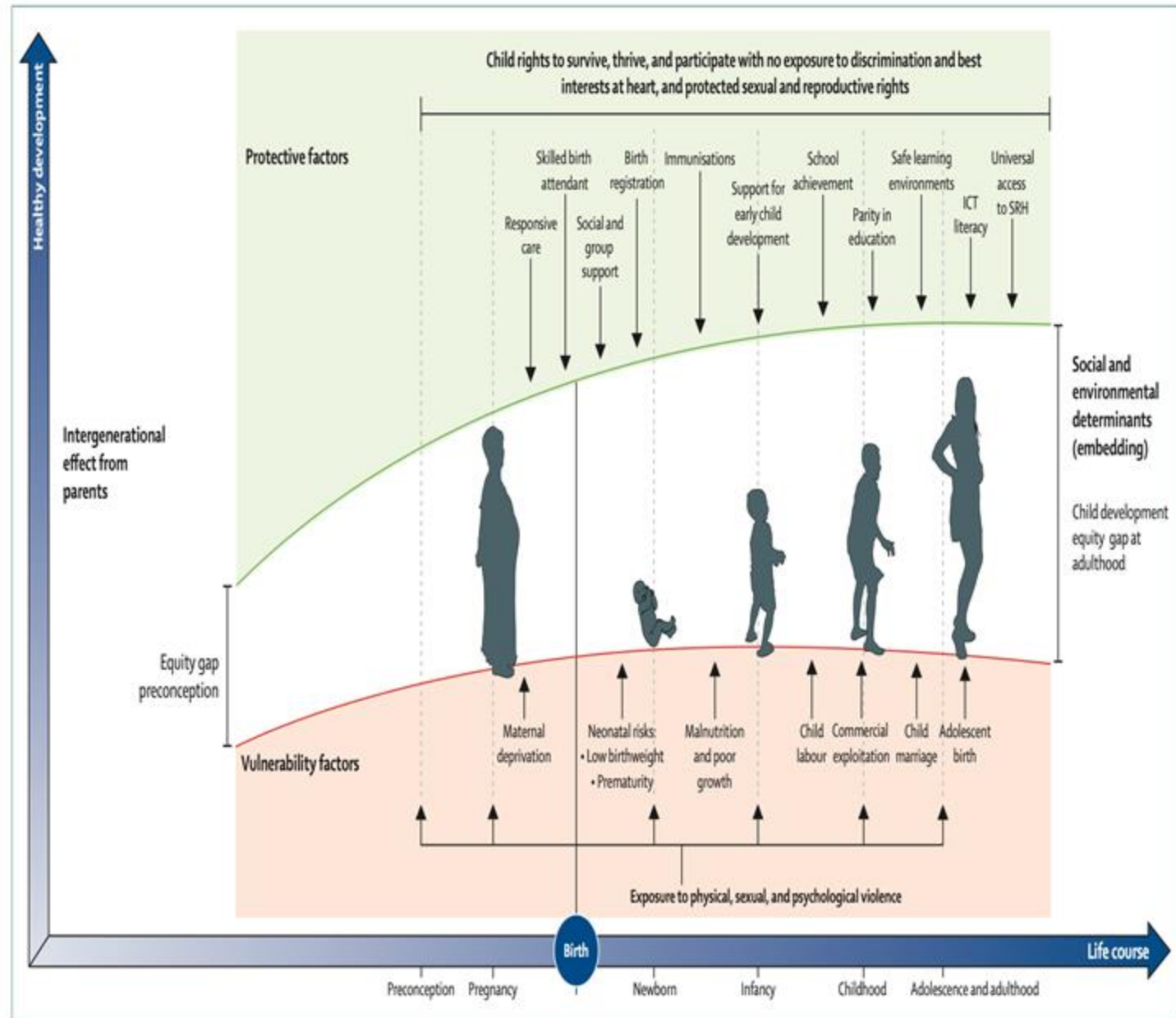
Dysregulation/Vulnerability/Disease

Symptoms of Un-Discharged Traumatic Stress



Life Course Health Development

Clark H, et al.
(Lancet 2020)
A Future for the World's Children





3. Applying the Science: Focus on the Foundation



For Workers, Patients, Research Subjects

Maslow

Primary Prevention and Mitigation

Accentuate the Positive

Support moms, babies and families

- Food pantries, Housing First, Urban Farms/parks, CHCs, Medical-Legal Partnerships, Adult Literacy/Jobs, Living Wage, Affordable Daycare, etc
- Perinatal home visiting, midwifery care, centering pregnancy, doulas, lactation support
- Parenting education and support
- Trauma sensitive schools, orgs
- Opportunities for physical activity, creative self-expression, self-reflection



Secondary Prevention: Sensitive Trauma Inquiry Rather than Screening



Universal
Precautions



Notice the
presentation



Open-ended
Questions



Tertiary Prevention= Primary Care and Community Treatment



Family-Centered Prevention Ameliorates Assn Between ACE and Pre-diabetes

Brody et al.

Page 12

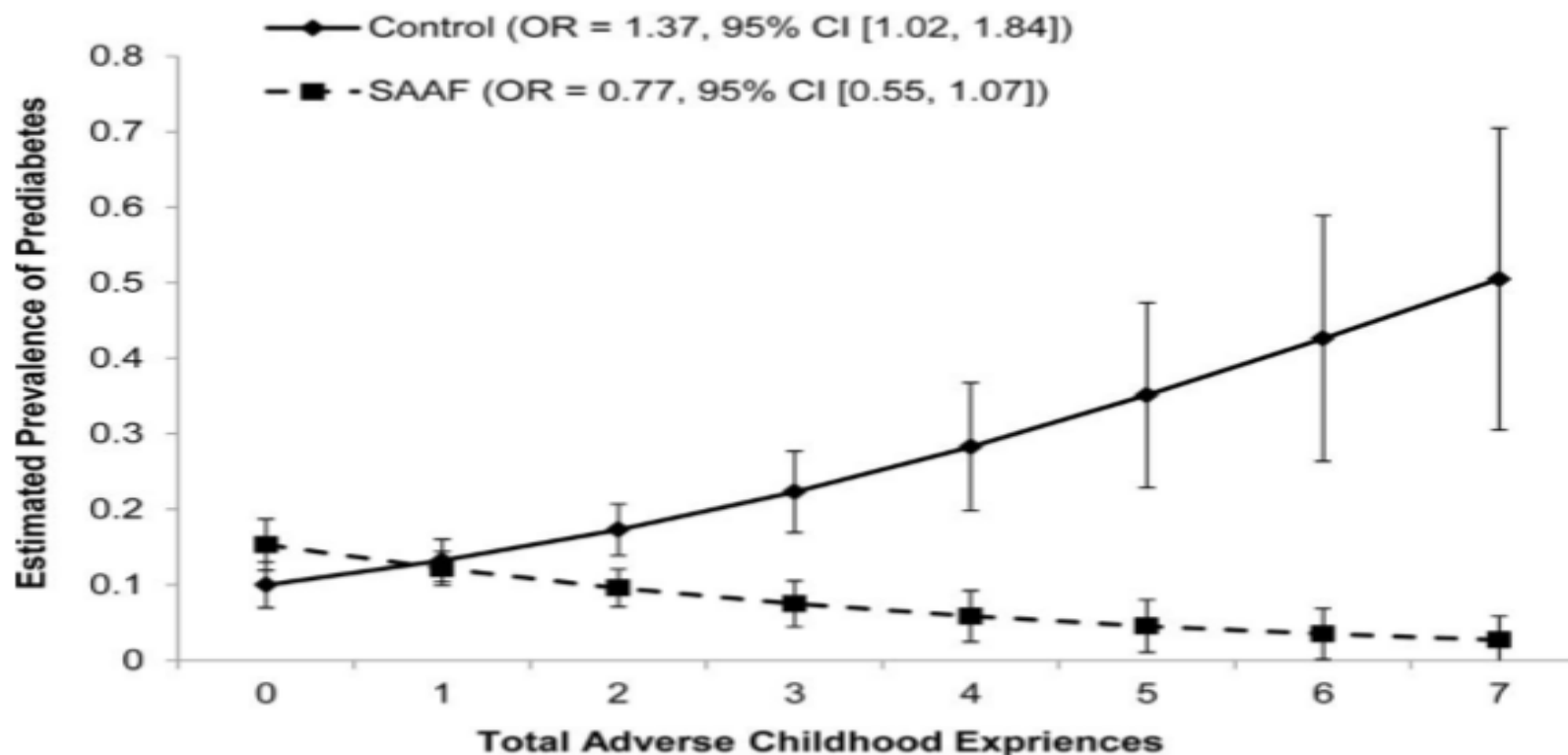


Figure 1.

The effect of adverse childhood experiences on youths' prediabetes status at age 25 by intervention status, controlling for gender, family SES disadvantage at age 11, and BMI at age 25. Numbers in parentheses refer to simple slopes for the control group and the Strong African American Families intervention group.

Self-Regulation Practice in Schools

- Calm Classroom
- Quiet Time
- Mindful Practices
- BAVX



Calm Classroom

- **6 schools matched by academic standing, income, race vs 148 control schools**
- **2400 3-8th graders vs 68K**
 - 23% dec “misbehavior” vs 21% inc
- **6 intervention schools**
 - 81% teachers report calmer students
 - 74% report more focused and ready to learn
 - 71% report personal use and dec stress

<https://calmclassroom.com/pages/research>

Applying the Science at Lincoln High: Success!



Suspensions
Dec 85%

Grades/Test Scores
UP

Graduation rates
Inc from 18-80%

Students had nowhere to sleep, so a San Francisco school opened the gym: 'How could we not?'



<https://www.theguardian.com/education/2022/mar/17/san-francisco-buena-vista-homeless-shelter-students>

Prevention & Treatment Save Money (and Lives)!

High quality early interventions lower the impacts of Adverse Childhood Experiences (ACEs) and show a return on investment of 6:1.

\$1 Investment

\$6 Return

\$194,700 Total economic lifetime benefit per participant



\$143,400
Increased lifetime net earnings

From HS graduation and higher education



\$15,500
Increased tax revenue

From HS graduation and higher education



\$28,200
Reduced health care and mortality costs

Reduced smoking costs
Reduced depression costs
Reduced drug treatment costs



\$7,600
Public system savings

K-12 system savings for reduced need for special education and grade retention
Justice system savings from reduced crime
Reduced need for public assistance
Child welfare system savings from reduced child abuse and neglect

Key strategies

Parent education and coaching
Home visitation
Quality early childhood care and education
Pre-Kindergarten

These are conservative estimates that primarily focus on the quantifiable ECONOMIC return on investment and don't take into account the opportunity and psychological costs of remedial education, toxic stress, etc.

Diaz, Jose Y. "Prospective Return on Investment of the Northside Achievement Zone." Amherst H. Wilder Foundation (2015): 12-14. 15 Feb. 2015. Web.

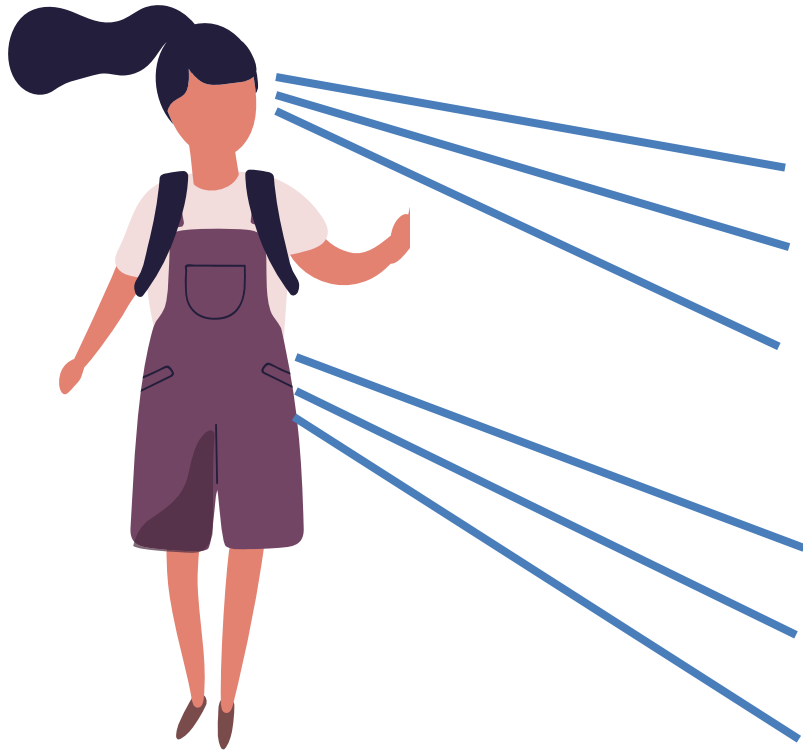
4. Sample Case: Elena* age 8

Elena referred to Doctor from SCHOOL



- Behavior problems at home & school: impulsive, easily distracted, fights with others
- School: In 3rd grade but functioning 1st grade level
Teacher recommends MD eval & Special Ed Services
- Mother reports temper tantrums, nightmares, multiple medical problems—
recurrent ear infections, erratic appetite, constipation, incontinence

* Elena is a true case; name & details changed for anonymity



Typical Approach ELENA's Problem List:

Attention Problems

Disruptive Behavior

Recurrent Ear Infections

Disordered Eating

Obesity

Constipation, incontinence

Typical Care Plan

- **Inattention and Behavior Issues:** Stimulant and Cognitive Behavioral Therapy. Consider referral to Psychiatry and additional meds if no improvement.
- **Eating/Elimination Problems:** Special Diet, Stool Softener, Laxative
- **Recurrent Ear infections** – prn antibiotics, treat any associated conditions, i.e., Allergies. Consider referral to ENT
- **School Problems**--Refer for Individualized Educational Program or 504



Developmental Regulatory Approach

Deeper History – Life Course



- Birth to Age 5, Elena & Mom lived in Central America. Mom had good family support from extended family
- However, home situation increasingly chaotic. Father drank heavily & beat Elena's mom
- When Elena was 5, father tried to sexually assault her.
- Mother fled to USA with Elena (then age 6)

Deeper History

Continued

- Difficult journey to USA
- Elena and mom are separated at US border.

Elena is well cared for but has no idea where mom is or if she will ever see her again. Mother is distraught.

- After 1 month, Elena and mom reunited but Elena very angry with mother about separation. Granted temporary asylum through Church. Elena starts school.
- Elena's medical-emotional-social problems escalate



Mapping the Life Course

Infant Birth-3	Childhood Age 5-6	Childhood Age 7-8
<p>Family Life embedded in Culture of Origin Normal Pregnancy Secure Attachment Family Supports Poverty Domestic Violence</p>	<p>Starts with Family Life Embedded in Culture of Origin Father estranged Attempted sexual assault—Elena</p> <p>Escape from Central America</p> <p>Sleep problems, irritability begin Eating/elimination irregular</p>	<p>New Culture Parent-Child Separation at-Border Temporary Asylum granted</p> <p>Mom—afraid, exhausted, hopeless Elena—sleep/irritability, disordered eating, bowel issues, worsen, ear infections begin</p>

What happened here?

New Diseases are NOT from one event or source - but result of CHAIN of EVENTS & EXPERIENCES

ASSESSMENT: Typical vs Regulatory Perspective

Typical Assessment- Diagnoses	Assessment from Regulatory Perspective
<p>8-year-old child with Physical, Mental Health and Educational Problems</p> <ol style="list-style-type: none">1. ADD2. Disruptive Behavior Disorder3. Learning Delay4. Nightmares5. Eating Disorder6. Obesity7. Recurrent Ear Infections8. Irritable Bowel (Constipation, Incontinence)	<p>Mother-Child Pair (Dyad) – Strong Early Life Attachment & Co-Regulation</p> <p>↓</p> <p>Traumas impair Regulation but Attachment Intact</p> <p>↓</p> <p>Prolonged Parent-Child Separation Disrupts Attachment</p> <p>Elena develops general Brain-Body Dysregulation</p> <ul style="list-style-type: none">- Sleep Problems- Inability to concentrate and learn- Dysregulated Affect & Behavior including Eating- Total dysregulation of Oral - Intestinal System <p>Dysregulated swallow – reflux into pharynx/ears Loss of coordinated digestion, bowel control</p>

HEALTHCARE PLAN Elena and Mom

Elena	Mom
<ul style="list-style-type: none">• Address pressing problems• Co-identify Strengths• Meet Basic Needs• Repair Attachment with Mom• Stabilize living situation;• Add fun-play• Re-regulate Sleep• Recommend culturally relevant regulatory activities• Trauma Processing and/or Play Therapy for Elena• Meds as needed for ENT, GI problems	<ul style="list-style-type: none">• Address pressing problems• Co-identify strengths• Reflect on + Mother-Child relationship• Repair Attachment• Meet Basic Needs• Parent University• Re-regulate Sleep• Support peer connections, especially those from home country• Reconnect with culture of origin• Trauma Processing for Mom

Plan for *School*

- Address pressing concerns
- Share the science about the impact of experiences on health and behavior with teachers/counselors
- Partner to enhance sense of safety, positive relationships
- Regulatory activities for Elena at school throughout the day
- Encourage offering stories, art, educational materials relevant to home country and culture
- Consider inviting Mom to volunteer at school
- Consider educational accommodations or IEP

To Support Health and Well-being For Our Patients and Ourselves



Open our minds and
THINK DIFFERENTLY



Look for **root causes**. Follow the
developmental path



Balance focus on strengths and
problems



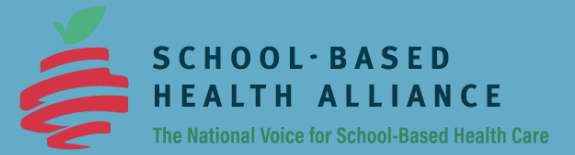
Meet basic needs
Regulatory activities
Relate and Reflect

The background of the slide is a dense, overlapping collage of colorful sticky notes in shades of pink, blue, yellow, and green. Each sticky note features a large, black, hand-drawn question mark. A white rectangular box with a thin black border is centered on the page, containing the text.

Questions?

Audrey Stillerman, MD
ajstille@uic.edu

**SAVE
THE
DATE**



**2024 National School-Based
Health Care Conference**

**June 30
to July 2**

Westin Washington, DC Downtown
Hotel (formerly the Renaissance
Downtown Hotel) in Washington, D.C

More information [here](#).



Stay Connected!



1. Subscribe to our bi-weekly e-newsletter (Digest)
Go to <https://bit.ly/SBHAdigest>
2. Follow us on social media



<https://www.facebook.com/SchoolBasedHealthAlliance>



<https://twitter.com/sbh4all>



<https://www.linkedin.com/company/school-based-health-alliance/>



<https://www.instagram.com/sbh4all/>



Scan this QR code to subscribe

THANK YOU!

Additional Questions? Contact us at: info@sbh4all.org



This webinar is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$625,000 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit [HRSA.gov](https://www.hrsa.gov).

